Link to Discovery Responses: https://www.pge.com/en_US/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan-discovery-data-requests.page																	
Count	Party Name	Data Set	Data Request	Question No.	Question ID	Question Text	Responses	Requestor	Date Rec'd	Final Due Date	Date Sent	Links	Number of Atchs	NDA Required	WMP Section	Category	Subcategory
1	CalPA	Set WMP-07	CalPA_Set WMP-07	1	CalPA_Set WMP-07_Q1	In the review of PG&E's WDRM v3 by Energy & Environmental Economics, Inc. ("E3 Review"), the authors note: "There were also several refreshes to PG&E asset data, now current to 2022-01- 01, and inclusion of updated internally sourced meteorology datasets." 3 a) Please confirm that no asset data collected after January 1, 2022 was used in the WDRM v3. b) If asset data collected after January 1, 2022 was used in PG&E's WDRM v3, please specify the date(s) on which any such data was collected. c) Please confirm that "asset data" in parts a) and b) is geospatial (GIS) data from the operational system of record. If not, please state the origin of the asset data.	a) All distribution asset data utilized in the Wildfire Distribution Risk Model (WDRM) v3 were extracted from PG&E's EDGIS system on January 1, 2022, with the exception of the transformer data which was extracted from EDGIS on February 2, 2022. b) See answer to part a. c) See answer to part a.	Joshua Borkowski	3/27/2023	3/30/2023	3/30/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_007.zip	0	N/A	6.2	Risk Methodology and Assessment	Risk Analysis Framework
2	CalPA	Set WMP-07	CalPA_Set WMP-07	2	CalPA_Set WMP-07_Q2	Page 15 of the E3 Review includes a list of components included in the WDRM v3. 4 a) Please confirm the date that the WDRM v3 was finalized. b) If the final list of components is different than what is listed in the E3 review, please provide an updated and accurate list of components that are used as inputs in PG&E's WDRM v3. c) For any inputs included in your response to Question 2(b) that do not appear on Page 15 of the E3 review, please provide the latest date on which each input was updated. d) If any dates given in response to Question 2(c) are different from those given in question 1(b), please explain why they are different.	a) The Wildfire Distribution Risk Model (WDRM) v3 was finalized by approval at the Wildfire Risk Governance Steering Committee (WRGSC) on April 13, 2022. b) The 8 asset groups listed on page 15 of the E3 Review are included in the WDRM v3 but are grouped into the sub-models listed in Figure 5 Sub-model Predictive Performance Measures on page 21 of the E3 Review document. Not applicable, please see response to 2b. d) Not applicable, please see response to 2c.	Joshua Borkowski	3/27/2023	3/30/2023	3/30/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_007.zip	0	N/A	6.2	Risk Methodology and Assessment	Risk Analysis Framework
3	CalPA	Set WMP-07	CalPA_Set WMP-07	3	CalPA_Set WMP-07_Q3	a) Please confirm the date that the WRDM v4 was finalized. If it has not been finalized, please provide an estimateddate on which it will be finalized. b) Please provide a current list of components that are used as inputs in v4 of the WDRM model. c) Please state the date of PG&E asset data used in v4 of the WDRM model. If there are multiple dates, include the most recent date for any asset data used in the model, and any date(s) on which the data used in the model was collected. d) Please confirm that "asset data" in part c) is geospatial (GIS) data from the operational system of record. If not, please state the origin(s) of the asset data.	a) The Wildfire Distribution Risk Model (WDRM) v4 has not been finalized. Model review and approval is scheduled for Q2 2023. b) The list of equipment components in the WDRM v4 has not been finalized at this time. c) The asset data for the WDRM v4 was extracted from PG&E's EDGIS on January 1, 2023. d) Please see the response to 3c.	Joshua Borkowski	3/27/2023	3/30/2023	3/30/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_007.zip	0	N/A	6.2	Risk Methodology and Assessment	Risk Analysis Framework
4	MGRA	Data Request No. 1	MGRA_Data Request No. 1	1	MGRA_Data Request No. 1_Q1	Please provide for Asset Point data for Camera, Fuse, Support Structure, and Weather Station.	In response to this request, PG&E is providing Camera and Weather Station data, as delivered in the Q4 2022 OEIS GIS Data Standard Submission. PG&E is also providing non-confidential data from the Support Structure feature class. PG&E is not providing data for the Fuse feature class as this data is confidential critical energy infrastructure information (CEII).	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	1	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
4	MGRA	Data Request No. 1	MGRA_Data Request No. 1	1 SUPP	MGRA_Data Request No. 1_Q1 SUPP	Please provide for Asset Point data for Camera, Fuse, Support Structure, and Weather Station.	In response to this request, PG&E is providing Camera and Weather Station data, as delivered in the Q4 2022 OEIS GIS Data Standard Submission. PG&E is also providing non-confidential data from the Support Structure feature class. PG&E is not providing data for the Fuse feature class as this data is confidential critical energy infrastructure information (CEII).	Joseph Mitchell	3/29/2023	4/13/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	4	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
5	MGRA	Data Request No. 1	MGRA_Data Request No. 1	2	MGRA_Data Request No. 1_Q2	Provide Asset Line data for Transmission Line (as permitted as non-confidential), Primary Distribution Line, and Secondary Distribution Line.	In response to this request, PG&E is providing non-confidential data for the Primary and Secondary Distribution Line Feature Classes. PG&E is not providing the Transmission Line feature class because it is confidential CEII.	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
5	MGRA	Data Request No. 1	MGRA_Data Request No. 1	2 SUPP	MGRA_Data Request No. 1_Q2 SUPP	Provide Asset Line data for Transmission Line (as permitted as non-confidential), Primary Distribution Line, and Secondary Distribution Line.	In response to this request, PG&E is providing non-confidential data for the Primary and Secondary Distribution Line Feature Classes. PG&E is not providing the Transmission Line feature class because it is confidential CEII.	Joseph Mitchell	3/29/2023	4/13/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
6	MGRA	Data Request No. 1	MGRA_Data Request No. 1	3	MGRA_Data Request No. 1_Q3	Provide PSPS Event data. Include Event Log, Event Line, Event Polygon data. Please exclude customer meter data. Provide all PSPS Event Asset Damage data including photos	In response to this request, PG&E is unable to provide PSPS Event data, PSPS Event Damages data, and PSPS Damage photos since there were no PSPS Events that took place throughout 2022	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
6	MGRA	Data Request No. 1	MGRA_Data Request No. 1	3 SUPP	MGRA_Data Request No. 1_Q3 SUPP	Provide PSPS Event data. Include Event Log, Event Line, Event Polygon data. Please exclude customer meter data. Provide all PSPS Event Asset Damage data including photos	In response to this request, PG&E is unable to provide PSPS Event data, PSPS Event Damages data, and PSPS Damage photos since there were no PSPS Events that took place throughout 2022	Joseph Mitchell	3/29/2023	4/13/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
7	MGRA	Data Request No. 1	MGRA_Data Request No. 1	4	MGRA_Data Request No. 1_Q4	Provide Risk Event Point data, including Wire Down, Ignition, Transmission unplanned outage (as classified non-confidential), Distribution Unplanned Outage data, Distribution Vegetation Caused Unplanned Outage, Risk Event Asset Log	In response to this request, PG&E is providing non-confidential data for the Wire Down, Ignition, Transmission Unplanned Outage, Distribution Unplanned Outage, Distribution Vegetation Caused Unplanned Outage, and Risk Event Asset Log feature classes and related table.	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
7	MGRA	Data Request No. 1	MGRA_Data Request No. 1	4 SUPP	MGRA_Data Request No. 1_Q4 SUPP	Provide Risk Event Point data, including Wire Down, Ignition, Transmission unplanned outage (as classified non-confidential), Distribution Unplanned Outage data, Distribution Vegetation Caused Unplanned Outage, Risk Event Asset Log	In response to this request, PG&E is providing non-confidential data for the Wire Down, Ignition, Transmission Unplanned Outage, Distribution Unplanned Outage, Distribution Vegetation Caused Unplanned Outage, and Risk Event Asset Log feature classes and related table.	Joseph Mitchell	3/29/2023	4/13/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
8	MGRA	Data Request No. 1	MGRA_Data Request No. 1	5	MGRA_Data Request No. 1_Q5	Provide photo data for Risk Events.	PG&E does not have any non-confidential or non-privileged data to provide in response to this request. The photos provided in this feature class may be subject to attorney-client privilege or the work product doctrine and may be subject to an ongoing investigation. Additionally, PG&E risk event photos are confidential CEII because they reveal physical facility and critical infrastructure locations.	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation

8	MGRA	Data Request No. 1	MGRA_Data Request No. 1	5 SUPP	MGRA_Data Request No. 1_Q5 SUPP	Provide photo data for Risk Events.	PG&E does not have any non-confidential or non-privileged data to provide in response to this request. The photos provided in this feature class may be subject to attorney client privilege or the work product doctrine and may be subject to an ongoing investigation. Additionally, PG&E risk event photos are confidential CEII because they reveal physical facility and critical infrastructure locations.	Joseph Mitchell	3/29/2023	4/13/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
9	MGRA	Data Request No. 1	MGRA_Data Request No. 1	6	MGRA_Data Request No. 1_Q6	Under Initiatives, please provide Grid Hardening data, including Hardening Log, Hardening Point, and Hardening Line data. Inspection data is not requested at this time.	In response to this request, PG&E is providing non-confidential data for the System Hardening, Butte County Rebuild, and 10K Undergrounding WMP initiative programs that were included in the Grid Hardening Log, Grid Hardening Point, and Grid Hardening Line feature classes and related table. Additional initiative projects reported in these feature classes includes data on where PG&E's fuse replacements, switch replacements, surge arrester replacements, and SCADA enabled work has been performed, and where future work is planned to take place. These are confidential CEII because they reveal physical facility and critical infrastructure locations. As such, have been removed from the response.	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
9	MGRA	Data Request No. 1	MGRA_Data Request No. 1	6 SUPP	MGRA_Data Request No. 1_Q6 SUPP	Under Initiatives, please provide Grid Hardening data, including Hardening Log, Hardening Point, and Hardening Line data. Inspection data is not requested at this time.	In response to this request, PG&E is providing non-confidential data for the System Hardening, Butte County Rebuild, and 10K Undergrounding WMP initiative programs that were included in the Grid Hardening Log, Grid Hardening Point, and Grid Hardening Line feature classes and related table. Additional initiative projects reported in these feature classes includes data on where PG&E's fuse replacements, switch replacements, surge arrester replacements, and SCADA enabled work has been performed, and where future work is planned to take place. These are confidential CEII because they reveal physical facility and critical infrastructure locations. As such, have been removed from the response.	Joseph Mitchell	3/29/2023	4/13/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
10	MGRA	Data Request No. 1	MGRA_Data Request No. 1	7	MGRA_Data Request No. 1_Q7	Under Initiatives, please provide Other Initiative data for point, line, polygon features and the Other Initiative Log.	In response to this request, PG&E is providing WMP initiative program data for the Weather Station Installation and Optimization and Camera Installation that were included in the Other Initiative Log and Other Initiative Point related table and feature class. Additional WMP initiative projects reported in this feature class and related table includes data on where PG&E's Line Sensor Installations, Distribution Fault Anticipation, EPSS Reliability Improvements and Early Fault Detection Sensors work have been performed, and where future work is planned to take place. These items are confidential CEII because they reveal physical facility and critical infrastructure locations.	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
10	MGRA	Data Request No. 1	MGRA_Data Request No. 1	7 SUPP	MGRA_Data Request No. 1_Q7 SUPP	Under Initiatives, please provide Other Initiative data for point, line, polygon features and the Other Initiative Log.	In response to this request, PG&E is providing WMP initiative program data for the Weather Station Installation and Optimization and Camera Installation that were included in the Other Initiative Log and Other Initiative Point related table and feature class. Additional WMP initiative projects reported in this feature class and related table includes data on where PG&E's Line Sensor Installations, Distribution Fault Anticipation, EPSS Reliability Improvements and Early Fault Detection Sensors work have been performed, and where future work is planned to take place. These items are confidential CEII because they reveal physical facility and critical infrastructure locations.	Joseph Mitchell	3/29/2023	4/13/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
11	MGRA	Data Request No. 1	MGRA_Data Request No. 1	8	MGRA_Data Request No. 1_Q8	Under Other Required Data, please provide Red Flag Warning Day polygon data.	PG&E is providing the Red Flag Warning Day polygon data, as requested by MGRA.	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
11	MGRA	Data Request No. 1	MGRA_Data Request No. 1	8 SUPP	MGRA_Data Request No. 1_Q8 SUPP	Under Other Required Data, please provide Red Flag Warning Day polygon data.	PG&E is providing the Red Flag Warning Day polygon data, as requested by MGRA.	Joseph Mitchell	3/29/2023	4/13/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
12	MGRA	Data Request No. 1	MGRA_Data Request No. 1	9	MGRA_Data Request No. 1_Q9	Please provide a layer indicating calculated circuit-level risk using the methodology presented in the WMP. a. If independent probability and consequence layers exist, please provide these independently as well.	The method described in the 2023 WMP to aggregate model results is conducted to produce a circuit segment level risk value but it is not used to produce a circuit level risk value. However, the geospatial representation of circuit segments that would be provided in response to this data request involves the identification of CEII, which we are required by law to maintain as confidential and cannot produce without the requesting party agreeing to protect the information through a non-disclosure agreement.	Joseph Mitchell	3/29/2023	4/10/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
12	MGRA	Data Request No. 1	MGRA_Data Request No. 1	9 SUPP	MGRA_Data Request No. 1_Q9 SUPP	Please provide a layer indicating calculated circuit-level risk using the methodology presented in the WMP. a. If independent probability and consequence layers exist, please provide these independently as well.	The method described in the 2023 WMP to aggregate model results is conducted to produce a circuit segment level risk value but it is not used to produce a circuit level risk value. However, the geospatial representation of circuit segments that would be provided in response to this data request involves the identification of CEII, which we are required by law to maintain as confidential and cannot produce without the requesting party agreeing to protect the information through a non-disclosure agreement.	Joseph Mitchell	3/29/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_001.zip	1	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
13	CalPA	Set WMP-08	CalPA_Set WMP-08	1	CalPA_Set WMP-08_Q1	PG&E's WMP states: The EVM Program concluded at the end of 2022. PG&E will continue to strengthen our other existing VM programs. PG&E is transitioning the maintenance of enhanced clearances that were achieved in EVM to Routine VM patrols. We established routine maintenance requirements for electric distribution circuits where EVM scope clearances have been performed (in HFTD designated areas) and passed by work verification.4 a) Please describe how PG&E intends to strengthen its other existing VM programs as stated above. b) Does PG&E intend to achieve 'enhanced clearances' in areas where they have not already been achieved through EVM, or is PG&E only intending to maintain	a) 1) In G.O. 95 Rule 35, Appendix E) to 12 feet within HFRA. 2) There is an anticipated increase of tree removals vs trims as it is the first course of action recommended at time of listing per the Distribution Vegetation Inspection Procedure (DRIP). Funding has been provided to account for increased removals. 3) There are tighter controls through reports and monitoring of work completion timelines. b) PG&E will maintain clearances where EVM work occurred. PG&E will also be prescribing a minimum radial clearance of 12 feet throughout the system within HFTD and HFRA. Two new programs, Vegetation Management for Operational Mitigation (VMOM) and Focused Tree Inspection, are likely to result in individual trees that warrant enhanced clearance where EVM was not implemented. These programs inform clearances based on available outage data and trends,	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.2.6	Vegetation Management and Inspections	Discontinued Programs
14	CalPA	Set WMP-08	CalPA_Set WMP-08	2	CalPA_Set WMP-08_Q2	Regarding the new "Tree Removal Inventory Program" described in section 8.2.2.2.4 of PG&E's WMP, PG&E states: This is a new transitional program for 2023 stemming from the conclusion of the EVM program. This program is intended to work down trees previously identified. PG&E estimates that our EVM inventory included more than 300,000 trees at the end of 2022. Under the Tree Removal Inventory program, we remove or re-inspect trees identified in the EVM program. Based on this on-going re-inspection and evaluation work, we will develop annual risk-ranked work plans and mitigate the highest risk-ranked circuit segments or CPZs first. We plan to address all trees in the inventory in a multi-year program.5 a) Please explain what is meant by the term "transitional" in the first sentence.	a) As this program has the use of "transitional" appears the program transition from EVM to the new Tree Inventory Program, which will focus on working down the risk associated with the remaining 385K. These units were identified under EVM guidelines and will be over a period of time based on resolution of constraints or other factors that hindered completion of work. b) Yes, but not under the Tree Removal Inventory Program, which is focused on removing risk from previously listed trees with a removal prescription as part of the EVM program. Two new programs, Vegetation for Operational Mitigations (VMOM) and Focus Tree Inspections (FTI) will identify new trees for the sort of work identified in this inventory. Additionally, if any priority trees are discovered while completing the TRI scope of work, they would be listed for work consistent with all other VM programs. c) 1) For VMOM, PG&E utilized VM EPSS-enabled outage data, historical VM outage data, and	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
15	CalPA	Set WMP-08	CalPA_Set WMP-08	3	CalPA_Set WMP-08_Q3	Regarding the new "VM for Operational Mitigations" described in section 8.2.2.2.3 of PG&E's WMP, PG&E states: This is a new transitional program for 2023 stemming from the conclusion of the EVM program. This program is intended to help reduce outages and potential ignitions using a risk-informed, targeted plan to mitigate potential vegetation contacts based on historic vegetation outages on EPSS-enabled circuits. PG&E will initially focus on mitigating potential vegetation contacts in CPZs that have experienced vegetation caused outages. Scope of Work will be developed by using EPSS and historical outage data and vegetation failure from the WDRM v3 risk model. EPSS-enabled devices vegetation outages extent of condition inspections may generate additional tree work.	a) Our wildfire mitigation datasets have continued to evolve and mature since 2019. With the conclusion of Enhanced Vegetation Management (EVM) at the end of 2022, we continue to evolve our Vegetation Management program. The use of 'transitional' for this program represents the evolution of the Vegetation Management program through the introduction of a new program, Vegetation Management for Operational Mitigations (VMOM) program, which is intended to reduce the impacts of more frequent outages caused by the increased sensitivity of EPSS enabled devices. b) As part of this program an extent of condition inspection is conducted when the cause of an EPSS enabled outage is determined to be vegetation related. An extent of condition inspection evaluates five spans in all directions from the location of the outage looking for additional trees that may pose a similar risk as the tree that caused the outage. The sentence 'EPSS-enabled	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.2.3	Vegetation Management and Inspections	VM for Operational Mitigations
16	CalPA	Set WMP-08	CalPA_Set WMP-08	4	CalPA_Set WMP-08_Q4	Regarding the new "Focused Tree Inspections" described in section 8.2.2.2.5 of PG&E's WMP, PG&E states: This is a new transitional program for 2023 stemming from the conclusion of the EVM program. PG&E is developing AOCs to better focus VM efforts to address high risk areas that have experienced higher volumes of vegetation damage during PSPS events, outages, and/or ignitions. We have conducted a county-by-county review with regional SMEs and used this information to develop polygons where focused vegetation inspections can be evaluated to determine appropriate counties to prioritize pilot(s). Focused Tree Inspection plans will be piloted in at least one area. The pilot will develop and implement guidelines that inform inspections. a) Please explain what is meant by the word "transitional" in the first sentence.	a) Similar to HFTD and HFRA programs, the Focus Tree Inspection (FTI) program has been developed following the conclusion of EVM in 2022. For this program "Transitional" is used to recognize similar targeted efforts to reduce risk formerly associated with EVM that go beyond compliance mandated clearances. All three programs are intended to further reduce vegetation related outages and ignitions. The FTI program was built in response to RN-22-09 which compelled benchmarking the use of predictive and risk modeling in VM with SCE and SDG&E. As a result, PG&E has developed data and SME informed "Areas of Concern" (AOC) to pilot enhanced targeted inspections where the analysis indicates increased risk of vegetation failures in high-risk areas. Similar to EVM, the piloting of this program has been prioritized using information from the Wildfire Distribution Risk Model (WDRM). Pilots will begin in Q2 2023 in four AOC. The results and learnings from the	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections

17	CalPA	Set WMP-08	CalPA_Set WMP-08	5	CalPA_Set WMP-08_Q5	PG&E states on p. 539 of its WMP: PG&E is restructuring our VM Program starting in 2023. Based on recent data and analysis, the risk reduction of the EVM Program is less than the risk reduction from the EPSS program that was introduced in 2021.8 a) Please describe the abovementioned "data and analysis" that shows that "the risk reduction of the EVM program is less than the risk reduction from the EPSS program". b) Please provide any available workpapers, reports, or other documents that support the statement quoted above.	a) PG&E introduced the comparison of risk reduction and Risk Spend Efficiency (RSE) of EPSS vs EVM in the 2022 WMP and 2023 GRC Supplemental Filing in February 2022. This comparison is described in the 2023 GRC, Exhibit 3 Chapter 4 page 3-2 through 3-7. The updated wildfire mitigation strategy is summarized in Table 3-4 on page 3-39, as the risk reduction relative to spend between EVM and EPSS is substantially in EPSS's favor. b) Please reference the following workpapers: • 2022 WMP o 2022 WMP Data Table 12 - '2022-02-25_PGE_2022_WMP Update_R0_Section 7.3.a_Atch01', initiative 7.3.5.15 and 7.3.6.8 o EVM RSE Workpaper - '2022-02-25_PGE_2022_WMP-Update_R0_Section 7.3.a_Atch06-R1' o EPSS RSE Workpaper - '2022-02-25_PGE_2022_WMP-Update_R0_Section 7.3.a_Atch07'	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.3.4	Vegetation Management and Inspections	Fall-In Mitigation
18	CalPA	Set WMP-08	CalPA_Set WMP-08	6	CalPA_Set WMP-08_Q6	PG&E states on p. 539 of its WMP: Additional Operational Mitigations such as PVD and DCD will also help to mitigate risk previously prescribed to EVM. As a result, PG&E concluded the EVM Program at the end of 2022. a) Does "PVD" stand for "Partial Voltage Detection" in this instance? Please define if not. b) Does "DCD" stand for "Downed Conductor Detection" in this instance? Please define if not. c) How has PG&E determined that PVD will help to mitigate risk that PG&E previously sought to mitigate with EVM? d) Which particular risks will PVD help mitigate that PG&E previously sought to mitigate with EVM?	a) Yes, "PVD" refers to Partial Voltage Detection. b) Yes, "DCD" refers to Downed Conductor Detection. c) Partial Voltage Detection (and subsequent force outs of the nearest upstream SCADA capable device) are part of a "defense in depth" strategy that supplements the already highly effective baseline Enhanced Powerline Safety Settings (EPSS). In particular, Partial Voltage Force Out actions and DCD both mitigate high impedance faults, which are very difficult to detect for traditional protection schemes. In 2022, 36 Partial Voltage detections and Force Outs occurred. In 11 of 36 force outs, hazards were identified that could have caused an ignition. These hazards included wire down and/or vegetation contact. d) As indicated in response c, PVD is a mitigation measure for high impedance faults, which can occur when vegetation contacts a powerline or a downed conductor. PVD is also able to provide detection for transformer backfeed high impedance faults.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.3.4	Vegetation Management and Inspections	Fall-In Mitigation
19	CalPA	Set WMP-08	CalPA_Set WMP-08	7	CalPA_Set WMP-08_Q7	On pp. 314-316 of PG&E's WMP, PG&E divides its operational mitigations into four different groups. Group 2 includes "Inspections and maintenance programs where we exceed compliance requirements until permanent mitigations are deployed and/or we implement new technologies so that we no longer need to exceed compliance requirements." For the following Group 2 mitigations, please state the criteria by which PG&E will determine that it no longer needs to exceed compliance requirements, and state the basis for such a determination: a) Equipment Maintenance and Repair b) Pole Clearing Program c) Utility Defensible Space Program d) Wood Management e) Substation Defensible Space	PG&E does not currently have specific criteria for the listed mitigations, though certain permanent mitigations (e.g. distribution undergrounding) may reduce risk to a point where exceeding compliance is no longer needed. Continued analysis of ignitions, inspection finds, technology implementation results, etc. will inform the level of interim mitigation needed. We will continue to implement the Group 2 mitigations based on risk or benefit information.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	7.2.3	Wildfire Mitigation Strategy Development	Interim Mitigation Initiatives
20	CalPA	Set WMP-08	CalPA_Set WMP-08	8	CalPA_Set WMP-08_Q8	On pp. 314-316 of PG&E's WMP, PG&E divides its operational mitigations into four different groups. Group 2 includes "Inspections and maintenance programs where we exceed compliance requirements until permanent mitigations are deployed and/or we implement new technologies so that we no longer need to exceed compliance requirements." For each of the following Group 2 mitigations, please state whether PG&E intends to discontinue the program/initiative once permanent mitigations are deployed or new technologies are implemented: a) Equipment Maintenance and Repair b) Pole Clearing Program c) Utility Defensible Space Program d) Wood Management	At this time PG&E does not intend to discontinue any of the programs/initiatives listed in Group 2 mitigation. The programs/initiatives are designed and implemented to ensure that PG&E maintains compliance with state and federal regulations, as well as mitigate portions of the system that may be exposed to wildfire risk that cannot be managed through our control programs pending the implementation of System Resilience mitigations. In the future, for programs/initiatives that exceed compliance, PG&E may determine to stay at compliance requirements based on risk or benefit information.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	7.2.3	Wildfire Mitigation Strategy Development	Interim Mitigation Initiatives
21	CalPA	Set WMP-08	CalPA_Set WMP-08	9	CalPA_Set WMP-08_Q9	Regarding the new "Tree Removal Inventory Program" described in section 8.2.2.2.4 of PG&E's WMP, PG&E states: "PG&E estimates that our EVM inventory included more than 300,000 trees at the end of 2022." Table 8-14, PG&E's VM Targets, p. 502, states that PG&E will remove approximately 60,000 trees identified from the legacy EVM program through the end of 2025.11 a) Are the 60,000 trees "identified from the legacy EVM program" a subset of the trees in PG&E's EVM inventory? b) If the answer to part (a) is yes, how will PG&E mitigate the risk posed by the approximately 240,000 trees from the EVM inventory that will not be removed during	a) Yes, the 60K trees come from the group of approximately 385K EVM trees remaining. We plan to work down the risk associated with the 385K trees starting with 15K trees in 2023, 20K trees in 2024, and 25K trees in 2025, which results in 60K trees being worked through 2025. b) PG&E has operational mitigations including EPSS enablement in place. Additionally, PG&E conducts and will continue to conduct annual Routine and Second Patrol of these areas and address any Priority 1 or 2 hazardous tree conditions accordingly. c) N/A 10 PG&E's WMP, p. 528. 11 15,000 trees in 2023, 20,000 trees in 2024, and 25,000 trees in 2025.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
22	CalPA	Set WMP-08	CalPA_Set WMP-08	10	CalPA_Set WMP-08_Q10	Per Table 8-12, Vegetation Management Implementation Objectives, PG&E's Focused Tree nspection Program is currently under development. By the end of 2025, PG&E plans to "Fully implement AOC cross-functional team to implement guidelines across all AOCs." Given that PG&E's EVM program has been discontinued, and that its Focused Tree Inspection Program has not yet been fully developed, how will PG&E assess the risk of tree fall-ins during the period from 2023-2025?	PG&E will continue to assess the risk of tree fall-ins during the period from 2023-2025 through the Distribution Routine and Second Patrol programs accordingly. The identification of hazardous or other emergent priority trees is embedded into all VM tree trimming and mitigation programs, as well as the resulting work verification and quality programs. In addition to the Focused Tree Inspection Program, PG&E has also introduced the Tree Removal Inventory (TRI) and Vegetation Management for Operational Mitigation programs which will also be implemented to assess the risk of tree fall-ins during the same period in targeted portions of the service territory.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
23	CalPA	Set WMP-08	CalPA_Set WMP-08	11	CalPA_Set WMP-08_Q11	Table 8-14, PG&E's VM Targets, states that PG&E will collect LiDAR data on its Transmission System (17,500 circuit miles). Table 5-2, Electrical Infrastructure, states that PG&E has a total of 18,111 circuit miles of overhead transmission lines. a) Does PG&E plan to not collect LiDAR data on approximately 600 overhead circuit miles of transmission? b) If the answer to part (a) is yes, please explain why. c) If the answer to part (a) is no, please explain why Table 8-14 shows a LiDAR target that is smaller than the size of PG&E's overhead transmission system.	a) No, PG&E will collect LiDAR data on all overhead Transmission circuit miles. b) N/A c) The difference between LiDAR Transmission inspections mapped on ETGIS and our LiDAR vendor's data is due largely to parallel circuits and some geometry differences; miles are confirmed against circuit location and length from the LiDAR data. It is common to see a difference between ETGIS and LiDAR survey data. When our LiDAR vendor indicates their completed miles on 100% of PG&E Transmission circuit miles, we use the ETGIS miles. PG&E continues to use ETGIS values as this is our asset data.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.1.1	Vegetation Management and Inspections	Routine Transmission NERC and Non-NERC
24	CalPA	Set WMP-08	CalPA_Set WMP-08	12	CalPA_Set WMP-08_Q12	Table 8-14, PG&E's VM Targets, states that "Each of the 3 programs (Routine Distribution, Routine Transmission and Pole Clearing) must achieve a 95% quality verification audit results pass rate." Please describe the actions PG&E will take during the 2023-2025 period if a program does not achieve a 95% pass rate on quality verification audits.	Should a program fall below a 95% pass rate, catch back plans will be developed in partnership with VM execution to mitigate for specific cause of deficient rate.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
25	CalPA	Set WMP-08	CalPA_Set WMP-08	13	CalPA_Set WMP-08_Q13	Table 8-18-1, Vegetation Management QV Program, lists the following audit pass results for 2022 VM work: Distribution: 91.3% Transmission: 94.2% Vegetation Control Pole Clearing: 90.3% a) Please describe any actions PG&E has taken or plans to take to improve the Distribution VM audit results pass rate from 91.3% in 2022 to 95% in 2023. Please include the timeline for completing those actions. b) Please describe any actions PG&E has taken or plans to take to improve the Transmission VM audit results pass rate from 94.2% in 2022 to 95% in 2023. Please include the timeline for completing those actions. c) Please describe any actions PG&E has taken or plans to take to improve the Pole	a) Improved quality verticals have been established for 2023, allowing for greater insight into overall VM work product throughput and risk identification/mitigation. Clear definitions of acceptance criteria, sampling methodology, population eligibility, and pass rate calculations were established and communicated across the VM organization prior to beginning 2023 audits. b) Improved quality verticals have been established for 2023, allowing for greater insight into overall VM work product throughput and risk identification/mitigation. Clear definitions of acceptance criteria, sampling methodology, population eligibility, and pass rate calculations were established and communicated across the VM organization prior to beginning 2023 audits. c) Improved quality verticals have been established for 2023, allowing for greater insight into overall VM work product throughput and risk identification/mitigation. Clear definitions of acceptance criteria, sampling methodology, population eligibility, and pass rate calculations were	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.5.1	Vegetation Management and Inspections	Quality Assurance and Quality Verification
26	CalPA	Set WMP-08	CalPA_Set WMP-08	14	CalPA_Set WMP-08_Q14	Regarding the "Distribution Second Patrol" described in section 8.2.2.2.2 of PG&E's WMP, PG&E states: "PG&E has implemented a plan to complete the identified dead/dying tree work within 180 days for HFTD areas and within 365 days for non-HFTD areas." a) What specific steps, actions, or measures are included in the plan noted in the quote above – in other words, what specific steps is PG&E taking to ensure that dead/dying tree work will be completed within the stated timeframes? b) How did PG&E determine that 180 days was an appropriate and prudent timeframe for completing dead/dying tree work in HFTD areas? c) Does PG&E plan to complete identified dead/dying tree work within 180 days in HFTD areas for its Distribution Routine Patrol (section 8.2.2.2.1)? d) If the answer to part (c) is no, please explain why not.	a) To ensure that dead/dying tree work is completed with 180 days in HFTD and 365 days in non-HFTD, PG&E VM has developed a process to report out in Daily Operating Reviews and Weekly Operating reviews at multiple functional levels -including VM leadership and VM execution - the status of dead and dying trees and their timelines and timeliness status. This measure ensures visibility and accountability at the regional level. b) In addition to managing to complete work between Routine and Second Patrol work-cycles, the timeframe to complete dead/dying tree work within HFTD areas was based on GO 95 Rule 18 priority level 2, for corrective actions of conditions within Tier 3 to be completed within 6 months (180 days) of identification. c) Yes, PG&E does plan to address identified dead/dying trees in the stated timeframes in HFTD and non-HFTD in Distribution Routine Patrol. d) N/A. See c. above.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.2.2	Vegetation Management and Inspections	Distribution Second Patrol
27	CalPA	Set WMP-08	CalPA_Set WMP-08	15	CalPA_Set WMP-08_Q15	Regarding the "Defensible Space Inspection" described in section 8.2.2.3.1 of PG&E's WMP, PG&E states: "Landowner related issues continue to prevent PG&E from achieving 100 percent defensible space completion status at locations where substation defensible space zones extend into privately owned property." a) Where substation defensible space zones extend into privately owned property, what is PG&E's process for completing defensible space inspections? b) What actions does PG&E plan to take during the 2023-2025 WMP period to address landowner related issues in order to achieve the highest possible defensible space completion status?	a) When defensible space zones extend onto private property, outreach to such landowners is made in advance to obtain permission to enter and conduct inspection. If access is granted, the inspection is executed with fuel reduction and PRC 4291 compliance prescription determined. If access is denied and found to be without applicable easements, other land rights or valid entry agreements, the inspection record will reflect a "refusal" and documented for future reference as PG&E does not have the right to conduct defensible space inspections on property not owned by the Company. b) Annual defensible space inspections do serve as an opportunity to re-engage prior refusal landowners. Changes of ownership, changes in landowner opinion, new local agency defensible space ordinances or code often support reversal in status.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.2.3.1	Vegetation Management and Inspections	Defensible Space Inspection
28	CalPA	Set WMP-08	CalPA_Set WMP-08	16	CalPA_Set WMP-08_Q16	Regarding "Wood and Slash Management" described in section 8.2.3.2 of PG&E's WMP, PG&E states: "Chips are left on site or removed off site based on owner preferences." PG&E further states that "Wood Management is a voluntary program in which property owners must opt in to participate." a) If PG&E is unable to contact a landowner, how does it manage wood chips? b) How does PG&E ensure that landowners are aware of the opt-in Wood Management program? c) How does PG&E record landowner opt-ins to the Wood Management program? d) Once a landowner opts into the Wood Management program, how quickly does the program become effective? E.g., could a landowner opt-in while VM work is being performed? e) How does PG&E inform VM contractors of the landowner's Wood Management	a) If PG&E is unable to contact a landowner regarding their preference for wood chips, crews will remove the wood chips when safe to do so. If access does not allow for chipping and wood chip removal, crews will lop and scatter debris on site in accordance with applicable regulations. b) There are multiple real-time opportunities for landowners to request wood management. PG&E field personnel attempt to engage with landowners in-person about tree work and wood management preferences at the time of inspections, tree work and post-tree work verification. Field personnel may also leave door hangers or other informational materials if landowners are unavailable. Following active emergency response efforts where landowners may not be present, we initiate regional post-event outreach. This may include letters, door hangers, interactive voice messages and/or press releases. Information is also available at pge.com. c) Our dedicated customer team is equipped to receive, record, and process all landowner opt-ins for wildfire and EVM wood management through our internal customer relationship	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.3.2	Vegetation Management and Inspections	Wood and Slash Management
29	CalPA	Set WMP-08	CalPA_Set WMP-08	17	CalPA_Set WMP-08_Q17	Regarding "High-Risk Species" described in section 8.2.3.6 of PG&E's WMP, PG&E states: "There are no governing standards for high-risk species." a) Does PG&E plan to develop governing standards for high-risk species? b) If the answer to part (a) is yes, when does PG&E expect to complete development of such standards? c) If the answer to part (a) is no, please explain why not.	a) For Routine and Second Patrol, PG&E does not currently have standards specific to high-risk species. Trees identified during these inspection cycles that require mitigation per PRC4293 and GO95 Rule 35 are expected to be identified and listed for work regardless of species. A new program, Focused Tree Inspection (FTI) is being piloted starting in Q2 2023 and will incorporate regional outage analysis informed by tree caused outages within Areas of Concern (AOC) developed in Q4 2022. These pilots are expected to analyze area specific vegetation related outages within the AOC polygons in advance of FTI. When detailed outage data is available, this analysis will indicate vegetation caused outage trends that include species and failure types. The experience and findings during execution of these pilots may inform development of program specific guidance that relates to regional high-risk species. PG&E will then determine which programs are best suited to incorporate species specific guidance due to anticipated regional variation.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.3.6	Vegetation Management and Inspections	High-Risk Species

30	CalPA	Set WMP-08	CalPA_Set WMP-08	18	CalPA_Set WMP-08_Q18	PG&E's WMP states, in Table 8-18-3, VM Field QC Metrics Report, that pass rates are "not a WMP target" for 2023-2025. Please explain why PG&E has not set target pass rates for VM Field QC for 2023-2025.	The Quality Management team has aligned on setting target pass rates at 88% for Field Quality Control Active Observation Programs for the following core vegetation management programs: Routine Distribution, Second Patrol Distribution, Vegetation Control, and Routine Transmission.	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	0	N/A	8.2.5.2	Vegetation Management and Inspections	Quality Control
31	CalPA	Set WMP-08	CalPA_Set WMP-08	19	CalPA_Set WMP-08_Q19	Table 8-19, Priority 1/Priority 2 and Second Patrol Trees Categorized By Age, shows 296 priority 1 or 2 trees that were inspected more than 180 days prior to February 28, 2023. Please provide a table with the following additional information for these 296 trees: a) The exact number of days since the last inspection, as of February 28, 2023 b) The current priority level of the tree c) The type of the most recent inspection d) The HFTD tier where the tree is located e) PG&E's expected remediation date for the tree.	The data for the 296 P1/P2/Second Patrol trees can be found on "WMP Discovery2023_DR_CalAdvocates_008-Q019Atch01.xlsx" For the 3 Priority 1/Priority 2 Trees out of the set of 296, please refer to tab 'P2 Data'. a) Please see 'Age' in 'Column I' on tab 'P2 Data' for the age in days since the last inspection as of February 28, 2022. b) Please see 'Priority' in 'Column E' on tab 'P2 Data' for the priority level. • If vegetation is determined to be an immediate risk to PG&E facilities, described as a Priority 1 Condition, the condition will be mitigated within 24 hours of identification as long as conditions are safe for the tree crew to proceed with work. • Vegetation identified as pending Priority 2 work within the RFW area will be reviewed and mitigated as outlined in the VM Priority Tag Procedure (TD 7102P-17).	Holly Wehrman	3/30/2023	4/5/2023	4/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_008.zip	1	N/A	8.2.6	Vegetation Management and Inspections	Open Work Orders
32	CalPA	Set WMP-09	CalPA_Set WMP-09	1	CalPA_Set WMP-09_Q1	P. 10 of PG&E's WMP states, "We have completed certain programs and removed some less impactful targets from the 2023 WMP." a) Please list the "less impactful" targets that were removed from the 2023 WMP. b) For each target in part (a), please explain how PG&E determined that the target was "less impactful."	a) The targets that were included in the 2022 WMP but not included in the 2023 WMP are identified below. Please note that we do not necessarily consider each of these to be "less impactful" in all situations. Instead, they are more properly described as not being the best choice for our wildfire mitigation portfolio at this particular point in time. • Weather Station Installation and Optimization – PG&E did not include a target for weather station installation in the 2023-2025 WMP because our weather station network is nearing full maturity with more than 1,400 weather stations installed. We will continue to evaluate the need for additional stations. • High-Definition Camera Installations – PG&E has sponsored over 600 cameras covering 90 percent of the HFTD tier 2 and tier 3 areas and, given this saturation, we are not currently planning to install new cameras at this time.	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	1	Executive Summary & Overview	N/A
33	CalPA	Set WMP-09	CalPA_Set WMP-09	2	CalPA_Set WMP-09_Q2	P. 107 of PG&E's WMP states, "Increased temperatures can cause electric equipment to age more quickly which will increase the need for more frequent asset replacements. Higher temperatures may cause equipment to fail resulting in customer outages." a) What steps has PG&E taken to mitigate the increased risk of asset failure anticipated from rising temperatures? b) What steps does PG&E plan to take during the 2023-2025 WMP period to mitigate the increased risk of asset failure anticipated from rising temperatures?	PG&E notes that this statement is included in the 2023-2025 WMP as a general observation about the sensitivity of certain electric assets to prevailing temperatures that exceed equipment design specifications. It does not constitute a thorough evaluation of the vulnerability (meaning, the exposure of an asset to a specific climate hazard as well as an asset's sensitivity to that climate hazard) of a given asset or of the grid as a whole. PG&E will file its first Climate Vulnerability Assessment pursuant to CPUC Decision 20-08-046 in May 2024.4 In addition to the answers provided below, the 2022 Climate Strategy Report contains a significant amount of detail on the Company's climate mitigation and adaptation activities.5 a) PG&E has substantial existing adaptive capacity to manage the increased risk of asset failure driven by heat-related climate hazards and is taking the following steps to mitigate this risk:	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	5.3.4.2	Overview of the Service Territory	Climate Change Phenomena and Trends
34	CalPA	Set WMP-09	CalPA_Set WMP-09	3	CalPA_Set WMP-09_Q3	P. 398 of PG&E's WMP states: In 2022 we continued our assessment through the Electric Program Investment Charge 3.45, "Automated Fire Detection from Wildfire Alert Cameras," program. Through our assessment period we determined that AI detection on camera will improve our detection system and in 2023 we will select a vendor to install AI detection on our cameras. a) How did PG&E determine that AI detection would improve its detection system? b) Please quantify the extent to which PG&E anticipates AI detection will improve PG&E's detection system. c) Please provide any available studies, analyses or reports to support your statements in response to parts (a) and (b).	a) PG&E ran a pilot of AI technology in 2021 to determine the efficacy of this new technology to assist with the detection and notification of new ignitions. In 2022 a project was launched under the Electric Program Investment Charge 3.45 in which multiple potential vendors participated to prove out the ability of the AI technology to continuously monitor the feeds from the wildfire cameras installed in PG&E service territory and provide alerts to both PG&E and responding agency partners in order to reduce response time to detected ignitions. During the EPIC project, PG&E's team determined that AI would enable both PG&E and First Responders to receive notifications of ignitions detected on installed wildfire cameras. The decision was made to pursue AI implementation on all PG&E sponsored cameras in 2023. It is important to note that CAL FIRE, SCE, and SDG&E are all sponsoring AI implementation on their sponsored cameras in 2023.	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	1	N/A	8.3.4.2	Situational Awareness and Forecasting	Ignition Detection Systems
35	CalPA	Set WMP-09	CalPA_Set WMP-09	4	CalPA_Set WMP-09_Q4	P. 174 of PG&E's WMP states, "The results of the PSPS Consequence Model are then calibrated to PG&E's Enterprise Risk Model's MAVF Risk Score for PSPS." For each component in PG&E's MAVF, explain how the results of the PSPS Consequence Model are calibrated to the MAVF.	PG&E's PSPS MAVF Risk Score includes safety, reliability, and financial components. The combination of the components results in a total MAVF Risk Score for PSPS. For Safety, PG&E uses the combination of 50% PG&E PSPS data and 50% US industry widespread unplanned outage data. Based on blending of the two datasets, PG&E arrives at a Serious Injury or Fatality (SIF) / million Customer Minutes Interrupted (CMI). Details are shown in "WMP-Discovery2023_DR_CalAdvocates_009-Q004Atch01.pptx." For Reliability, PG&E uses the CMI estimates from the historical back-cast for each lookback event. Details are shown in "WMP-Discovery2023_DR_CalAdvocates_009-Q004Atch02.xlsx." For Financial, PG&E uses the historical cost of executing PSPS events and estimates a fixed cost of executing a PSPS and a cost per customer through linear regression. Details are shown in "WMP-Discovery2023_DR_CalAdvocates_009-Q004Atch03.xlsx."	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	3	N/A	6.2.2.3	Risk Methodology and Assessment	Risk and Risk Components Calculation
36	CalPA	Set WMP-09	CalPA_Set WMP-09	5	CalPA_Set WMP-09_Q5	P. 161 of PG&E's WMP discusses Group G, Above-Grade Hardware, in the context of PG&E's WTRM. Group G has two sub-groups. PG&E states, "Sub-Group 1 consists of components where the life cycle closely aligns with that of the structure. These include the hanger plate and bolts." a) Does the WTRM apply the same hazards and threats to all components within a grouping? Please explain your answer. b) Does PG&E's grouping within the WTRM account for any hazards that may be unique to a subset of hardware within a group? Please explain your answer. c) Hanger plates may be subject to wear such as "keyholing" that the main structure may not experience. How does PG&E account for this potential difference in life cycle between hanger plates and the structure?	a) Yes, the same hazard and threats are applied to all components within a grouping. Grouping a set of components is based on the following considerations: 1. Similar asset lifecycle; 2. Sensitivity to similar threats and hazards; and 3. Similar Asset Management strategy. b) As a starting point, the WTRM assumes that all components have been designed to the minimum design wind loads and are equally susceptible to the threats affecting the component group. As more data is collected on individual components, the model framework will be used to select the most vulnerable component for a given hazard. For example, if thicker hanger plates than required by minimum design wind loads have been installed on a structure, it may be determined that another component in the above grade hardware grouping has a higher	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	6.2.2.1	Risk Methodology and Assessment	Risk and Risk Components Calculation
37	CalPA	Set WMP-09	CalPA_Set WMP-09	6	CalPA_Set WMP-09_Q6	P. 193 of PG&E's WMP states, "top-risk areas are defined as the areas corresponding to those 100 x 100 m pixels that intersect PG&E overhead electrical infrastructure locations and that are in the upper 20th percentile based on WDRM v3 risk scores." a) By "upper 20th percentile," does PG&E mean the 80th through 100th percentiles, as percentiles are conventionally defined (in other words, the highest quintile of risk scores)? b) In the above statement, does "upper 20th percentile" refer to all WDRM v3 risk scores (which encompass most of PG&E's service territory), or a subset (for example, the upper 20th percentile of those WDRM v3 risk scores located within HFTD)? Please explain your answer.	a) Yes, by "upper 20th percentile" PG&E means the 80th through 100th percentiles; i.e., the highest quintile of risk scores. b) The "upper 20th percentile" refers to a subset of WDRM v3 risk scores. The "top risk" areas were identified using the following process: (1) PG&E service territory was spatially divided into a grid of square, 100 m x 100 m pixels; (2) for each pixel intersecting PG&E overhead electrical distribution infrastructure (1,455,233 pixels), the WDRM v3 was used to produce a risk score (range: 0 [least risk] - 0.2338641435 [greatest risk]); and (3) those 20 percent of risk-scored pixels (289,046 pixels) with the greatest risk scores (range: 0.0006426839 - 0.2338641435) were designated as "top-risk" areas. c) The number of overhead distribution circuit miles included in the "upper 20th percentile" is 16,262 miles (from a total of approximately 81,000 overhead distribution circuit miles).	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	6.4.1.2	Risk Methodology and Assessment	Top Risk Areas Within the HFRA
38	CalPA	Set WMP-09	CalPA_Set WMP-09	7	CalPA_Set WMP-09_Q7	P. 73 of PG&E's WMP states, "We created a species-specific stress index model for PG&E tree health and mortality." a) What is PG&E's species-specific stress index model for tree health and mortality? b) How does PG&E utilize its species-specific stress index model for tree health and mortality? c) Please describe the data inputs to this model. d) Please describe the outputs of this model.	a) A species-specific stress index model for tree health and mortality uses information related to temperature, precipitation, evapotranspiration, and other environmental trends to evaluate issues impacting tree health and mortality. b) PG&E has not yet received the information from its vendor needed to develop the stress index model but expects to receive it shortly. Once the information is received, PG&E will perform additional analysis in order to test the feasibility of creating a species-specific model. PG&E has corrected this information in its April 6, 2023 WMP errata. c) PG&E has not yet created the model, as described in response to subpart (b). d) PG&E has not yet created the model, as described in response to subpart (b).	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	4.4	Overview of WMP	Risk-Informed Framework
39	CalPA	Set WMP-09	CalPA_Set WMP-09	8	CalPA_Set WMP-09_Q8	P. 129 of PG&E's WMP states: When conducting VM activities, PG&E employees and contractors must adhere to PG&E's Best Management Practices (BMP) where practicable. BMPs are considered practicable where physically possible and not conflicting with other regulatory obligations or safety considerations (GO 95 Rule 35 and Public Resources Codes 4292 and 4293) or emergency response situations. a) How do VM contractors determine when adherence to BMPs is not "physically possible." b) How does PG&E audit or review VM contractors to ensure they are adhering to BMPs where practicable?	The BMPs referenced on Page 129 of the WMP in TD-7102P-01-JA01, Best Management Practices (BMPs) are Vegetation Management's (VM) controls to ensure compliance with environmental compliance requirements. a) PG&E makes every effort to comply with the BMPs. If the risk of vegetation in relation to our assets and potential non-compliance with GO 95 Rules 18 & 35, PRCs 4292 or 4293, or NERC Standard FAC-003-04 is greater than the potential environmental risk the BMPs are designed to mitigate, then the priority vegetation work takes precedence, consistent with TD-7102P-17, VM Priority Tag Procedure and TD-7103P-09, Transmission VM Imminent Threat and Hazard Notification Procedure, and referenced in the following Figures provided in the WMP: • Page 518 – Figure PG&E-8.2.2-1: PG&E's VM Transmission Inspection Process • Page 520 – Figure PG&E-8.2.2-2: PG&E's VM Transmission Second Patrol Process	Holly Wehrman	4/4/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	1	N/A	5.4.5	Overview of the Service Territory	Environmental Compliance and Permitting
39	CalPA	Set WMP-09	CalPA_Set WMP-09	8REV	CalPA_Set WMP-09_Q8REV	P. 129 of PG&E's WMP states: When conducting VM activities, PG&E employees and contractors must adhere to PG&E's Best Management Practices (BMP) where practicable. BMPs are considered practicable where physically possible and not conflicting with other regulatory obligations or safety considerations (GO 95 Rule 35 and Public Resources Codes 4292 and 4293) or emergency response situations. a) How do VM contractors determine when adherence to BMPs is not "physically possible." b) How does PG&E audit or review VM contractors to ensure they are adhering to BMPs where practicable?	The BMPs referenced on Page 129 of the WMP in TD-7102P-01-JA01, Best Management Practices (BMPs) are Vegetation Management's (VM) controls to ensure compliance with environmental compliance requirements. a) PG&E makes every effort to comply with the BMPs. If the risk of vegetation in relation to our assets and potential non-compliance with GO 95 Rules 18 & 35, PRCs 4292 or 4293, or NERC Standard FAC-003-04 is greater than the potential environmental risk the BMPs are designed to mitigate, then the priority vegetation work takes precedence, consistent with TD-7102P-17, VM Priority Tag Procedure and TD-7103P-09, Transmission VM Imminent Threat and Hazard Notification Procedure, and referenced in the following Figures provided in the WMP: • Page 518 – Figure PG&E-8.2.2-1: PG&E's VM Transmission Inspection Process • Page 520 – Figure PG&E-8.2.2-2: PG&E's VM Transmission Second Patrol Process	Holly Wehrman	4/4/2023	4/12/2023	4/13/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	1	N/A	5.4.5	Overview of the Service Territory	Environmental Compliance and Permitting
40	CalPA	Set WMP-09	CalPA_Set WMP-09	9	CalPA_Set WMP-09_Q9	P. 326 of PG&E's WMP states, "The primary target for secondary patrols is HFTD and HFRA but exceptions and additional areas are included to appropriately address vegetation associated risks." P. 267 states, "Beginning in 2023, PG&E will use the annual review of AOC, that we committed to doing in RN_PG&E-22-09, to identify areas subject to Second Patrols." a) Is there a difference between "secondary patrols" and "Second Patrols" in the two passages quoted above? If so, please explain the difference(s). b) In 2022, did PG&E's secondary patrol cover the entire HFTD? Please explain your answer. c) In 2023, will PG&E's secondary patrol cover the entire HFTD? Please explain	a) In the paragraph on page 326 outlined above, the term "secondary patrols" is used synonymously with the use of "Second Patrols" and both terms refer to Second Patrol. "In accord with regulatory requirements and/or PG&E VM Second Patrol Procedure (TD-7102P-23), the VM Second Patrol program performs scheduled patrols approximately six months offset from the routine patrol on overhead primary and secondary distribution facilities. The primary target for secondary patrols is HFTD and HFRA but exceptions and additional areas are included to appropriately address vegetation associated risks." In the paragraph on page 267, the term "Second Patrols" also refers to Second Patrol. b) Yes, in 2022 PG&E's second patrol covered the entire HFTD area, with the exception of those areas that were impacted due to various constraints. PG&E can be constrained by environmental delays, individual customer issues, permitting delays/restrictions or	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	8.2.2.2.2	Vegetation Management and Inspections	Distribution Second Patrol
41	CalPA	Set WMP-09	CalPA_Set WMP-09	10	CalPA_Set WMP-09_Q10	P. 342 of PG&E's WMP states, "In July 2021, PG&E launched a multi-year program to underground 10,000 distribution circuit miles in high wildfire risk areas." a) Since the July 2021 announcement of its 10,000 mile undergrounding program, has PG&E performed any studies to determine whether the planned scope of 10,000 circuit miles should be revised? b) Please provide any available studies, analyses, reports, or workpapers pertinent to your answer to part (a). c) If the answer to part (a) is no, please explain why not. d) Does PG&E plan to perform any studies or analyses during the 2023-2025 WMP period to determine whether 10,000 circuit miles is still the appropriate scope to target for undergrounding?	a) Yes. PG&E determined that undergrounding approximately 10,000 miles will reduce approximately 70 percent of risk in the HFTD. We initially used the output from our Wildfire Distribution Risk Model (WDRM) version 2 to first identify the 10,000 miles. We then subsequently validated that this was the correct number of miles after the July 2021 announcement using the output from our updated WDRM v3. b) Please see the attachment "WMP-Discovery2023_DR_CalAdvocates_009-Q010Atch01.xlsx" for the requested information on the WDRM v2 analysis. Based on the WDRM v2, the top 20% risk-ranked circuit segments are represented by 727 circuit segments. Shown in cell K730:M730, the cumulative overhead miles areapproximately 8,762 with a cumulative risk reduction of approximately 75%. Please see attachment "WMP-Discovery2023_DR_CalAdvocates_009-Q010Atch02.xlsx" for the requested information on the WDRM v3 analysis. Based on WDRM v3,	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	2	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution

42	CalPA	Set WMP-09	CalPA_Set WMP-09	11	CalPA_Set WMP-09_Q11	P. 969 of PG&E's WMP states, "on average, it takes 1.25 UG install miles to replace 1 OH mile. However, at times, this multiplier can be 2-3 times greater." Does PG&E's target of 10,000 miles of undergrounding refer to the number of OH circuit-miles to be moved underground, or the number of underground circuit-miles to be installed?	The 10,000 mile target refers to the number of miles of underground conductor and aligned with the assumption of removing approximately 8,100 overhead circuit miles.	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-34 – Revise Process of Prioritizing Wildfire Mitigations
43	CalPA	Set WMP-09	CalPA_Set WMP-09	12	CalPA_Set WMP-09_Q12	a) What is PG&E's current forecast cost per circuit-mile for undergrounding projects completed in the second half of 2025? b) Please provide workpapers to support your answer to part (a).	a) PG&E did not provide a forecast cost per circuit miles for undergrounding projects completed specifically in the second half of 2025 in its WMP. However, PG&E did provide a target unit cost (cost per circuit mile) by year for undergrounding projects through our 2023 GRC Reply Brief (A. 21-06-021): [IMAGE OF TABLE 4-11: SYSTEM HARDENING UNDERGROUND - PG&E'S ORIGINAL AND JUSTUSTED AVERAGE UNIT COST FORECAST(a) ($MILLIONS)] b) PG&E's unit cost forecast is a target value based on a strategy to reduce unit costs over time that is not based on a specific calculation.	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
44	CalPA	Set WMP-09	CalPA_Set WMP-09	13	CalPA_Set WMP-09_Q13	a) What is PG&E's forecast RSE for undergrounding completed in the second half of 2025? b) Please provide workpapers to support your answers to part (a).	a) PG&E does not forecast an RSE for undergrounding projects planned to be completed specifically in the second half of 2025 in its WMP. However, in the 2023 GRC, PG&E provided an RSE of 5.4 in 2025 for underground system hardening (A. 21-06-021, Exhibit PG&E-4, Chapter 3, p. 3-6, Table 3-1). b) Please see attachment "WMP-Discovery2023_DR_CalAdvocates_009-Q013Atch01.xlsm" for the requested information (on the "RSE Results" tab, cell J12 for the 2025 Undergrounding RSE with supporting data on the other tabs). Comprehensively, inputs to support the RSE Results tab are based on the following tabs to compute the RSE: • 1-Program Exposure – Identifies the number of Overhead miles replaced worked per year across the tranches of the Wildfire Risk. • 2-Program Cost – Identifies the programmatic costs per year • 3-Eff_Exp Programs – Identifies the programmatic effectiveness by driver and subdriver for	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	1	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
45	CalPA	Set WMP-09	CalPA_Set WMP-09	14	CalPA_Set WMP-09_Q14	a) What is PG&E's current forecast cost per circuit-mile for covered conductor projects completed in the second half of 2025? b) Please provide workpapers to support your answer to part (a).	a) PG&E does not forecast costs per circuit-mile for covered conductor projects in its WMP. However, PG&E did provide a unit cost of $1.678 million per mile for overhead hardening in 2025 in its 2023 GRC (A. 21-06-021, Exhibit PG&E-4, Workpaper 4-28, line 18). b) Please see attachment "WMP-Discovery2023_DR_CalAdvocates_009-Q014Atch01.pdf" for the requested information.	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	1	N/A	8.1.2.5	Grid Design and System Hardening	Traditional Overhead Hardening –Transmission Conductor and Distribution
46	CalPA	Set WMP-09	CalPA_Set WMP-09	15	CalPA_Set WMP-09_Q15	a) What is PG&E's forecast RSE for covered conductor system hardening completed in the second half of 2025? b) Please provide workpapers to support your answers to part (a). Question 16	a) PG&E does not forecast an RSE for covered conductor system hardening for the second half of 2025 in its WMP. However, in the 2023 GRC, PG&E provided an RSE of 5.8 in 2025 for overhead system hardening (A. 21-06-021, Exhibit PG&E-4, Chapter 3, p. 3-6, Table 3-1). b) Please see attachment "WMP-Discovery2023_DR_CalAdvocates_009-Q013Atch01.xlsm" for the requested information.	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	0	N/A	8.1.2.5	Grid Design and System Hardening	Traditional Overhead Hardening –Transmission Conductor and Distribution
47	CalPA	Set WMP-09	CalPA_Set WMP-09	16	CalPA_Set WMP-09_Q16	In response to data request CalAdvocates-PGE-2023WMP-03, question 7c, PG&E states, "The primary approach for selecting miles used two risk prioritization methodologies: (1) Top 20 percent circuit segments based on the 2021 WDRM v2; and (2) the [Wildfire Feasibility Efficiency (WFE)]-ranked circuit segments based on the 2022 WDRM v3 and considering undergrounding feasibility." Provide an Excel table of the WFE-ranked circuit segments based on the 2022 WDRM v3, as described above. For each circuit segment, provide the following attributes as columns: a) Circuit name b) Circuit ID number c) Circuit segment name d) WDRM v3 risk score	Please see attachment "WMP-Discovery2023_DR_CalAdvocates_009-Q016Atch01_CONF.xlsx" for the requested information from data request CalAdvocates-PGE-2023WMP-03, question 7c (projects identified for possible undergrounding in the 2023-2026 timeframe). Please see column M that shows the applicable risk model used for scoping the project (WDRM v2, WDRM v3). a) Please see column N of the attachment. b) Please see column O of the attachment. c) Please see columns P and S of the attachment. d) Please see column ADof the attachment. e) Please see column W of the attachment. f) Please see column AE of the attachment.	Holly Wehrman	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_009.zip	1	N/A	7.2	Wildfire Mitigation Strategy Development	Wildfire Mitigation Strategy
48	CalPA	Set WMP-10	CalPA_Set WMP-10	1	CalPA_Set WMP-10_Q1	Table 8-3 on p. 332 of PG&E's WMP states that PG&E will make capable for Down Conductor Detection (DCD): • 500 devices in 2023, • 400 devices in 2024, and • 250 devices in 2025. a) Please explain the reasoning for the decreasing number of devices made capable for DCD from 2023-2025. b) Approximately how many circuit miles in the HFTD will be protected by DCD at the end of 2025?	a) DCD is capable of seeing from the device to "end of line", therefore we are able to provide DCD protection on most eligible High Fire Risk Area line miles by the end of 2023, then supplementing that coverage in 2024 and 2025, including in the EPSS Buffer area. The number of devices decrease in 2024 and 2025 because the line miles covered in 2024 and 2025, including EPSS Buffer area are less than the line coverage in eligible HFRA for 2023. b) We anticipate approximately 21,000 circuit miles in HFRA will be protected by DCD at the end of 2025.	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.1.2	Grid Design, Operations, and Maintenance	Targets
49	CalPA	Set WMP-10	CalPA_Set WMP-10	2	CalPA_Set WMP-10_Q2	Table 8-5 on p. 336 of PG&E's WMP shows a forecast reduction in the number of EPSS events of one to two percent annually from 2022 to 2025. a) What factors does PG&E expect to contribute to the reduction in the number of EPSS events discussed above? b) Why is PG&E's forecast reduction in the number of EPSS events linear across the 2023-2025 period? c) Please provide any available workpapers that support PG&E's forecasts regarding the number of EPSS events annually in 2023-2025.	a) For 2023, factors contributing to the reduction in the number of EPSS related outages are based on actions to install additional Line Reclosers (LR) and Fuse Savers on the highest impacted protective zones to reduce the reliability impact. These will be installed in locations that are within the HFRA or protect equipment within the HFRA. The planned installs will provide reliability benefits on fuse tap lines within the scope of the EPSS program. PG&E will also undertake reliability mitigations intended to reduce outage frequency on those circuit protection zones (CPZs) that experienced the greatest number of outages while EPSS was enabled in 2022. This will include proactive vegetation management work incremental to existing vegetation management scope on CPZs that experienced vegetation caused outages in 2022. Reactive vegetation management work will also be conducted in-season, as needed based on escalated vegetation caused outages. Animal mitigation work will also be performed on CPZs that experienced avian or other animal contacts in 2022.	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.13	Grid Design, Operations, and Maintenance	Performance Metrics Identified by the Electrical Corporation
50	CalPA	Set WMP-10	CalPA_Set WMP-10	3	CalPA_Set WMP-10_Q3	a) Does PG&E forecast a change in the average duration of EPSS events during the 2023-2025 period? b) If the answer to part (a) is yes, provide the expected average duration of EPSS events for 2023, 2024, and 2025. c) If the answer to part (a) is no, explain why not. d) Please provide any available workpapers that support PG&Es' forecasts regarding the duration of EPSS events in 2023-2025.	a) Not at this time. b) N/A c) We require more operating experience before being able to accurately forecast reduction in average duration for EPSS outages. We have lowered the target of four hours to 210 minutes in 2023. d) PG&E does not have any applicable workpapers available.	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.13	Grid Design, Operations, and Maintenance	Performance Metrics Identified by the Electrical Corporation
51	CalPA	Set WMP-10	CalPA_Set WMP-10	4	CalPA_Set WMP-10_Q4	P. 336 of PG&E's WMP states, with regard to DTS-FAST: A prototype field test installation was completed on a 115kv tower in Martinez and a wood pole in Santa Cruz in 2021. The valuable lessons learned have been updated to streamline designs, increase scalability, and reduce costs. In 2022, we filed a non-provisional patent application for DTS-FAST. For 2023, we have no field installation plans but will be working through the patent examination process. a) Please provide data on the results of the field test installation in Martinez. b) Other than working through the patent examination process, what steps does PG&E plan to take in 2023 to further develop DTS-FAST? c) When does PG&E expect to begin additional DTS-FAST installations? d) Through the end of 2022, how much has PG&E spent on DTS-FAST?	a) DTS-FAST is an integrated system of sensors and technologies that are established and available on the market, working together to mitigate wildfire risk. Testing focused on validating sensor functionality in wildfire and utility user scenarios, encompassing functional testing, environmental testing, and long-term resilience testing. Learnings were immediately applied to optimize sensor configuration. Key learnings from the Martinez installation and testing include: • Sensors – we installed over 25 devices and tested their intended functionality for accuracy and reliability. These are the types of tests performed: o Reproducibility testing verifies the consistency and reliability of sensor measurements by repeating measurements multiple times and checking the results for consistency. This test criterion ensures that the sensing device provides consistent and reproducible measurements.	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.2.6.2	Grid Design and System Hardening	Emerging Grid Hardening Technology Installations and Pilots
52	CalPA	Set WMP-10	CalPA_Set WMP-10	5	CalPA_Set WMP-10_Q5	P. 357 of PG&E's WMP states, "If deployed, DTS-FAST could have a significant impact on wildfire risk where deployed." a) Please quantify the phrase "a significant impact on wildfire risk" in the above quote. b) Please provide any workpapers or studies to support your answer to part (a).	a) Please quantify the phrase "a significant impact on wildfire risk" in the above quote. We do not have enough data to provide a precise quantification of the impact at this time. The deployed sensor system is designed to actively monitor the environment for potential wildfire risks. For instance, the sensors are capable of detecting vegetation that has fallen onto power lines or are leaning against it. When such an event is detected, the sensor will trigger an alarm at the location, allowing for operational decisions to be made such as de-energizing the line before a potential fire hazard arises. The key differentiator of this system is that it is deployed outside of the substation, directly in high fire threat areas, and could detect risks before any electrical fault has occurred. b) "Please provide any workpapers or studies to support your answer to part (a)." We do not have any workpapers or studies to provide. The sensor's detection speed is almost instantaneous or within one second and the actual delivery of the alarm message to operations is	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.2.6.1	Grid Design and System Hardening	Emerging Grid Hardening Technology Installations and Pilots
53	CalPA	Set WMP-10	CalPA_Set WMP-10	6	CalPA_Set WMP-10_Q6	P. 464 of PG&E's WMP states, "In 2022, we reduced the Customer Average Interruption Duration Index (CAIDI) and Customers Experiencing a Sustained Outage (CESO) for customers served by EPSS-capable lines when compared to data from the 2021 program pilot." a) Please provide the CAIDI value for all HFTD customers for each year from 2018-2022. b) Please provide the CESO value for all HFTD customers for each year from 2018-2022.	Please see "WMP-Discovery2023_DR_CalAdvocates_010-Q006Atch01.xlsx."	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	1	N/A	8.1.8.1.1	Grid Operations and Procedures	Equipment Settings to Reduce Wildfire Risk
54	CalPA	Set WMP-10	CalPA_Set WMP-10	7	CalPA_Set WMP-10_Q7	P. 464 of PG&E's WMP states, "By the end of 2022, we responded to 89 percent of outages on EPSS-enabled lines within 60 minutes, responding on average within 42 minutes." The statement above refers to results achieved "by the end of 2022." What time period is this data drawn from? In other words, the 42-minute figure is an average of response times in what period of time?	The 42-minute figure is an average of the response time to all outages on EPSS-protected circuits in 2022 since EPSS Outage Response time tracking began. The timeframe covered is May 23, 2022 – December 31, 2022.	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Equipment Settings to Reduce Wildfire Risk

55	CalPA	Set WMP-10	CalPA_Set WMP-10	8	CalPA_Set WMP-10_Q8	P. 464 of PG&E's WMP states, "By the end of 2022, we responded to 89 percent of outages on EPSS-enabled lines within 60 minutes, responding on average within 42 minutes." For all outages on EPSS-enabled lines in all of 2022, provide the following: a) Average response time b) 25th percentile response time c) Median (50th percentile) response time d) 75th percentile response time e) Longest response time	2022 EPSS OUTAGE RESPONSE AVERAGE RESPONSE TIME 25TH PERCENTILE RESPONSE TIME MEDIAN (50TH PERCENTILE) RESPONSE TIME 75TH PERCENTILE RESPONSE TIME LONGEST RESPONSE TIME 42 Minutes 27 Minutes 39 Minutes	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Equipment Settings to Reduce Wildfire Risk
56	CalPA	Set WMP-10	CalPA_Set WMP-10	9	CalPA_Set WMP-10_Q9	P. 464 of PG&E's WMP states, "By the end of 2022, we responded to 89 percent of outages on EPSS-enabled lines within 60 minutes, responding on average within 42 minutes." For the 11 percent of outages (noted in this quote) on EPSS-enabled lines that PG&E did not respond to within 60 minutes, provide the following: a) Average response time b) Longest response time.	2022 EPSS OUTAGE RESPONSE AVERAGE RESPONSE TIME FOR RESPONSES > 60 MINUTES LONGEST RESPONSE TIME 95 Minutes 408 Minutes Note: Table values reflect available data since EPSS Outage Response time tracking began. The timeframe for tracking in 2022 was May 23, 2022 – December 31, 2022.	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Equipment Settings to Reduce Wildfire Risk
57	CalPA	Set WMP-10	CalPA_Set WMP-10	10	CalPA_Set WMP-10_Q10	P. 441 of PG&E's WMP states, "We plan to implement a QA [quality assurance] program for systems inspections." a) Please discuss the progress PG&E has made so far in implementing a QA program for systems inspections. b) When does PG&E expect to implement a QA program for systems inspections? c) Please describe the main features of the QA program that PG&E plans to implement. d) What are the probable limitations of the QA program that PG&E plans to implement?	a) The function that has been historically referred to as "quality verification" is in fact a component of the QA program for systems inspections and will be referred to as "QA" rather than "QV" moving forward. We have made significant progress on this work and the program has been implemented. b) The program has already been implemented. c) Main features are described in Section 8.1.6.1 of our 2023 WMP: "A Quality Verification (QV) function will be performed in 2023 that provides analysis and program value. The function historically referred to as QV is included within the QA program referred to above. QV uses a statistically valid sample of QC complete locations. Sample sizes are based on completed QC work. QV audits will be ongoing so long as QC is operational. All QV discrepancies are documented in the electronic QC Review Assessment forms	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.6.1	Quality Assurance and Quality Control	Quality Assurance
58	CalPA	Set WMP-10	CalPA_Set WMP-10	11	CalPA_Set WMP-10_Q11	P. 441 of PG&E's WMP states, "We plan to update existing QV [quality verification] procedures for systems inspections." a) Please discuss the progress PG&E has made so far in updating existing QV procedures for systems inspections. b) When does PG&E expect to complete its updates to existing QV procedures for systems inspections? c) Please describe how the planned updates will improve PG&E's existing QV procedures.	a) The quality team is currently undergoing a thorough review of the prior QV procedures as an initial step in the development of updated procedures. b) Expected completion of this work is the end of the third quarter of 2023. c) The planned updates improve upon PG&E's existing QV procedures by accurately reflecting the QV role in the holistic systems inspection throughput.	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.6.1	Quality Assurance and Quality Control	Quality Assurance
59	CalPA	Set WMP-10	CalPA_Set WMP-10	12	CalPA_Set WMP-10_Q12	P. 450 of PG&E's WMP states, "Along with reducing wildfire risk related to backlog ignition risk-tags in HFTD/HFRA, new (EC notifications identified after January 1st, 2023) HFTD/HFRA ignition risk tags will be completed in compliance with GO 95 rule 18 timelines, barring external factors." a) What external factors does PG&E anticipate may prevent it from completing HFTD/HFRA ignition risk tags in compliance with GO 95 Rule 18 timelines? b) For each external factor identified in part (a), what is PG&E's plan to mitigate the effect the external factor may have? c) During the period from 2023-2025, will PG&E complete new ignition risk tags in compliance with GO 95 rule 18 timelines for those ignition risk tags located outside the HFTD/HFRA? Please explain your answer.	a) Please refer to page 451 of our 2023 WMP which defines external factors as follows: "External Factors represent reasonable circumstances which may impact execution against targets, objectives, other work, or performance metrics including, but not limited to, physical conditions, landholder refusals, environmental delays, customer refusals or non-contacts, permitting delays/restrictions, weather conditions, removed or destroyed assets, active wildfire, exceptions or exemptions to regulatory/statutory requirements, and other safety considerations." Specifically, each of the items identified in the definition could apply to our asset tag work and cause our work to be delayed. As an example, the severe and repeated storms in the first quarter of 2023 have caused delays in performing our asset tag work and fall under the category of external factors. b) Physical conditions: To mitigate the impacts of physical conditions, we work with our leadership	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.7.2	Open Work Orders	Open Work Orders – Distribution Tags
60	CalPA	Set WMP-10	CalPA_Set WMP-10	13	CalPA_Set WMP-10_Q13	Table PG&E-8.1.7-1 on p. 451 of PG&E's WMP states, "Field Safety Reassessment (FSR) performed annually on time dependent tags to confirm Priority E Notification has not escalated to Priority A or B." a) Under PG&E's current procedures and policies, can a FSR de-escalate the priority of a notification? Please explain your answer. b) Under PG&E's current procedures and policies, can a FSR be used to extend the due date of a notification beyond GO 95 rule 18 timelines? Please explain your answer.	Inspectors can also recommend that a notification be canceled if they believe it was created in error, is no longer required according to PG&E's guidelines, or if they find all work identified on the EC is already completed in the field. In certain instances, the FSR can lead to a downgrade in tag priorities. For example, if the tag gatekeeper disagrees with an inspector-recommended escalations or cancellation, the gatekeeper can downgrade the tag rather than cancel or escalate it. PG&E continues to assess its practices and procedures on FSRs and evaluate what alternatives are provided to inspectors and tag gatekeepers. b) FSRs do not extend a notification's required end date beyond GO 95 rule 18 timelines. PG&E's current execution of EC notifications does not meet GO 95 Rule 18 compliance 100% of the time. FSRs are an internal containment activity PG&E performs to mitigate potential safety	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.7.2	Open Work Orders	Open Work Orders – Distribution Tags
61	CalPA	Set WMP-10	CalPA_Set WMP-10	14	CalPA_Set WMP-10_Q14	Table PG&E-8.1.7-3 on p. 456 of PG&E's WMP has empty cells in the HFRA row. a) Please explain why the HFRA row is empty in the above table. b) Please provide an updated version of PG&E-8.1.7-3 with the HFRA row filled in.	Table 1 below shows the number of open distribution work orders categorized by HFTD tier from Q1 2020 through Q4 2022 and is tied to the QDR data provided to Energy Safety on March 1, 2023. The numbers in the March 1, 2023 QDR are different from the numbers provided in Table-8.1.7-3 in PG&E's March 27, 2023 WMP submission. The numbers in the March 1, 2023 QDR are correct. Table 1 – Open Distribution Work Orders by HFTD Tier HFTD Area 2020 2021	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.7.2	Open Work Orders	Open Work Orders – Distribution Tags
62	CalPA	Set WMP-10	CalPA_Set WMP-10	15	CalPA_Set WMP-10_Q15	In response to data request CalAdvocates-PGE-2023WMP-05, question 3, PG&E states, "There is an inherent QC process that is part of the drone inspection, but there is no outside group that is looking at QC." a) Please describe the inherent QC process for drone inspections. What are the main features of this inherent QC process? b) What types of problems or flaws in drone inspections can the inherent QC process identify? c) Please identify the five most common problems or flaws in drone inspections that the inherent QC process identified in 2022. d) What are the limitations of this inherent QC process?	a) There is a 100% review of all inspections that are part of the inspection process. The inspector completes the inspection and a spot check is performed for commonly missed items. b) Spot checks are performed for the commonly missed items that potentially caused a fire or ignition. c) The five most common problems identified in the QC process are: C-hooks, insulators, cotter pins, shoe issues, and structural issues. d) We have not identified any limitations of the QC process at this time.	Holly Wehrman	4/4/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_010.zip	0	N/A	8.1.3	Asset Inspections	N/A
63	TURN	001	TURN_001	1	TURN_001_Q1	1. Regarding ACI PG&E-22-34, which found that "PG&E's current process of prioritizing wildfire mitigations assigns a high priority to undergrounding and does not demonstrate adequate weight to risk model outputs or RSE estimates" and which detailed the showing that PG&E must make in this WMP to show the required progress: a. Does PG&E's 2023-2025 WMP or supporting documentation provide a comparison of the RSEs (either at a tranche level or more aggregated level) for undergrounding compared to the RSEs of alternative mitigation techniques, such as covered conductor? i. If so, please provide the relevant citations, identifying the specific content that provides this information by page number and specific paragraphs, tables or figures (i.e., not just a multi-page page citation)	a) No, PG&E's 2023-2025 WMP does not provide a comparison of the RSEs for undergrounding compared to the RSEs of alternative mitigations. However, this information, RSEs at the tranche and aggregated level for wildfire mitigations including undergrounding, is provided in PG&E's 2023 General Rate Case – in response to Energy Division data request ED_001. b) Yes, the 2023 WMP explains how PG&E performs this analysis. PG&E evaluated the outputs from its Wildfire Distribution Risk Models (WDRM) to determine the highest risk miles in its service territory. The primary approach for selecting system hardening miles used two risk prioritization methodologies: (1) the top 20 percent of circuit segments based on the 2021 WDRM v2; and (2) the Wildfire Feasibility Efficiency (WFE) ranked circuit segments based on the 2022 WDRM v3. PG&E uses the Simplified Wildfire RSE (SWRSE) or WFE in evaluating undergrounding projects. The SWRSE includes the components of the RSE including wildfire risk and cost	Tom Long	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_001.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-34 – Revise Process of Prioritizing Wildfire Mitigations
64	TURN	002	TURN_002	1	TURN_002_Q1	Please provide the attachment to the response to CalAdvocates-PG&E-2023WMP-06-007, which PG&E has labeled as confidential	Please see attachment "WMP-Discovery2023_DR_TURN_002-Q001Atch01CONF.xlsx" for the requested information.	Tom Long	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_002.zip	1	Yes	8.2.3	Vegetation Management and Inspections	Vegetation and Fuels Management
65	TURN	002	TURN_002	2	TURN_002_Q2	Please provide the attachment to the response to CalAdvocates-PG&E-2023WMP-06-008, which PG&E has labeled as confidential.	Please see attachment "WMP-Discovery2023_DR_TURN_002-Q002Atch01CONF.xlsx" for the requested information.	Tom Long	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_002.zip	1	Yes	8.2.3	Vegetation Management and Inspections	Vegetation and Fuels Management
66	TURN	002	TURN_002	3	TURN_002_Q3	Please provide the attachment to the response to CalAdvocates-PG&E-2023WMP-06-009, which PG&E has labeled as confidential.	The attachment to CalAdvocates-PG&E-2023WMP-06-009 was identical to the attachment provided for CalAdvocates-PG&E-2023WMP-06-008, so please refer to the attachment sent with Answer 002 of this data request response.	Tom Long	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_002.zip	0	N/A	2022 WMP Section 7.3.5.2	Vegetation Management and Inspections	Enhanced Vegetation Management
67	TURN	002	TURN_002	4	TURN_002_Q4	Please provide the 2023-2026 Undergrounding Workplan referenced on page 911 of PG&E's WMP and in footnote 209, which indicates that PG&E has labeled the Workplan confidential.	Please see "WMP-Discovery2023_DR_TURN_002-Q004Atch01_CONF.xlsx" for the requested information.	Tom Long	4/4/2023	4/7/2023	4/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_002.zip	1	Yes	Appendix D	Areas for Continued Improvement	ACI PG&E-22-16 – Progress and Updates on Undergrounding and Risk Prioritization

68	CPUC - SPD (Safety Policy Division)	002	CPUC - SPD (Safety Policy Division)_002	1	CPUC - SPD (Safety Policy Division)_002_Q1	Provide Attachment 2023-03-27_PGE_2023_WMP _R0_Appendix D ACI PG&E-22-16_Atch01_CONF (PG&E's 2023-2026 Undergrounding Workplan).	The CONFIDENTIAL attachment is being provided pursuant to the confidentiality declaration "DRU11407.003_Confidentiality Declaration.pdf". As requested, please see attachment "2023-03-27_PGE_2023_WMP_R0_Appendix D ACI PG&E-22-16_Atch01_CONF.xlsx" attached.	Kevin Miller	4/4/2023	4/5/2023	4/4/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_002.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-16 – Progress and Updates on Undergrounding and Risk Prioritization
69	OEIS	001	OEIS_001	1	OEIS_001_Q1	Regarding PG&E's Tree Assessment Tool (TAT) Considering PG&E has discontinued its Enhanced Vegetation Management (EVM) program: a. How is PG&E using and planning to use its TAT? b. What inspection programs, if any, listed in Section 8.2.2 will use the TAT? c. If PG&E is not using its TAT, why has it discontinued its use?	a) The TAT was developed for the EVM program. The TAT will no longer be utilized as the EVM program concluded at the end of 2022. There are no current plans to utilize TAT to support other VM programs. b) No inspection programs listed in Section 8.2.2 of the 2023-2025 WMP plan to utilize the TAT at this time. Please see the response to part (a) of this question. c) The approach to tree inspections intends to follow the American National Standards Institute (ANSI) A-300 tree risk assessment standard per our field conditions and individual tree mitigation needs	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	8.2.2	Vegetation Management and Inspections	Vegetation Management Inspections
70	OEIS	001	OEIS_001	2	OEIS_001_Q2	Regarding PG&E's Targeted Tree Species (TTS) Study and its Tree Assessment Tool (TAT) On page 784 of its 2022 WMP Update, PG&E states "The results of our Targeted Tree Species study in conjunction with improving the Tree Assessment Tool (TAT) will allow PG&E to more accurately identify and mitigate trees at elevated risk of failure, providing better visibility into risk." On page 579 of its 2023-2025 WMP, PG&E states "We have evaluated the recommendations in the final [Targeted Tree Species] report and continue to analyze them and consider our go-forward actions." a. Since the Target Tree Species study was completed on March 31, 2022, what actions has PG&E taken and will take to implement the nine recommendations? Respond specifically to each of the nine recommendations.	a) Nine recommendations were provided to PG&E in the final report of the Targeted Tree Species Study that was completed in March 2022. PG&E has considered these recommendations and has taken action where we deemed appropriate. Below are the actions taken specific to each of the nine recommendations. Recommendation 1: Implement a rule set, harmonized with O&I procedures, for TAT to record at species level, with only specified genus allowed as aggregates. Adopt definitions presented in OEIS Geographic Information Systems Data Standard, DRAFT Version 2.2 in Section 3.4.3 Ignition (Feature Class), Page 71. Action Taken: An updated tree species list has been created that aggregates species at the genus level where appropriate. The updated tree species list is currently in process of being updated within One VM.	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	8.2.3.6	Vegetation Management and Inspections	High-Risk Species
71	OEIS	001	OEIS_001	3	OEIS_001_Q3	Regarding PG&E's Focused Tree Inspections pilot a. Describe the current state of development for the pilot area, PG&E's Areas of Concern (AOC), and "polygons where focused vegetation inspection can be evaluated to determine appropriate counties to prioritize pilots(s)" (page 529) and the expected timeline for operationalization. b. Detail the criteria PG&E has and is using to develop the pilot area, PG&E's Areas of Concern (AOC), and "polygons where focused vegetation inspection can be evaluated to determine appropriate counties to prioritize pilots(s)" (page 529). c. What standards, processes, procedures, and tools are vegetation management personnel using/will use to perform tree risk assessments for this pilot?	a) Four regional AOCs totaling 300 miles have been identified for the FTI Pilot, one in each of the following counties: Butte, Calaveras, El Dorado, and Napa. Pilot operationalization will begin in Q2 2023. b) AOCs were identified through a cross-functional effort utilizing county-based regional reviews to create polygons. Initial polygon development utilized Public Safety Specialist circuit-based evaluations, 30-year lookback of meteorology data, PSPS Lookback Polygons, PSPS Vegetation Damage locations, vegetation caused ignition data, and vegetation caused outage data. The completed AOC polygons were further analyzed against WDRMv3 model. This analysis supported the prioritization of AOC polygons which were selected as regional pilots. To bring value to overall future guidance and execution, the pilots need to capture regional variations and piloting only in highest risk AOC polygons would not support the significant learningsexpected of	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	3	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
71	OEIS	001	OEIS_001	3 SUPP	OEIS_001_Q3 SUPP	Regarding PG&E's Focused Tree Inspections pilot a. Describe the current state of development for the pilot area, PG&E's Areas of Concern (AOC), and "polygons where focused vegetation inspection can be evaluated to determine appropriate counties to prioritize pilots(s)" (page 529) and the expected timeline for operationalization. b. Detail the criteria PG&E has and is using to develop the pilot area, PG&E's Areas of Concern (AOC), and "polygons where focused vegetation inspection can be evaluated to determine appropriate counties to prioritize pilots(s)" (page 529). c. What standards, processes, procedures, and tools are vegetation management personnel using/will use to perform tree risk assessments for this pilot?	h) 2023 development of Areas of Concern (AOC) used WDRM v3 to prioritize CPZs to inform the pilot areas selected. In the four AOC selected for pilots there are 31 CPZs total. 22 of these CPZs match where WDRM v2 was used in 2022 and EVM Tree Weighted Risk Scores and Rankings are available to accurately cross-reference. 9 CPZs do not have EVM Tree Weighted Risk Scores or Ranking. These omissions are due to circuit configuration and/or operating number changes that do not allow for matching with the WDRM v2 CPZ list. Where available EVM Tree Weighted Risk Score and EVM Tree Weighted Rank are provided in the table below.	Colin Lang	4/5/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
71	OEIS	001	OEIS_001	3 SUPP_2	OEIS_001_Q3 SUPP_2	Regarding PG&E's Focused Tree Inspections pilot a. Describe the current state of development for the pilot area, PG&E's Areas of Concern (AOC), and "polygons where focused vegetation inspection can be evaluated to determine appropriate counties to prioritize pilots(s)" (page 529) and the expected timeline for operationalization. b. Detail the criteria PG&E has and is using to develop the pilot area, PG&E's Areas of Concern (AOC), and "polygons where focused vegetation inspection can be evaluated to determine appropriate counties to prioritize pilots(s)" (page 529). c. What standards, processes, procedures, and tools are vegetation management personnel using/will use to perform tree risk assessments for this pilot?	j) GIS layer for each polygon with the additional attributes have been provided. Please see "WMP-Discovery2023_DR_OEIS_001-Q003Supp02Atch01.zip" and "WMP-Discovery2023_DR_OEIS_001-Q003Supp02Atch02.xlsx." Specifically for Overall Utility Risk, Ignition Risk, and PSPS Risk, these are typically presented in terms of circuit segments or circuit protection zones. The AOC polygons do not always align with CPZ segments so circuit segments may be partially included or completely included. Since PG&E does not calculate the percentage of risk within the circuit segment designations, PG&E provides pro-rated risk scores based purely on the percentage of miles that fall within the AOC as an approximation for this data response.	Colin Lang	4/5/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	2	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
72	OEIS	001	OEIS_001	4	OEIS_001_Q4	Regarding PG&E's Tree Removal Inventory On page, 528, PG&E states that is will "remove, or re-inspect trees identified in the EVM program." a. How does PG&E decide whether a tree should be 1) simply abated based on the existing risk assessment or 2) re-inspected/assessed prior to abatement? b. What standards, processes, procedures, and tools are vegetation management personnel using/will use to perform tree risk assessments for this program?	a) 1) Trees in the inventory with a TAT result of 'Abate' will abated based on the existing risk assessment. 2) All trees in the inventory with either no TAT result or a TAT result other than 'ABATE' are to be re-assessed by a Tree Risk Assessment Qualification (TRAQ) inspector to determine if abatement is appropriate. The inspection will determine our action based on tree condition and strike potential. b) The approach to tree inspections intends to follow the American National Standards Institute (ANSI) A-300 tree risk assessment standard per field conditions and individual tree mitigation needs. Inspectors re-assessing these trees will be required to possess a Tree Risk Assessment Qualification (TRAQ) through the International Society of Arboriculture (ISA), which is the same	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
73	OEIS	001	OEIS_001	5	OEIS_001_Q5	program addresses large wood generated by PG&E's VM activities including post-fire work activities and wood generated by the EVM Program. a. Considering the EVM program has been discontinued, does the wood management program: i. Address large wood generated from the EVM program that has not already addressed? ii. Address large wood generated from PG&E's Tree Removal Inventory program, a remnant of the EVM program? b. How is large wood addressed when generated by other VM programs, including Distribution	a) i. Yes. We will uphold commitments to manage wood generated by Enhanced Vegetation Management (EVM) tree work for customers who requested this service. ii. We will continue to fulfill wood management commitments that have been made to customers. b) PG&E offers wood management for our wildfire response and EVM programs. For all programs, wood greater than four inches in diameter is left in a safe position on site as it is legally the property of the landowner. As safety is PG&E's foremost core value, if wood poses a safety risk or environmental, cultural or access concern, crews will address the wood accordingly in coordination with tree work. c) Please see "WMP-Discovery2023_DR_OEIS_001-Q005Atch01.pdf" for PG&E's Wood Management procedure.	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	1	N/A	8.2.3.2	Vegetation Management and Inspections	Wood and Slash Management
74	OEIS	001	OEIS_001	6	OEIS_001_Q6	Regarding Enhanced Clearances On page 537, PG&E says it "complies with Appendix E of GO 95," then goes on to describe the recommended minimum clearances set forth in Appendix E of GO 95. a. In the HFTD, does PG&E obtain the recommended clearances "where practicable"? b. If (a) does not describe how PG&E implements the recommended, "enhanced" clearances, clarify how PG&E operationalizes the recommended clearances set forth in Appendix E of GO 95.	a. The minimum clearance at time of work on Enhanced Vegetation Management is 12 feet as recommended in Appendix E of GO 95. Routine maintenance of previously cleared EVM spans is also 12 feet. Routine maintenance of all other spans is prescribed 2-3 years of clearance. b. Routine maintenance directs an inspector to prescribe 2-3 years of clearance which allows the inspector to account for tree species, location, and other conditions that affect growth	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	8.2.3.3	Vegetation Management and Inspections	Clearance
75	OEIS	001	OEIS_001	7	OEIS_001_Q7	Regarding Appendix B Items That Are Currently Optional Or "By Request" Only Provide the following, which are outlined in the 2023-2025 Wildfire Mitigation Plan Technical Guidelines, Appendix B. If the data is tabular (formulas, tables, graphs, charts) provide it in MS Excel. If the data is text-heavy, provide the information in MS Word. a. Detailed Model Documentation for each model and sub-model discussed in PG&E's response to Section 6.1.2 Summary of Risk Models (Technical documentation should be presented according to ASTM E 1472 – Standard Guide for Documenting Computer Software for Fire Models.). i. Include a list of assumptions and known model limitations according to ASTM E 1895 –Standard Guide for Determining Uses and Limitations of Deterministic Fire	The requested information is provided in the following four documents: • "WMP-Discovery2023_DR_OEIS_001-Q007Atch01.pdf" • "WMP-Discovery2023_DR_OEIS_001-Q007Atch02CONF.pdf" • "WMP-Discovery2023_DR_OEIS_001-Q007Atch03CONF.pdf" • "WMP-Discovery2023_DR_OEIS_001-Q007Atch04CONF.pdf"	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	4	N/A	Appendix B	Supporting Documentation for Risk Methodology and Assessment Definitions	Detailed Model Documentation
76	OEIS	001	OEIS_001	8	OEIS_001_Q8	Regarding Comprehensive System Diagram for All Risk Models Used Provide comprehensive system diagrams in MS Visio or PPT for all risk models. 1. A comprehensive diagram for operational models and 2. A comprehensive diagram for planning models. Section 6.1.2, Summary of Risk Models, asks for a summary of risk models in table form with specific fields. Section 6.2.1, Risk and Risk Component Identification, asks for a chart that demonstrates the components of overall utility risk. This request is comprehensive of all models that work together in the Decision-Making Framework (DMF). The requested diagram should show: a. Interaction between the models presented graphically (e.g., inputs and outputs coming to and going from models to other models),	PG&E has provided two system diagrams within WMP-Discovery2023_DR_OEIS_001-Q008Atch01.pdf in response to this data request – one for operational models (slide 01) and one for planning models (slide 02). Each diagram depicts the interaction among different models and each's inputs and outputs. The diagrams also show the decision points, process flows, feedback loops where adjustments to the models are required. 1) Please see slide 01 of WMP-Discovery2023_DR_OEIS_001-Q008Atch01.pdf. 2) Please see slide 02 of WMP-Discovery2023_DR_OEIS_001-Q008Atch01.pdf. This diagram depicts PG&E's comprehensive decision-making framework, from identifying risk drivers to developing mitigation initiatives to address risk, adjusting program scope and developing workplans, balancing the mitigation portfolio, and executing the work.	Colin Lang	4/5/2023	4/24/2023	4/24/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	1	N/A	6.1.2	Risk Methodology and Assessment	Summary of Risk Models
77	OEIS	001	OEIS_001	9	OEIS_001_Q9	Regarding Portfolio Level Risk Analysis and Risk Spend Efficiency a. Provide an example of how risks are aggregated to a portfolio, and if and how interdependencies between the risks are explicitly captured in the portfolio. Response should be provided in Excel. Also include the level of organization for the portfolio (e.g., asset, geographical or business unit) b. Are tail-risks calculated on a portfolio of risks? If so, provide an example. c. Are probability distributions and interdependencies used as inputs to outputs for the bowties used in PG&E's WMP submission (see examples present in Appendix B)? If so, provide an example using the bowtie charts presented in PG&E's Appendix B submission. As appropriate, response should be provided in Excel.	a) Based on the Wildfire Distribution Risk Model, which is based on circuit segments, circuit segments are aggregated to the enterprise wildfire risk model to calculate mitigation program benefits at the portfolio level. The tranches, in this case, are broken down by quintiles of likelihood of risk event (LoRE) and consequence of risk event (CoRE). Please see "WMP-Discovery2023_DR_OEIS_001-Q009Atch01.xlsm", which is PG&E's 2023-2026 wildfire bowtie used for the GRC,where we aggregated our distribution risk model to the LoRE and CoRE tranches to calculate risk at a portfolio level. This level of organization is based on the risk at the circuit protection zone level. b) Tail risks are captured as part of the enterprise risk assessment process and represented as probabilistic distributions of consequence. c) Yes, please see "WMP-Discovery2023_DR_OEIS_001-Q009Atch02.xlsm." The inputs listed	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	2	N/A	7.1.4.1	Wildfire Mitigation Strategy Development	Identifying and Evaluating Mitigation
78	OEIS	001	OEIS_001	10	OEIS_001_Q10	Regarding Cost-Benefit within and Overall Decision-Making Framework a. If projects are justified based on a multi-attribute value functions/cost basis, what threshold or hurdle is used? b. How is the chance that a project exceeds the threshold computed? c. If projects are justified based on a multi-attribute value functions/cost basis, what threshold or hurdle is used?	a) We do not have a specific threshold to justify projects. b) While we don't calculate a specific threshold for executing mitigations, PG&E prioritizes higher MAVF/cost locations for executing projects. We also develop risk buydown curves and implement projects at the higher end of the curve. The higher end of the curve represents the higher MAVF/cost values. c) As described in response to subpart a), we do not have a specific threshold or cutoff to justify projects.	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	7.1.4.2	Wildfire Mitigation Strategy Development	Mitigation Initiative Prioritization

79	OEIS	001	OEIS_001	11	OEIS_001_Q11	Regarding PG&E's Response to ACI PG&E-22-10 PG&E describes an external study funded by California Energy Commission (CEC) grant EPC-18-026 to classify and identify areas with similar climate locations that already have weather stations, and areas with climate conditions that are not well measured by current stations. a. Provide the external party study which PG&E described and used to assess the statewide station similarity.	The weather optimization report was developed by a third party, Pyregence. Pyregence provided us with a draft copy of the report and instructed us not to distribute the document. Therefore, we would greatly appreciate Energy Safety's understanding in honoring this instruction. To this end, we recommend that Energy Safety contact the Pyregence team directly through the contact information provided below to obtain the draft report. This was the same process we used to obtain the report from Pyregence. Direct links to contacting Pyregence and the report home page are provided below. • https://pyregence.org/contact-us/ • https://pyregence.org/extreme-weather-and-wildfire-ct/weather-station-optimization-report	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22--10 Justification of Weather Station Network Density
80	OEIS	001	OEIS_001	12	OEIS_001_Q12	Regarding PG&E's Response to ACI PG&E-22-09 a. PG&E states that "363 [circuits] dropped to the lower 80 percent" (p. 891). For each of these circuit segments, provide the following information via Excel document: i. Name/ID of CPZ ii. V2 mileage of circuit segment iii. V3 mileage of circuit segment iv. Categorization in which movement each circuit segment falls under, as outlined on p. 891 (i.e., large shift in wildfire consequence value and rank; large shift in circuit segment mileage and wildfire consequence; or shift in ignition probability) v. V2 overall risk ranking (including a footnote/written response of the total number of	Please see attachment WMP-Discovery2023_DR_OEIS_001-Q012Atch01.xlsx, tab "12.a Dropped v2 CPZs." b. The probability of ignition change was driven primarily by greater granularity in failure modes associated with assets in the probability calculation. Please see attachment WMP-Discovery2023_DR_OEIS_001-Q012Atch01.xlsx, tab "12.b Probability of Ignition" for specific details. c. As noted in the 2023-2025 WMP R1 (posted April 6, 2023), ACI PG&E-22-09, (p.891, under "Project Impacts"), "there were no projects that were de-prioritized from the changes implemented between V2 and V3 of the models." The statement referenced (on p.892, under "Project Impacts") is a quote from the ISM Quarterly report highlighting the previous model changes (V1 to V2) and noting how EVM and System Hardening approached this differently due to the	Colin Lang	4/5/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22--09 Evaluation of Model Reprioritization and Fire Rebuild in High-Risk Areas
81	OEIS	001	OEIS_001	13	OEIS_001_Q13	Regarding PG&E's Response to ACI PG&E-22-20 PG&E states that "Adding drones to the detailed GO 165 inspection slowed the inspection to roughly 20 to 25 poles per day, which is slower than both the stand-alone ground inspection as well as the image capture rate for both drone-only and helicopter-only" (page 920). a. Provide the daily inspection rates for stand-alone ground inspections, drone-only image capture, and helicopter-only capture.	Please see below for the requested information. Drone-only Heli-only Inspector + Drone Stand-alone GO 165 inspection Aerial Image capture (Structures/day/crew) 48 280.5* 20-25 N/A Inspection rate in field (structures/day/inspector) N/A N/A 20-25 25-30 Desktop Inspection rate (structures/day/inspector) 40-45 40-45 40-45 N/A *Note: the helicopter-only method can capture at a very rapid rate due to automatic image capture.	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22--20 Asset Inspection Drone Program Pilot
82	OEIS	001	OEIS_001	14	OEIS_001_Q14	Regarding PG&E's Asset Management Upgrades On page 433, PG&E states that "PG&E has significantly advanced our data management practices and the quality of our asset inventory (Asset Registry) database over the last two years by applying the International Organization for Standardization (ISO) 55001 standards." a. Do the upgrades to PG&E's asset inventory database include the location of each piece of equipment (what pole it is attached to) for the distribution system, and also includes the equipment's manufacturer, model ID, and when the equipment was placed into service? i. If yes, how is this being done? ii. If no, explain why this is not the case?	a) Our asset inventory database (Asset Registry) does include attribute fields for location (lat/long and/or identification of support structure ID for attached equipment), manufacturer, model ID (as appropriate), and installation date. These are considered critical data elements (CDEs) and data governance and data quality metrics are being established to track the associated data quality. i. We collect required asset attributes as part of the As-Built process, according to process and engineering standards. This includes the attributes listed above. PG&E has also implemented an Asset Registry Data Quality (ARDQ) program to identify Critical Data Elements (CDEs) and related data quality for critical asset types. Currently this has been applied to 12 Transmission and Distribution overhead asset types on a risk prioritized basis. Attributes captured include installation date, location, manufacturer, and model ID (as appropriate). Data quality rules being	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	8.1.5	Asset Management and Inspection Enterprise System(s)	N/A
83	OEIS	001	OEIS_001	15	OEIS_001_Q15	Regarding PG&E's Enhanced Powerline Safety Settings (EPSS) Program a. On page 464, PG&E states "…also referred to as high impedance faults, we plan to engineer, program, and install the Downed Conductor Detection (DCD) algorithm on recloser controllers. We will also evaluate high impedance fault detection algorithms for circuit breakers in 2023 and beyond." Then on page 374, PG&E states that the DCD Utility Initiative will likely continue from 2023-2025. i. What is the prioritization process for deciding which circuits will receive the DCD algorithm? ii. Will the number of outages, due to EPSS de-energizations, be looked at to identify which circuits should receive the DCD algorithm first? b. In figure 8.1.8-4: CPUC REPORTABLE IGNITIONS IN HFTDS (page 468) PG&E	a) i) DCD algorithm installation was prioritized based on the addressable risk reduction from each DCD device using PG&E's WDRM v3 risk model and maximizing High Fire Risk Area (HFRA) electric distribution line mile coverage. Addressable risk reflects the devices and circuits that are capable of accepting the DCD algorithm. By the end of 2025, DCD is planned to be installed on approximately 21,000 HFRA miles. Circuit breakers and 4-wire circuits are not currently capable of receiving DCD. Mileage is subject to change due to undergrounding of overhead lines and additional grid configuration changes anticipated through 2025. a) ii) DCD is an enhancement to EPSS intended to identify low current, high impedance fault conditions in our high fire risk areas not currently fully mitigated by EPSS. As such, number of previous EPSS outages was not considered as part of the prioritization effort. b) i) On page 468 of the WMP we state that the 36% reduction in HFTD reportable ignitions was	Colin Lang	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_001.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
84	CalPA	Set WMP-11	CalPA_Set WMP-11	1	CalPA_Set WMP-11_Q1	PG&E's Test Year 2023 GRC rebuttal testimony (Ex. PG&E-17 on July 11, 2022) states the following: Q 123 Does PG&E have experience with REFCL? A 123 Yes. PG&E initiated a REFCL pilot project in 2018 at the Calistoga substation. After initial positive tests, the Calistoga REFCL pilot demonstration was stalled due to the failure of the substation REFCL equipment. In addition, PG&E had difficulty obtaining replacement equipment from various overseas suppliers due to supply chain issues and the ongoing COVID-19 pandemic. Thus, the REFCL technology could not be fully evaluated beyond the initial testing because of the equipment failure and supply chain issues. More recently, PG&E has	PG&E objects to parts (a) through (e) of this request as beyond the scope of this proceeding. This question relates to PG&E's 2023 General Rate Case (GRC) proceeding and has no enunciated connection to PG&E's WMP proceeding. Furthermore, Cal Advocates concurrently served an identical data request on PG&E in the GRC proceeding and PG&E will provide a response to this request in that proceeding as it is the more appropriate venue.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
85	CalPA	Set WMP-11	CalPA_Set WMP-11	2	CalPA_Set WMP-11_Q2	Referring to PG&E's Electric Preliminary Statement Part FT (Tariff Sheet No. 32259-E), the Electric Program Investment Charge Balancing Account (EPICBA) has three subaccounts: The EPIC Program Administered by PG&E Subaccount tracks the actual program expenses to the authorized EPIC program budgets pursuant to D.12-05-037, D.20-08-042, and D.21-11-028 through December 31, 2030 or as authorized by the Commission. The EPIC Program Administered by California Energy Commission (CEC) Subaccount tracks the actual program expenses encumbered and remitted to the CEC and program administration expenses remitted to the CEC to the authorized budget pursuant to D.12-05-037, D.20-08-042, and D.21-11-028 through December	PG&E objects to this request as beyond the scope of this proceeding. This question relates to PG&E's 2023 General Rate Case (GRC) proceeding and has no enunciated connection to PG&E's WMP proceeding. Furthermore, Cal Advocates concurrently served an identical data request on PG&E in the GRC proceeding and PG&E will provide a response to this request in that proceeding as it is the more appropriate venue.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
86	CalPA	Set WMP-11	CalPA_Set WMP-11	3	CalPA_Set WMP-11_Q3	PG&E's 2022 WMP, Section 7.1.E, Attachment 1 (Attch_Q3.pdf) states the following regarding the project status of EPIC 3.15—Proactive Wires Down Mitigation Demonstration Project (Rapid Earth Fault Current Limiter) as of February 25, 2022: Evaluation of additional substations for suitability of additional REFCL installations has begun but is pending results and learnings of the initial EPIC project before design or field work starts on additional sites. After an initial screening process, 25 distribution substations with circuits in HFTDs are candidates for potential REFCL deployments.6 a) As of March 27, 2023, what is the status of PG&E's "[e]valuation of additional substations for suitability of additional REFCL installations"? b) Given the status in subpart (a) of this question, please fill in the following table:	PG&E objects to the portions of this request relating to Major Work Category (MWC) 49R as beyond the scope of this proceeding. Notwithstanding and without waiving this objection, PG&E responds as follows: a. PG&E has not performed an evaluation of additional substations for suitability of additional REFCL installations since the previous list of 25 distribution substations. PG&E is still evaluating the technology in its demonstration project before making decisions about additional deployments. b. Given the ongoing evaluation described in response to subpart (a) above, our forecast as of 4/6/2023 is as follows: Year 2023 2024	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
87	CalPA	Set WMP-11	CalPA_Set WMP-11	4	CalPA_Set WMP-11_Q4	Referring to Exhibit PG&E-04, February 25, 2022, version, PG&E states the following regarding REFCL: Based on our initial testing and the successful implementation in Australia, PG&E has developed a short-term strategy to install REFCLs in HFTD areas. PG&E forecasts deploying REFCLs at an additional two substations each year, but these plans could change pending pilot results and integration with other enhanced automation and wildfire mitigation efforts described in this chapter. a) As mentioned above, PG&E "forecasts deploying REFCLs at an additional two substations each year, but these plans could change …" Have these plans changed? b) If your answer to part (a) is yes, please describe PG&E's current plans regarding the future deployment of REFCLs. c) Please identify the additional substations where PG&E plans on deploying REFCLs in: i. 2023, iii. ii.2024, iv. iii.	a) Yes, our plans have changed over the past year from what was expressed in the quote cited above from our WMP. b) PG&E is not planning any REFCL deployments until after complete evaluation of the demonstration project and successful integration of the technology into normal operations. PG&E is evaluating its portfolio of wildfire risk mitigations. c) As described in response to subpart (b), no additional substations are planned for REFCL deployment at this time.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
88	CalPA	Set WMP-11	CalPA_Set WMP-11	5	CalPA_Set WMP-11_Q5	Referring to Exhibit PG&E-17, p. 4.3-6, Table 4.3-3, line 6, served on July 11, 2022: Line 6 of the above table indicates that PG&E forecasts the capital expenditures to be $17.331 million in 2023, $17.800 million in 2024, $18.280 million in 2025, and $18.774 million in 2026. Given the current status of PG&E's evaluation of additional substations for suitability and PG&E's plans for future deployment of REFCLs, as of March 27, 2023, please indicate any adjustment to the forecast capital expenditures by completing the table below:	Please see the table below for the requested information. Year 2023 2024 2025 2026 Forecast of MAT 49R as of July 11, 2022 $17.331MM $17.800MM $18.280MM $18.774MM	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
89	CalPA	Set WMP-11	CalPA_Set WMP-11	6	CalPA_Set WMP-11_Q6	In December 2021, PG&E presented at the EPIC Symposium. See Attch_Q6_EPIC_Presentation.pdf. The presentation slides state that: Rapid Earth Fault Current Limiter (REFCL) technology is an extension of resonant grounding at a distribution substation to neutralize ground fault current and pre[v]ent a spark. REFCL has been successfully deployed in Australia to reduce risk of fire from ground faults, but their substation designs are different from PG&E's. One type of REFCL is known as Ground Fault Neutralizer (GFN). REFCL could be applied to approx. 80% of PG&E HFTD distribution circuit miles (3-wire circuits). a) Is the statement quoted above accurate? b) If the answer to part (a) is no, please provide any needed corrections.	PG&E objects to this request as beyond the scope of this proceeding. Notwithstanding and without waiving this objection, PG&E responds as follows: a) Yes, this statement remains an accurate high-level description. b) Not applicable, as described in response to subpart (a).	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
90	CalPA	Set WMP-11	CalPA_Set WMP-11	7	CalPA_Set WMP-11_Q7	PG&E presents during the 2021 EPIC Symposium (Attch_Q6_EPIC_Presentation.pdf) that "REFCL could be applied to approx. 80% of PG&E HFTD distribution circuit miles (3-wire circuits)." However, PG&E's 2023 WMP, at page 275, states that:7 While PG&E is looking at opportunities for REFCL deployments in our distribution substations to mitigate wildfire risk and evaluating combinations of REFCL with EPSS and other mitigations, implementing it would require significant and costly changes to the grid. Instead of making costly changes to the grid, we are moving forward with more cost-effective solutions such as DCD and Partial Voltage Detection. Why did PG&E state that "REFCL could be applied to approx. 80% of PG&E HFTD	This distinction is based on the fact that REFCL is not a plug-and-play technology and requires supporting construction and equipment changes in the substation and on the distribution circuits to function. This is different from DCD and Partial Voltage Detection, which are software-based features on existing hardware and require significantly less cost to implement.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
91	CalPA	Set WMP-11	CalPA_Set WMP-11	8	CalPA_Set WMP-11_Q8	PG&E's 2023 WMP, at page 275, states that: "While PG&E is looking at opportunities for REFCL deployments in our distribution substations to mitigate wildfire risk and evaluating combinations of REFCL with EPSS and other mitigations, implementing it would require significant and costly changes to the grid." a) Please state the earliest date when PG&E reached the conclusion that "implementing [REFCL] would require significant and costly changes to the grid." b) Why did PG&E not foresee "significant and costly changes" earlier than the date provided in part (a) of this question? c) Please provide all available documentation, analyses, or studies evidencing PG&E's response to subpart (b) of this question.	a) Implementing REFCL requires significant and costly changes to the grid relative to DCD and Partial Voltage detection. PG&E first understood the deployment cost of REFCL in early 2021. b) PG&E needed to complete the field construction of the demonstration project to determine the cost to deploy REFCL at a substation. c) Please refer to PG&E's Test Year 2023 GRC, Application 21-06-021, Exhibit PG&E-04 and Exhibit PG&E-17, which contain the requested information. d) PG&E reached this conclusion through experience gained from the Calistoga REFCL demonstration project. e) PG&E encountered distribution equipment failures during 2022 REFCL testing, indicating further costs to integrate REFCL technology. f) The Calistoga REFCL demonstration project unveiled integration challenges of REFCL	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter

92	CalPA	Set WMP-11	CalPA_Set WMP-11	9	CalPA_Set WMP-11_Q9	At which substations, other than the Calistoga substation, has PG&E tested REFCL?	We have not tested REFCL at any substations other than the Calistoga substation.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
93	CalPA	Set WMP-11	CalPA_Set WMP-11	10	CalPA_Set WMP-11_Q10	Has PG&E done any benchmarking study on REFCL with Southern California Edison (SCE)?	Yes, PG&E REFCL project engineers regularly engage with Southern California Edison to benchmark our findings and share results and learnings. Of note, SCE has fewer circuit miles of existing underground cable at their REFCL demonstration site.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
94	CalPA	Set WMP-11	CalPA_Set WMP-11	11	CalPA_Set WMP-11_Q11	Has PG&E collaborated or exchanged with SCE on REFCL? If so, please detail the relevant activities.	Yes, PG&E regularly collaborates with SCE on REFCL and sharing data and information. This includes a monthly utility group call/meeting and sharing technical reports.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
95	CalPA	Set WMP-11	CalPA_Set WMP-11	12	CalPA_Set WMP-11_Q12	PG&E's 2023 WMP, at page 275, states that:8 Instead of making costly changes to the grid, we are moving forward with more cost-effective solutions such as DCD [Downed Conductor Detection] and Partial Voltage Detection. Regarding Downed Conductor Detection (DCD), a) What "changes to the grid" are required for PG&E to implement this technology? b) Is DCD viable on 3-wire systems, 4-wire systems, or both? c) Does PG&E have a cost estimate for the deployment of DCD? d) If the answer to part (c) is yes, please provide the cost estimate(s).	a) Depending on the existing recloser controller, DCD may not require a physical "change to the grid" or it may require the retrofitting of an existing line recloser controller. b) DCD is most compatible with 3-wire systems. Implementation on 4-wire is possible but may not achieve the benefits desired due to the higher settings thresholds that would be required. As a result, we are not currently installing DCD on 4-wire systems. c) Yes, please see the response to subpart (d) below. d) The cost estimate is as follows: $15.9 million in 2023; $13.1 million in 2024; and $8.4 million in 2025.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	7.2.1	Wildfire Mitigation Strategy Development	Overview of Mitigation Initiatives and Activities
96	CalPA	Set WMP-11	CalPA_Set WMP-11	13	CalPA_Set WMP-11_Q13	PG&E's 2023 WMP, at page 275, states that:9 "Instead of making costly changes to the grid, we are moving forward with more cost-effective solutions such as DCD and Partial Voltage Detection." Regarding Partial Voltage Detection (PVD), a) What "changes to the grid" are required for PG&E to implement this technology? b) Is PVD viable on 3-wire systems, 4-wire systems, or both? c) Does PG&E have a cost estimate for the deployment of PVD? d) If the answer to part (c) is yes, please provide the cost estimate(s).	a) Partial Voltage Detection (PVD) does not require a "change to the grid," the statement quoted above refers to how this makes PVD a cost-effective solution. b) PVD is viable on both 3-wire and 4-wire systems. c) No, as there is no cost to "deploy" PVD. d) Not applicable, please see the response to subpart (c) above.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	7.2.1	Wildfire Mitigation Strategy Development	Overview of Mitigation Initiatives and Activities
97	CalPA	Set WMP-11	CalPA_Set WMP-11	14	CalPA_Set WMP-11_Q14	Based on PG&E's evaluation of REFCLs: a) Please describe the significant changes to the grid required to implement REFCL technology, b) State PG&E's cost estimates for such changes, c) Describe the equipment installations required for such changes, and d) Describe the likely operational impacts resulting from the implementation of REFCLs on PG&E's system.	a) The significant changes to the grid required to implement REFCL are identified below: • Replacing voltage regulators in closed delta; • Installing new, matched sets of feeder breaker current transformers (CTs); • Replacing bus potential transformers (PTs); • Replacing substation service transformers with line-line connections; • Isolating the bank neutral bus and installing a neutral bus grounding recloser; • Modifying the 12 kV bus structure for new switches and recloser; • Installing Ground Fault Neutralizers; • Upgrading the station battery capacity; • Upgrading the feeder breaker protection and automation package to the current standard; • Grounding grid improvements based on grounding study;	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
98	CalPA	Set WMP-11	CalPA_Set WMP-11	15	CalPA_Set WMP-11_Q15	Please state the dates when PG&E finished evaluating the following: a) The significant changes to the grid required to implement REFCL technology, b) The cost estimates for such changes, c) The equipment installations required due to such changes, and d) The likely operational impacts resulting from the implementation of REFCL on PG&E's system.	a) – d) We finished the evaluation of each item identified above in early 2021.	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
99	CalPA	Set WMP-11	CalPA_Set WMP-11	16	CalPA_Set WMP-11_Q16	Please provide all available documentation, studies, and analyses evidencing PG&E's conclusions on each of the following aspects of REFLC deployment: a) The significant changes to the grid required to implement REFCL technology, b) The cost estimates for such changes, c) The equipment installations required due to such changes, and d) The likely operational impacts resulting from the implementation of REFCL on PG&E's system.	a) Please see: Rilery, Roger and Jon Bernardo. "JA8648-0-0 REFCL Functional Performance Report." October 14, 2020. This document can be accessed at the following link: https://www.esv.vic.gov.au/sites/default/files/2022-12/REFCL-Functional-Performance-Review.pdf. Please see page 29 of this document for the requested information. b) Please refer to PG&E's Test Year 2023 GRC, Application 21-06-021, Exhibit PG&E-04 and Exhibit PG&E-17. c) Please see: Rilery, Roger and Jon Bernardo. "JA8648-0-0 REFCL Functional Performance Report," the same document as identified in response to subpart (a). d) Please see: Rilery, Roger and Jon Bernardo. "JA8648-0-0 REFCL Functional Performance Report," the same document as identified in response to subparts (a) and (c).	Pui-Wa Li	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_011.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
100	TURN	003	TURN_003	1	TURN_003_Q1	Please provide data in PG&E's possession that indicates the following: a. The SAIDI (System Average Interruption Duration Index) for the years 2018-2022 for underground distribution facilities; b. The MAIFI (Momentary Average Interruption Frequency Index) for the years 2018-2022 for underground distribution facilities; c. The SAIDI (System Average Interruption Duration Index) for the years 2018-2022 for overhead distribution facilities with covered conductor; d. The MAIFI (Momentary Average Interruption Frequency Index) for the years 2018-2022 for overhead distribution facilities with covered conductor; e. The SAIDI (System Average Interruption Duration Index) for the years 2018-2022 for overhead distribution facilities without covered conductor;	Please see the attachment "WMP-Discovery2023_DR_TURN_003-Q001Atch01.xlsx" for the requested information. Please note that PG&E does not capture covered/non covered conductor status in our current outage reporting, so SAIDI/MAIFI data for covered conductor equipment cannot be provided at this time.	Tom Long	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_003.zip	1	N/A	N/A	N/A	N/A
101	TURN	003	TURN_003	2	TURN_003_Q2	Please provide all reports or studies in PG&E's possession prepared from January 1, 2018 to the present that discuss the reliability of underground distribution facilities, overhead distribution facilities with covered conductor, or overhead distribution facilities without covered conductor, including but not limited to a discussion of SAIDI and MAIFI data.	PG&E publishes an annual reliability report which provides a detailed report on the system-wide reliability performance. Please see the following attachments for the requested information: • "WMP-Discovery2023_DR_TURN_003-Q002Atch01.pdf;" • "WMP-Discovery2023_DR_TURN_003-Q002Atch02.pdf;" • "WMP-Discovery2023_DR_TURN_003-Q002Atch03.pdf;" • "WMP-Discovery2023_DR_TURN_003-Q002Atch04.pdf;" and • "WMP-Discovery2023_DR_TURN_003-Q002Atch05." Additionally, we are in the process of finalizing a study that is planned to be completed by June 30, 2023. This study will assess the recorded reliability improvements at locations that have been undergrounded and/or have been hardened with covered conductor. It is important to also note that the focus of our overhead system hardening and undergrounding program to date has been	Tom Long	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_003.zip	5	N/A	N/A	N/A	N/A
102	TURN	003	TURN_003	3	TURN_003_Q3	Regarding Table 7-3-2, p. 296, the bottom row re PSPS: a. Please confirm that the targets for reduced customer impacts in 2023, 2024 and 2025 are cumulative, i.e, that the 33,000 figure for 2024 includes the 15,000 reduced impacts for 2023, and so on. b. Please provide the supporting data for the estimates of reduced PSPS impacts in 2023 (15,000 customer events), 2024 (33,000 customer events), and 2025 (55,000 customer events). Provide the data in live Excel format if possible. c. The table states that the targeted reductions are "based on Wildfire mitigation projects including but not limited to MSO replacements and Underground miles . . .." For each of 2023, 2024 and 2025, please provide a breakdown of the reduced customer events by the mitigation measure to which PG&E attributes the reduced	a) We can confirm that the targets for reduced customer impacts are cumulative for initiative PS-07 in Table 7-3-2. Please see Table PG&E-22-35-1 (2023 WMP p. 973) for the breakout of incremental customers for each respective year. b) Please see attachment WMP-Discovery2023_DR_TURN_003-Q003Atch01 for supporting data for the estimates of reduced PSPS impacts in 2023-2025 for the five-year period, 2018-2022. c) For breakdown of reduced customer events by mitigation measures, please see Table PG&E-22-35-1 of our 2023 WMP, or attachment WMP Discovery2023_DR_TURN_003-Q003Atch01. In this attachment, column "Incremental Customers Mitigated" provides the number of annual customers mitigated and column "Cumulative Customers Mitigated" provides the cumulative figure for customer mitigations. For an explanation of how this calculation was performed, please	Tom Long	4/5/2023	4/10/2023	4/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_003.zip	1	N/A	9.1.5	Public Safety Power Shutoff	Performance Metrics Identified by the Electrical Corporation
103	CalPA	Set WMP-12	CalPA_Set WMP-12	1	CalPA_Set WMP-12_Q1	Regarding Table 9-2 (Lists of Frequently De-energized Circuits) in Appendix F of PG&E's WMP, the column "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" is blank for the following distribution circuit Entry Numbers: 7, 8, 11, 15, 17, 18, 28, 29, 30, 36, 37, 38, 39, 47, 55, 62, 63, 70, 71, 97, 105, 111, 112, 120, 122, 125, 126, 148, 151, 153, 163, 178, 179, 183: a) For each of the above Entry Numbers, please explain why "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" are blank. b) For each of the above Entry Numbers, please state whether PG&E plans to take any	a) We discovered an error in our 2023 WMP submission in the "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" of the Frequently De-energized Circuits list. We will reach out to Energy Safety to provide this corrected information and discuss updating our WMP submission pursuant to Energy Safety's guidelines. We will provide an explanation of any remaining blanks. Please note, we expect to have the table revised by April 18, 2023. b) See response (a). c) See response (a).	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
103	CalPA	Set WMP-12	CalPA_Set WMP-12	1 SUPP	CalPA_Set WMP-12_Q1 SUPP	Regarding Table 9-2 (Lists of Frequently De-energized Circuits) in Appendix F of PG&E's WMP, the column "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" is blank for the following distribution circuit Entry Numbers: 7, 8, 11, 15, 17, 18, 28, 29, 30, 36, 37, 38, 39, 47, 55, 62, 63, 70, 71, 97, 105, 111, 112, 120, 122, 125, 126, 148, 151, 153, 163, 178, 179, 183: a) For each of the above Entry Numbers, please explain why "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" are blank. b) For each of the above Entry Numbers, please state whether PG&E plans to take any	We have updated our List of Frequently De-energized Circuits based on the errors found in our review. The Entry Numbers listed above may not reflect the latest circuits that are mitigated by PSPS protocols. Please see attachment "WMPDiscovery2023_DR_CalAdvocates_012-Q001Supp01Atch01.xlsx" for the updated List of Frequently De-energized Circuits. a) After updating our table, eight distribution circuits have no PSPS Mitigation Measures taken or planned to be taken. These have been marked with "No PSPS Mitigation Measures taken or planned to be taken, see footnotes below for explanation" instead of a blank cell to avoid confusion. Other than mitigations stated in the Frequently De-energized Table, PG&E plans to implement in-event alternatives such as remediation of asset and vegetation tags, and potential use of temporary generation where possible that could reduce customer impact.	Holly Wehrman	4/6/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	1	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits

104	CalPA	Set WMP-12	CalPA_Set WMP-12	2	CalPA_Set WMP-12_Q2	Regarding Table 9-2 (Lists of Frequently De-energized Circuits) in Appendix F of PG&E's WMP, the column "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" is blank for the following transmission circuit Entry Numbers: 200, 227 a) For each of the above Entry Numbers, please explain why "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" are blank. b) For each of the above Entry Numbers, please state whether PG&E plans to take any measures during the 2023-2025 WMP period to reduce the need for and impact of future PSPS on that circuit. c) For each item in part (b) where PG&E does not plan to take any measures to reduce the need for an impact of future PSPS on that circuit, please state the basis for this decision.	a) We discovered an error in our 2023 WMP submission in the "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" of the Frequently De-energized Circuits list. We will reach out to Energy Safety to provide this corrected information and discuss updating our WMP submission pursuant to Energy Safety's guidelines. We will provide an explanation of any remaining blanks. Please note, we expect to have the table revised by April 18, 2023. b) See response (a). c) See response (a).	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
104	CalPA	Set WMP-12	CalPA_Set WMP-12	2 SUPP	CalPA_Set WMP-12_Q2 SUPP	Regarding Table 9-2 (Lists of Frequently De-energized Circuits) in Appendix F of PG&E's WMP, the column "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" is blank for the following transmission circuit Entry Numbers: 200, 227 a) For each of the above Entry Numbers, please explain why "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" are blank. b) For each of the above Entry Numbers, please state whether PG&E plans to take any measures during the 2023-2025 WMP period to reduce the need for and impact of future PSPS on that circuit. c) For each item in part (b) where PG&E does not plan to take any measures to reduce the need for an impact of future PSPS on that circuit, please state the basis for this decision.	We have updated our List of Frequently De-energized Circuits based on the errors found in our review. The Entry Numbers listed above may not reflect the latest circuits that are mitigated by PSPS protocols. Please see attachment "WMPDiscovery2023_DR_CalAdvocates_012-Q001Supp01Atch01.xlsx" for the updated List of Frequently De-energized Circuits. a) After updating our table, one transmission line has no PSPS Mitigation Measures taken or planned to be taken. This line has been marked with "No PSPS Mitigation Measures taken or planned to be taken, see footnotes below for explanation" instead of a blank cell to avoid confusion. Other than mitigations stated in the Frequently De-energized Table, PG&E plans to implement in-event alternatives such as remediation of asset and vegetation tags, and potential use of temporary generation where possible that could reduce customer impact.	Holly Wehrman	4/6/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
105	CalPA	Set WMP-12	CalPA_Set WMP-12	3	CalPA_Set WMP-12_Q3	Regarding Table 9-2 (Lists of Frequently De-energized Circuits) in Appendix F of PG&E's WMP, distribution circuit Entry Numbers: 1, 21, 22, 23, 24, 25, 26, 27, 33, 34, 44, 45, 69, 83, 84, 98, 99, 117, 119, 124, 127, 128, 129, 130, 131, 144, 152, 157, 158, 168, 169, 172, 176, 177, 181, 184 a) Please explain how PG&E deployed Temporary Generation to benefit the number of customers stated. b) Please explain whether PG&E plans to use Temporary Generation again in future PSPS events. If so, how many customers will benefit each time? c) For entries where no number of customers is listed in Table 9-2, please explain why the number of customers was not known.	Generation) to address different types of PSPS impacts to benefit the number customers stated. See Section 9.2.4 on p. 781 on details for additional details. The number of customers that benefited from Temporary Generation for each of the circuits listed, is the maximum number of customers mitigated per historic PSPS event by Distribution Microgrids and Backup Generation. b) We plan to continue to utilize Temporary Generation as a mitigation in any potential future PSPS events. • Deployment of the Distribution Microgrids will vary depending on the weather footprint. For Microgrids, the customers mitigated will vary from 14 customers to 3,278 customers. See below for the 2023 list of Distribution Microgrid locations and customers mitigated.	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
106	CalPA	Set WMP-12	CalPA_Set WMP-12	4	CalPA_Set WMP-12_Q4	PG&E's WMP, distribution circuit Entry Numbers: 3, 4, 6, 13, 14, 19, 20, 21, 22, 23, 24, 25, 26, 27, 32, 35, 49, 50, 51, 52, 53, 60, 61, 64, 65, 66, 67, 68, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 84, 85, 91, 94, 96, 99, 100, 101, 102, 104, 106, 107, 108, 109, 114, 115, 116, 123, 124, 127, 128, 129, 130, 132, 137, 139, 140, 142, 145, 147, 149, 150, 154, 158, 159, 164, 165, 168, 170, 171, 173, 180, 181, 182, 184, 186, 188, 189, 191 a) Please describe the PSPS protocols referenced in these Entry Numbers. b) Please explain how customers were "Mitigated by PSPS protocols." c) Please state how many customers benefited from mitigation by PSPS protocols in past events. d) State whether the customers referenced in part (c) benefited because they were not de energized or because they had reduced	a) We discovered an error in our 2023 WMP submission in the "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" of the Frequently De-energized Circuits list. We will reach out to Energy Safety to provide this corrected information and discuss updating our WMP submission pursuant to Energy Safety's guidelines. We will provide an explanation of any remaining blanks. Please note, we expect to have the table revised by April 18, 2023. b) See response (a). c) See response (a). d) See response (a). e) See response (a). f) See response (a).	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
106	CalPA	Set WMP-12	CalPA_Set WMP-12	4 SUPP	CalPA_Set WMP-12_Q4 SUPP	PG&E's WMP, distribution circuit Entry Numbers: 3, 4, 6, 13, 14, 19, 20, 21, 22, 23, 24, 25, 26, 27, 32, 35, 49, 50, 51, 52, 53, 60, 61, 64, 65, 66, 67, 68, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 84, 85, 91, 94, 96, 99, 100, 101, 102, 104, 106, 107, 108, 109, 114, 115, 116, 123, 124, 127, 128, 129, 130, 132, 137, 139, 140, 142, 145, 147, 149, 150, 154, 158, 159, 164, 165, 168, 170, 171, 173, 180, 181, 182, 184, 186, 188, 189, 191 a) Please describe the PSPS protocols referenced in these Entry Numbers. b) Please explain how customers were "Mitigated by PSPS protocols." c) Please state how many customers benefited from mitigation by PSPS protocols in past events. d) State whether the customers referenced in part (c) benefited because they were not de energized or because they had reduced	review. The entries listed above may not reflect the latest circuits that are mitigated by PSPS protocols. Please see attachment "WMPDiscovery2023_DR_CalAdvocates_012-Q001Supp01Atch01.xlsx" for the updated List of Frequently De-energized Circuits. a) Please refer to Section 9.2 Protocols on PSPS beginning on p. 766 for Distribution. b) PG&E's current PSPS Protocols were updated compared to PSPS Protocols from previous years. Based on our current PSPS Protocols, our scoping improved and some of the circuits would not have been de energized or would have fewer customers impacted than for certain past PSPS events. c) 565,826 Distribution customer-events would have been mitigated by current PSPS protocols from 2019-2022.	Holly Wehrman	4/6/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
107	CalPA	Set WMP-12	CalPA_Set WMP-12	5	CalPA_Set WMP-12_Q5	PG&E's WMP, transmission circuit Entry Numbers: 193, 195, 197, 198, 199, 201, 202, 203, 204, 205, 206, 208, 209, 210, 211, 212, 213, 215, 217, 218, 219, 221, 222, 223, 224, 226, 228, 231, 232, 233, 234, 235, 236 a) Please describe the PSPS protocols referenced in these Entry Numbers. b) Please explain how customers were "Mitigated by PSPS protocols." c) Please state how many customers benefited from mitigation by PSPS protocols in past events. d) State whether the customers referenced in part (c) benefited because they were not de energized or because they had reduced impacts from PSPS. e) Please state how many customers PG&E expects to benefit in the future due to mitigation by PSPS protocols. f) State whether the customers referenced in part (e) will benefit	a) We discovered an error in our 2023 WMP submission in the "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" of the Frequently De-energized Circuits list. We will reach out to Energy Safety to provide this corrected information and discuss updating our WMP submission pursuant to Energy Safety's guidelines. We will provide an explanation of any remaining blanks. Please note, we expect to have the table revised by April 18, 2023. b) See response (a). c) See response (a). d) See response (a). e) See response (a). f) See response (a).	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
107	CalPA	Set WMP-12	CalPA_Set WMP-12	5 SUPP	CalPA_Set WMP-12_Q5 SUPP	PG&E's WMP, transmission circuit Entry Numbers: 193, 195, 197, 198, 199, 201, 202, 203, 204, 205, 206, 208, 209, 210, 211, 212, 213, 215, 217, 218, 219, 221, 222, 223, 224, 226, 228, 231, 232, 233, 234, 235, 236 a) Please describe the PSPS protocols referenced in these Entry Numbers. b) Please explain how customers were "Mitigated by PSPS protocols." c) Please state how many customers benefited from mitigation by PSPS protocols in past events. d) State whether the customers referenced in part (c) benefited because they were not de energized or because they had reduced impacts from PSPS. e) Please state how many customers PG&E expects to benefit in the future due to mitigation by PSPS protocols. f) State whether the customers referenced in part (e) will benefit	review. The entries listed above may not reflect the latest circuits that are mitigated by PSPS protocols. Please see attachment "WMPDiscovery2023_DR_CalAdvocates_012-Q001Supp01Atch01.xlsx" for the updated List of Frequently De-energized Circuits. a) Please refer to Section 9.2 Protocols on PSPS beginning on p. 773 for Transmission. b) See response to 4b. c) 34 Transmission customer-events would have been mitigated by current PSPS protocols from 2019-2022. This calculation is based on a comparison of historical PSPS events and the 2022 PSPS Five-Year Lookback Analysis, which applies the current PSPS protocols to the weather conditions present in 2018-2022. This comparison excludes 2018 because PG&E's historical PSPS events	Holly Wehrman	4/6/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
108	CalPA	Set WMP-12	CalPA_Set WMP-12	6	CalPA_Set WMP-12_Q6	PG&E's WMP p. 751, Section 9.1.2, states that "This table [Table 9-2] also includes the mitigation measures taken, or planned to be taken, to reduce the likelihood of PSPS on those circuits." Regarding Table 9-2 (Lists of Frequently De-energized Circuits) in Appendix F of PG&E's WMP: The only planned action listed in Table 9-2 is regarding "MSO device installations or replacement planned" (which is listed for 8 of 236 circuits). a) Please explain why none of the other types of mitigation measures listed on p. 751 are listed in Table 9-2 as planned actions for any circuits. b) Please explain whether PG&E plans to take any mitigation measures for any of the remaining 228 circuits in Table 9-2.	a) We discovered an error in our 2023 WMP submission in the "Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit" of the Frequently De-energized Circuits list. We will reach out to Energy Safety to provide this corrected information and discuss updating our WMP submission pursuant to Energy Safety's guidelines. Additionally, majority of the mitigation types listed on p. 751 are circuit specific and we have provided the devices installed and line miles completed for those. Besides undergrounding and MSO we currently do not have a plan to install additional a devices such as sectionalizing or Microgrids locations. In our update to the Frequently De-energized Circuit list, we will add planned undergrounding as actions to the applicable circuits. b) See response to (a).	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits
109	CalPA	Set WMP-12	CalPA_Set WMP-12	7	CalPA_Set WMP-12_Q7	Regarding ACI PG&E-22-35 (Quantify Mitigation Benefits of Reducing PSPS Scale, Scope, and Frequency) on WMP p. 972-973: a) Please explain why this table shows customer impacts (in terms of incremental PSPS mitigation) for only two mitigation methods (i.e., undergrounding and MSO), while other methods (e.g., overhead hardening, sectionalizing, etc.) are not listed in this table. b) Has PG&E analyzed customer PSPS impacts for other mitigation methods? c) If the answer to part (b) is yes, please provide the results of PG&E's analysis. d) If the answer to part (b) is no, please explain why not.	we applied the 2022 guidance in the weather lookback period of 2018-2022. Other mitigation methods such as sectionalizing devices, grid hardening, and PSPS protocols are already factored into the lookback. This allows us to calculate the number of customers we are able to mitigate with the two planned mitigations (undergrounding and MSO) we expect to complete in 2023-2025. b) We have not analyzed additional mitigation methods as undergrounding and MSO are the two projects we currently plan to complete in the next 3 years. Other mitigation methods such as sectionalizing devices, grid hardening, and PSPS protocols are already factored into the lookback. c) See response to (b)	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-35 – Quantify Mitigation Benefits of Reducing PSPS Scale, Scope, and Frequency
110	CalPA	Set WMP-12	CalPA_Set WMP-12	8	CalPA_Set WMP-12_Q8	Regarding Section 9.2.3 (Outline of Tactical and Strategic Decision-Making Protocol for initiating a PSPS/PSPS (Such as Decision Tree)), subsection, "Decision to De-Energize," the WMP p. 780 states in part that "The OIC will determine whether alternatives to de-energization are inadequate…" a) Please describe the alternatives to de-energization that are considered. b) Please state the basis of PG&E's decision regarding which alternatives to consider. c) Please describe how OIC determines whether such alternatives are adequate or inadequate.	automatic reclosers, could adequately reduce the risk of catastrophic wildfire thus lowering the need for de-energization. When these measures alone cannot reduce the risk of catastrophic wildfire in areas within the PSPS scope sufficiently to protect public safety, we will move forward with PSPS. b) See response to a). c) After alternatives are considered the OIC further evaluates the forecasted high wind speeds and wind gust speeds, which can break and blow vegetation and debris into power lines and blow sparks into dry vegetation, when it's determined these other measures are not adequate alternatives to mitigate the risk of catastrophic wildfire, and that de-energizing in the areas within the PSPS scope is necessary to protect public safety.	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	9.2.3	Public Safety Power Shutoff	Outline of Tactical and Strategic Decision-Making Protocol for Initiating a PSPS/PSPS (Such as Decision Tree)
111	CalPA	Set WMP-12	CalPA_Set WMP-12	9	CalPA_Set WMP-12_Q9	Regarding WMP p. 783, Section 9.2.4 (Protocols for Mitigating the Public Safety Impacts of PSPS, Including Impacts on First Responders, Health Care Facilities, Operators of Telecommunications Infrastructure, and Water Electrical Corporations/Agencies), subsection "Transit- or Paratransit Dependent Persons": a) Does PG&E notify its transit- or paratransit-dependent customers of what specific resources are available, ahead of a potential PSPS event? b) If the answer to part (a) is yes, how far in advance of a potential PSPS event does PG&E notify transit- or paratransit-dependent customers? c) If the answer to part (a) is yes, please provide a sample of such a notification. d) Please provide an example of a map that has been provided to paratransit agencies.	for Independent Living Center (CFILC), which facilitates the Disability Disaster Access and Resources (DDAR) Program, PG&E's partnership with the California 211 Network, and PG&E's standalone agreement with four transportation organizations that provide accessible transportation in 12 counties. Furthermore, before and during a PSPS, PG&E provides known Paratransit agencies with 24-48 hour Watch Notifications, as well as any applicable Warning, Delay, Cancel, and Restoration Notifications during an event. This also includes a list of the zip codes impacted by county and the number of customers impacted. PG&E promotes all of its resources on https://www.pge.com/en_US/residential/outages/public-safety power-shuttoff/psps-support.page. b) All potentially impacted customers including paratransit dependent customers and agencies	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	1	N/A	9.2.4	Public Safety Power Shutoff	Protocols for Mitigating the Public Safety Impacts of PSPS, Including Impacts on First Responders, Health Care Facilities, Operators of Telecommunications Infrastructure, and Water Electrical Corporations/Agencies
112	CalPA	Set WMP-12	CalPA_Set WMP-12	10	CalPA_Set WMP-12_Q10	Regarding PSPS and its relationship with EPSS settings. a) Please describe the decision-making process for a situation in which PG&E anticipates PSPS conditions but decides to utilize EPSS settings instead. b) Please list all dates in 2021 and 2022 when PG&E anticipated PSPS conditions but utilized EPSS settings instead, if this occurred. c) Please provide a narrative of the decision-making process for any instances listed in part (b) above. d) Please describe how PG&E utilizes EPSS during a PSPS event period.	EPSS operates independent of PSPS based on different criteria and thresholds – see Section 8.1.8.1 of PG&E's WMP. b) There were none as EPSS is not utilized instead of PSPS. Enabling EPSS instead of executing PSPS is not part of the PSPS decision making process. See response to (a) above. c) As explained in response to (a) since EPSS operates independent of PSPS there is no decision-making process to utilize EPSS instead of PSPS. Each program is based on different criteria and protocols, independent of each other. d) EPSS is enabled based on forecasted Fire Potential Index (FPI) criteria on an individual circuit level. If there are circuits adjacent to a PSPS polygon that meet EPSS enablement criteria – including non-tier EPSS buffer circuits within a Red Flag Warning or Fire Weather Watch	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	0	N/A	N/A	Public Safety Power Shutoff & Grid Operations and Procedures	N/A
113	CalPA	Set WMP-12	CalPA_Set WMP-12	11	CalPA_Set WMP-12_Q11	a) Does PG&E provide notifications or other communication to customers when EPSS settings are enabled? (This may include, but is not limited to, notifications that a customer is served by a circuit that is subject to EPSS settings, notifications that an unplanned outage may occur, notifications of expected restoration time when an EPSS outage has occurred, or all clear notifications when EPSS settings are de-activated.) b) If the answer to part (a) is yes, please describe PG&E's approach to notifying customers about EPSS settings. c) Please provide an example of a message sent to a customer for each situation in part (b).	settings are enabled on the line serving their home or business. Unlike PSPS, because EPSS is not a planned de-energization, we do not proactively notify customers as daily enablement and disablement decisions are made. b) Our customer outreach and education process includes information about the EPSS program, the benefits, and general information about the High Fire Risk Areas protected by EPSS settings. Customers who experienced eight or more outages on EPSS enabled circuits in 2022 will be receiving an email or letter in mid-April about the EPSS program. The letter includes language that indicates that the line serving their home or business has EPSS capability and that there could be unplanned power outages (bold added for emphasis in this response): To help prevent wildfires, we are making the electric system safer and stronger for our	Holly Wehrman	4/6/2023	4/11/2023	4/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_012.zip	1	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings

114	CalPA	Set WMP-13	CalPA_Set WMP-13	1	CalPA_Set WMP-13_Q1	Figure PG&E-7.1.4-2 on p. 259 of PG&E's WMP shows Down Conductor Detection (DCD) is to be implemented on 4-wire distribution. a) Does PG&E plan to primarily implement DCD on 4-wire distribution, 3-wire distribution, or a mix? b) Please state the number of overhead circuit miles of 4-wire distribution in PG&E's HFTD. c) Please state the number of overhead circuit miles of 3-wire distribution in PG&E's HFTD.	a) At this time, we plan to implement Down Conductor Detection (DCD) only on 3-wire distribution (or on overhead circuits without phase to neutral connected load downstream). PG&E will continue to explore the possibility of applying DCD to 4-wire multi-grounded systems in the future. Figure 7.1.4-2 incorrectly identified DCD applicable to 4-wire when it should have indicated 3-wire systems. b) As shown in Figure 7.1.4-2, the 4-wire multi-grounded overhead mileage is estimated to be 675 miles. c) As shown in Figure 7.1.4-2, the 3-wire overhead mileage is estimated to be 25,540 miles.	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	8.1.2.10.1	Grid Design and System Hardening	Downed Conductor Detection Devices
115	CalPA	Set WMP-13	CalPA_Set WMP-13	2	CalPA_Set WMP-13_Q2	Table 8-27 on p. 386 of PG&E's WMP summarizes grid operation monitoring systems, including Distribution Fault Anticipation (DFA) and Early Fault Detection (EFD). a) Describe the types of faults, equipment failures, and/or other issues that DFA is capable of detecting. b) Describe the types of faults, equipment failures, and/or other issues that EFD is capable of detecting. c) Describe the types of faults, equipment failures, and/or other issues that DFA is capable of detecting, but EFD is not capable of detecting. d) Describe the types of faults, equipment failures, and/or other issues that EFD is capable of detecting, but DFA is not capable of detecting.	a) Distribution Fault Anticipation (DFA) is designed to detect conditions that generate current and voltage anomalies including series arcing issues (elbows, splices, switches) and shunt arcing faults (line slap, vegetation contact, wire down). It can also detect loss of load caused by broken conductors. b) Early Fault Detection (EFD) is designed to detect conditions that generate accumulation of Radio Frequency (RF) signal that are caused by partial discharge from equipment components including broken conductor strands, failing splices, broken/damaged/contaminated insulators, close vegetation, and failing windings in service transformers. c) DFA is capable of detecting issues in which events are short and of low repeat occurrences, which are not detected by EFD. DFA, unlike EFD, can also detect issues that are more evident in power quality data (current, voltage, power factor, and harmonics).	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	8.3.3.1	Situational Awareness and Forecasting	Existing Systems, Technologies, and Procedures
116	CalPA	Set WMP-13	CalPA_Set WMP-13	3	CalPA_Set WMP-13_Q3	Table 7-3-1 on p. 281 of PG&E's WMP states the following objective with an estimated completion date of 12/31/2023: Develop a process of centralizing constraints resolution. As part of the build out of the centralized constraints team, three major categories will be addressed: customer constraints, environmental constraints (including internal PG&E procedures required to perform work) and permitting constraints (including both Land and Environmental permits). a) Describe what is meant by the phrase "centralizing constraints resolution." b) Please describe the benefits PG&E anticipates from "centralizing constraints resolution." c) Please describe the process PG&E plans to take to centralize customer	a) Constraints Management Organization (CMO) was created to act as the responsible group for developing and managing processes for constraints resolution. Following the initial lessons learned from the Enhanced Vegetation Management (EVM) program, this team will be formalizing processes and procedures concerning how the various types of constraints that occur within the Vegetation Management (VM) department should be managed. b) In previous years, the Constraints Management Team (CMT) worked within the EVM program to improve our approach to addressing constraints. This team was focused on coordinating efforts with PG&E teams to work with local governments, agencies, and landowners to address permitting or access constraints that temporarily prevented or delayed work from being performed. The CMT was able to gather additional information regarding constraints, review data, and work with other internal teams to resolve permitting or property access issues. As a result, by	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	8.2.6	Vegetation Management and Inspections	Open Work Order
117	CalPA	Set WMP-13	CalPA_Set WMP-13	4	CalPA_Set WMP-13_Q4	Table 7-3-1 on p. 282 of PG&E's WMP states the following objective with an estimated completion date of 12/31/2025: For each major constraint category build a process for addressing each constraint type, implement the new process, and create metrics to track each constraint type. a) When does PG&E expect to begin implementing its process for centralizing customer constraints? b) When does PG&E expect to begin implementing its process for centralizing environmental constraints? c) When does PG&E expect to begin implementing its process for centralizing permitting constraints? d) What is the earliest date PG&E expects to begin realizing benefits (e.g. reduced	a) For some Vegetation Management (VM) programs within the VM department, the Constraints Management Team (CMT) will be implementing process improvements to the customer constraints process as early as Q2 of 2023. b) The CMT has already begun facilitating regular check-in meetings with our Environmental teams to discuss environmental permitting needs, discuss opportunities for process improvement, and to generally engage on upcoming work. c) The CMT has already begun to utilize a centralized email box for submitting encroachment-type permitting support. We expect to continue to review what could be best management practices and to look for process improvement opportunities with the process as it evolves. d) For some VM programs in 2023, we are already seeing benefits of the CMT in pilot areas as process improvement ideas are put into action and VM Operational teams are engaged directly.	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	8.2.6	Vegetation Management and Inspections	Open Work Order
118	CalPA	Set WMP-13	CalPA_Set WMP-13	5	CalPA_Set WMP-13_Q5	Table 7-4 on pp. 307-313 of PG&E's WMP lists the top risk circuit segments (i.e., riskiest segments when sorted by total wildfire risk). a) Footnote b in the column entitled "Jan 1, 2023 Overall Risk" states, "Accounts for risk reduction associated with EPSS." Please explain how PG&E quantified the risk reduction associated with EPSS for each of the circuit segments in Table 7-4. b) Do the values in the column entitled "Jan. 1, 2024 Overall Risk" account for risk reduction associated with EPSS? c) Do the values in the column entitled "Jan. 1, 2025 Overall Risk" account for risk reduction associated with EPSS? d) Do the values in the column entitled "Jan. 1, 2026 Overall Risk" account for risk reduction associated with EPSS?	a) Based on the recorded effectiveness performance of Enhanced Powerline Safety Settings (EPSS) in 2022, we include this effectiveness across each circuit segment across High Fire Threat Districts (HFTD) circuit segments. The recorded effectiveness compares EPSS enabled ignitions to those that met EPSS criteria and is normalized by circuit-mile-days. The recorded effectiveness uses Fire Potential Index (FPI) information provided from our Meteorology team, which is currently only available through 2020, therefore we used 2018-2020 as a baseline. b) Yes, it includes the risk reduction associated with EPSS. c) Yes, it includes the risk reduction associated with EPSS. d) Yes, it includes the risk reduction associated with EPSS. WMP-Discovery2023_DR_CalAdvocates_013-Q005 Page 2 e) Please see "WMP-Discovery2023_DR_CalAdvocates_013-Q005Atch01.xlsb." This is shown	Holly Wehrman	4/6/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	1	N/A	7.2.2.3	Wildfire Mitigation Strategy Development	Projected Risk Reduction on Highest-Risk Circuits Over the 3-Year WMP Cycle
119	CalPA	Set WMP-13	CalPA_Set WMP-13	6	CalPA_Set WMP-13_Q6	Table PG&E-6.2.2.-1 on p. 168 of PG&E's WMP lists four consequence values derived from the mean MAVF of historical fires. a) Has PG&E performed a sensitivity study to determine the effect of these values on the output of PG&E's WFC model? A sensitivity analysis could involve (for example) perturbations in how the mean MAVF of historical fires is calculated, or which historical fires are included in the calculation. b) If the answer to part (a) is yes, please summarize the results of this sensitivity study. c) If the answer to part (a) is no, please explain why not. d) If the answer to part (a) is no, does PG&E plan to perform a study or analysis similar to what is described in part (a)?	a) Yes, a deductive sensitivity analysis was performed to determine the possible effect of these values on the output of PG&E's WFC model. Please see our response to part b) for an explanation of our deductive analysis. b) For points within High Fire Risk Areas (HFRA) (or non-HFRA), there is only a single variable that determines the consequences, which is the fraction of days that a location or point spends in predicted destructive or non-destructive conditions. There are no other dependencies. Only the ordinality in the predicted destructive fraction of days matters to the overall consequence ranking of points within the HFRA (or within the non HFRA). Changing thresholds (i.e. flame length, rate of spread) to determine predicted destructive conditions did not substantially alter the ordinality of the pixels by fraction of predicted destructive days, therefore rankings within HFRA (or within the non HFRA) would not change much.	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	6.2.2.2	Risk Methodology and Assessment	Consequence
120	CalPA	Set WMP-13	CalPA_Set WMP-13	7	CalPA_Set WMP-13_Q7	In section 7.2.1 on pp. 275-276 of PG&E's WMP, PG&E states, "We determined that EPSS is more effective at mitigating wildfire risk at a lower cost as shown by comparing the RSEs for the two programs: at the time we filed the 2023 GRC, the RSE for EVM was 14.5 compared to the EPSS RSE of 105.7." a) Other than RSE, what other criteria did PG&E evaluate in the decision to move away from EVM? b) EPSS is a reactive mitigation program in contrast to EVM which is proactive. Does this reactive vs. proactive categorization have any impact on PG&E's decision to transition away from EVM? c) How does PG&E's RSE estimate for EPSS take into account the negative reliability impacts on customers?	a) There were several factors that we considered when deciding between the mitigation programs Enhanced Powerline Safety Settings (EPSS) and Enhanced Vegetation Management (EVM). Besides mitigation effectiveness and implementation and operating costs described by the Risk Spend Efficiency (RSE), we considered the faster pace of implementing EPSS compared to EVM, which results in faster risk reduction. The ability to expand EPSS across all circuits in the High Fire Threat Districts (HFTD), High Fire Risk Area (HFRA), and specific buffer areas quickly provides more immediate and ongoing operational mitigation benefits when compared to the individual miles of EVM scope executed each year. b) Our objective is to evaluate the effectiveness of minimizing catastrophic wildfires, regardless of whether mitigations are reactive or proactive. In fact, we do not use the labels "proactive" and "reactive" to categorize these mitigations. EPSS is better suited for managing overall risk	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	7.2.1	Wildfire Mitigation Strategy Development	Overview of Mitigation Initiatives and Activities
121	CalPA	Set WMP-13	CalPA_Set WMP-13	8	CalPA_Set WMP-13_Q8	For each of the following programs, what metrics does PG&E track to validate their impact and effectiveness at mitigating the impacts of PSPS events? a) Temporary Distribution Microgrids b) Community Microgrid Enablement Program c) Microgrid Incentive Program	a) We track Megawatts (MW), customers mitigated, and the number of usages per location each season to validate the impact and effectiveness of Temporary Distribution Microgrids. b) We track at minimum the frequency and duration of the microgrid's usage, along with the number of benefitting customer accounts. c) Please see our response to subpart (b).	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	8.1.2.7	Grid Design and System Hardening	Microgrids
122	CalPA	Set WMP-13	CalPA_Set WMP-13	9	CalPA_Set WMP-13_Q9	Do the following programs have any impact on customer reliability (e.g., frequency or duration of outages) in general? Please explain your response for each program. a) Temporary Distribution Microgrids b) Community Microgrid Enablement Program c) Microgrid Incentive Program	a) Distribution microgrids are designed to power communities' central corridors, or "Main Streets", to help safely provide electricity to critical facilities and shared community resources and reduce the number of customers impacted by PSPS. In general, customers being served by a temporary distribution microgrid will experience two brief outages: one as the microgrid is connected and one when the microgrid is disconnected after the PSPS outage. b) The Community Microgrid Enablement Program and Microgrid Incentive Programs are designed to have a positive impact on customer resiliency. The community microgrids developed through each program can reduce the duration of outages by providing energy within the microgrid during a broader grid outage. c) Please see our response to subpart (b).	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	8.1.2.7	Grid Design and System Hardening	Microgrids
123	CalPA	Set WMP-13	CalPA_Set WMP-13	10	CalPA_Set WMP-13_Q10	Figure 7-1 on p. 298 shows a sharp decline in risk after 2026. a) Please provide context as to what drives this decline. b) Why does PG&E anticipate a significantly more rapid rate of decline in residual risk after 2026 than in the 2023-2026 period?	a) The context for this sharper decline in risk after 2026 represents the expected, continued ramp-up of undergrounding miles to be installed each year. b) The more rapid rate of decline in residual risk after 2026 is due to the increase of the number of underground miles expected to be installed each year that are focused on the highest risk (top 20%) circuit segments, in which the benefits of undergrounding are cumulative over time. See section 8.1.2.2, specifically table 8.1.2.-3, which shows the current undergrounding portfolio increasingly addresses the top 20 percent risk-ranked circuit segments so that by 2025, 95 percent of the portfolio addresses the top risk, and in 2026, almost 100 percent of the targeted annual undergrounding miles are focused on the top risk. Note that all current fire rebuild projects are anticipated to complete before 2026. If future wildfires, or any cause, damage or destroy distribution overhead facilities and the decision is made to rebuild underground, this would impact	Holly Wehrman	4/6/2023	4/12/2023	4/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_013.zip	0	N/A	7.2.2.1	Wildfire Mitigation Strategy Development	Projected Overall Risk Reduction
124	CalPA	Set WMP-14	CalPA_Set WMP-14	1	CalPA_Set WMP-14_Q1	P. 347 of PG&E's WMP4 states (regarding PG&E's undergrounding program), "Among other benefits, the reduced pace (as compared to prior projections) will decrease costs in the initial years of the program." Please list the "other benefits" referenced in the quote above.	There are also additional benefits to reducing the near-term undergrounding mileage targets, including providing more time to drive process improvements that may reduce long term costs and drive long term efficiency of the program.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
125	CalPA	Set WMP-14	CalPA_Set WMP-14	2	CalPA_Set WMP-14_Q2	P. 347 of PG&E's WMP4 states (regarding PG&E's undergrounding program), "Among other benefits, the reduced pace (as compared to prior projections) will decrease costs in the initial years of the program." Please list the "other benefits" referenced in the quote above.	a) No, DTS-FAST does not have the capability to re-energize a line. Currently, DTS-FAST is monitoring only, and is not automatically sending the trip (de-energize) signal to operations until the system has more testing to ensure accuracy. b) DTS-FAST sensor data will report alarm conditions in real time. For example, if vegetation has fallen into the alarm zone and remains (i.e., leaning on the conductor line), the alarm will remain. However, if the vegetation falls away from the alarm zone, then the alarm will clear. Regardless, we will use the video cameras to validate the alarm and take appropriate actions. c) DTS-FAST does not have the capability to re-energize a line, but it will provide data to operations of sensor alarm statuses. In addition, DTS-FAST cameras will provide remote visual awareness of the alarm location. d) We do not currently have enough field data to draw formal conclusions about reliability impacts,	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.6.1	Grid Design and System Hardening	Distribution, Transmission, and Substation: Fire Action Schemes and Technology
126	CalPA	Set WMP-14	CalPA_Set WMP-14	3	CalPA_Set WMP-14_Q3	P. 359 of PG&E's WMP discusses Breakaway Connectors, and states, "The breakaway disconnect uses a weak link to provide a predictable point of separation and the service will then fall to the ground de-energized." a) What is the maximum wind speed that Breakaway Connectors can handle without separating? b) Has PG&E studied whether conditions exist that could cause a temporary fault and minimal or no damage to a non-breakaway connection, but would cause a Breakaway Connector to separate? For example, a small branch falling on the line. c) If the answer to part (b) is yes, please provide any results of such studies. d) If the answer to part (b) is no, does PG&E plan to perform such a study? e) What reliability impacts does PG&E forecast from Breakaway Connector	a) Maximum wind speed is not easily defined. Span length, tension, conductor size and wind direction all influence the maximum wind speed. General Order 95 rule 49.4 Table 8 and 49.4-C3 require Supply service drops to have a minimum strength of #8 soft or annealed copper. This is 479.8 pounds. The service breakaway has two available weak links 500 lbs. for services 75' and shorter. 750 pounds for services longer than 75 feet and up to 150 feet. The pilot location for the service breakaway has experienced three storms with winds exceeding 100 mph with no breakage of the weak links (both links are 750 lbs. due to span length). b) Yes, we have studied these issues. c) Two limb strikes were observed with limbs weighing 125 lbs. and 200 lbs., respectively. No damage was found, and the weak links did not activate.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.6.2	Grid Design and System Hardening	Breakaway Connector

127	CalPA	Set WMP-14	CalPA_Set WMP-14	4	CalPA_Set WMP-14_Q4	P. 359 of PG&E's WMP states, "Breakaway disconnect does not impact PSPS Risk." Please state the basis for the above quote.	Breakaway disconnects are used to prevent energized wire down to minimize ignition risk. At this point in time, of the presence of breakaway disconnects is not included in PSPS scoping decisions, therefore, breakaway disconnects do not impact the PSPS risk.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.6.2	Grid Design and System Hardening	Breakaway Connector
128	CalPA	Set WMP-14	CalPA_Set WMP-14	5	CalPA_Set WMP-14_Q5	P. 363 of PG&E's WMP states, "Temporary distribution microgrids are designed to support community resilience and reduce the number of customers impacted by PSPS by energizing 'main street corridors' with clusters of shared services and critical facilities so that those resources can continue serving surrounding residents during PSPS events." a) Please list the temporary distribution microgrids that PG&E had available in 2020, 2021, and 2022 to mitigate the effect of a possible PSPS event. b) For each temporary distribution microgrid listed in part (a), state the number of times the temporary distribution microgrid was used in 2020, 2021, and 2022 to mitigate the effects of a PSPS event.	a-c) Responses are summarized in the tables below, by year: 2020: Temporary Distribution Microgrid available to operate in 2020 Number of 2020 PSPS events supported Approx. qty of service pts energized per 2020 PSPS event Shingletown 4 79 Calistoga 3 1554 Placerville (temporary configuration without a pre□installed interconnection hub) 1 487 Clearlake North (temporary configuration without a pre□installed interconnection hub) 0 n/a Clearlake South (temporary configuration without a pre□installed interconnection hub)	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.7.2	Grid Design and System Hardening	Temporary Distribution Microgrids
129	CalPA	Set WMP-14	CalPA_Set WMP-14	6	CalPA_Set WMP-14_Q6	P. 365 of PG&E's WMP states, "The Redwood Coast Airport Microgrid (RCAM) was built through a California Energy Commission EPIC grant to the Schatz Energy Center and loan from United States of America to the Redwood Coast Energy Authority (a Community Choice Aggregator), in collaboration with PG&E's EPIC 3.11, 'Multi-Use Microgrid,' project." a) What was the total cost of the RCAM project? b) Please provide disaggregated costs associated with the RCAM fulfilled in whole or in part by the California Energy Commission EPIC grant, loan(s) from the United States of America, and any other distinct funding sources.	a. PG&E's total costs for the RCAM project were approximately $3.3MM. PG&E does not have the project financials of our project partners. Please contact Schatz Energy Research Center at Cal-Poly Humboldt and Redwood Coast Energy Authority for details on their total project costs and funding sources. b. Of PG&E's total project costs, i. $3,085,000 was funded through CEC's EPIC grant (EPIC 3.11, Multi-Use Microgrid). ii. $224,140 in cost offsets were provided to the Redwood Coast Energy Authority pursuant to the Community Microgrid Enablement Program (CMEP) [D.20-06-017]. iii. PG&E received no loans from the United States of America nor any other funding sources for this project.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.7.3	Grid Design and System Hardening	Community Microgrid Enablement Program and Microgrid Incentive Program
130	CalPA	Set WMP-14	CalPA_Set WMP-14	7	CalPA_Set WMP-14_Q7	P. 365 of PG&E's WMP states, "The successful deployment of RCAM provides a model for other communities for collaborative development of multi-customer microgrids for energy resilience." a) How does PG&E determine the success of the RCAM? b) Please provide data to support the success of the RCAM.	Attachments to this data response contain CONFIDENTIAL information provided pursuant to the Non-Disclosure Agreement in this proceeding. a) Prior to the start of the Project, PG&E defined the following metrics to calculate the full deployment benefits of RCAM: 1. Increase reliability at critical facilities - Post-deployment measurements of outage number, frequency and duration reductions. Below is a summary of the "RCAM Islanding Events" log current as of 4/17/2023. In addition to the frequency and duration of "Outages Avoided", PG&E also tracks frequency and duration of RCAM islanding events which were not a result of Janes Creek 1103 de-energizing and therefore require fine-tuning of the protection scheme configurations that make up the microgrid. These "Nuisance Events" do not impact customer experience or service quality.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	4	N/A	8.1.2.7.3	Grid Design and System Hardening	Community Microgrid Enablement Program and Microgrid Incentive Program
131	CalPA	Set WMP-14	CalPA_Set WMP-14	8	CalPA_Set WMP-14_Q8	P. 369 of PG&E's WMP states, "For 2023, we have planned to install devices that will provide significant reliability benefits on fuse tap lines that are in the scope of EPSS." a) Please quantify the "significant reliability benefits" that will be provided from devices installed in 2023. b) Please provide any available workpapers or studies to support your response to part (a).	Significant reliability benefits are projected at 119,066 CEJC savings and 14.516 million customer minutes. During EPSS enablement, upstream protective devices are required to see faults beyond fuses to provide a gang trip of all three phases upon a fault condition. This practice nullifies the benefits of traditional line fuse protection. With these additional protective devices installed, protection granularity and corresponding reliability impact can be returned to the tapline or more downstream location where the new protective devices are replacing fuses. As an additional non-EPSS benefit, these devices can also function as traditional reclosers outside of EPSS enablement thereby reducing the occurrence of sustained outages through reclosing. b) Historical outage data was obtained for thousands of existing fuses on EPSS circuits. Outage data was used to prioritize existing fuses and their effect on reliability. Fuses are then replaced with SCADA operable Fuse Savers and Reclosers to realize the reliability benefits outlined in a) of this response. No work paper has been prepared in connection with this reliability benefit.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.8.1	Grid Design and System Hardening	Installation of System Automation Equipment – Distribution Protective Devices
132	CalPA	Set WMP-14	CalPA_Set WMP-14	9	CalPA_Set WMP-14_Q9	P. 385 of PG&E's WMP states that it will perform a "Substation Animal Abatement Effectiveness Study" in 2023. a) When does PG&E expect to begin the Substation Animal Abatement Effectiveness Study? b) When does PG&E expect to complete the Substation Animal Abatement Effectiveness Study?	a) The study was officially kicked off on January 26, 2023. The "P51" team at Electric Power Research Institute (EPRI) was provided with PG&E historical animal contact records, existing and historical animal abatement strategies employed by PG&E, and other pertinent information needed to perform the study. b) The study is expected to conclude by July 18, 2023.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.12.2	Grid Design and System Hardening	Other Technologies and Systems – Substation Animal Abatement
133	CalPA	Set WMP-14	CalPA_Set WMP-14	10	CalPA_Set WMP-14_Q10	P. 393 of PG&E's WMP states, "In 2022 PGE implemented revisions made to TD-2325, which incorporated industry best practices as well as adjusted the pole rejection criteria." Please list the adjustments that PG&E made to the pole rejection criteria.	Please see our current procedure TD-2325P-01 for the requested information: https://www.pge.com/pge_global/common/pdfs/safety/emergency□preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/standards-and□procedures/td-2325p-01.pdf The Revision Notes table on page 40 of the document describes in detail the changes that were made compared to the prior version.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.3.1.5	Asset Inspections	Intrusive Pole Inspection
134	CalPA	Set WMP-14	CalPA_Set WMP-14	11	CalPA_Set WMP-14_Q11	P. 400 of PG&E's WMP states, "PG&E designated plat maps as extreme, severe, high, medium, or low based on the average wildfire consequence of the structures within that plat map." a) Is the designation described above based on the wildfire consequence scores from the WDRM v2 or the WDRM v3? b) How frequently does PG&E plan to re-evaluate the plat map designations described above? c) When PG&E re-evaluates the plat map designations, what steps will it take regarding a plat map that has increased in severity, such as from high to severe or severe to extreme?	a) The quote referenced above is based on the wildfire consequence scores from the WDRM v3. b) We plan to review wildfire risk model results annually and evaluate how to update the inspection plan accordingly. c) After we review risk model results each year, we will evaluate whether the plan needs to be adjusted. Updates to the plan may include reassigning a plat map to a different consequence tier or adding individual structures to the inspection plan to account for increased risk or consequence.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.3.2.1	Asset Inspections	Detailed Ground Inspection
135	CalPA	Set WMP-14	CalPA_Set WMP-14	12	CalPA_Set WMP-14_Q12	Table PG&E-8.1.7-6 on p. 458 of PG&E's WMP shows that PG&E added 41,869 distribution work orders to its HFTD/HFRA backlog in 2022. a) What measures has PG&E implemented to ensure that it will be able to reduce its backlog in 2023 by closing more tags than it opens? b) What factors may prevent PG&E from reaching its targets regarding backlog reduction in 2023? c) For each factor in part (b), what measures has PG&E taken to mitigate the risk that this factor will prevent PG&E from reducing its backlog in 2023?	a) In order to ensure we will continue to reduce our backlog of asset tags, as of January 1, 2023, all new HFTD/HFRA tags will be completed by the compliance date. Thus, these tags will be in a "steady state" where this population is no longer growing. In addition to this work, we will continue with the plan set out in our 2022 and 2023 WMPs where we target the HFTD/HFRA tags in our backlog with the highest risk, eliminating first our "non-pole ignition risk tags" then our "pole ignition risk tags," and finally our "non-ignition risk tags." However, while we can forecast the number of new tags that we create every year based on historical data, there are circumstances outside our control, which we identify in the WMP as "External Factors," which may prevent us from being able to close more tags than were opened in a particular year. An excellent example of these types of External Factors would be the unprecedented storms that occurred this winter, and which have substantially delayed some of our inspection work. While we currently forecast	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.7.2	Open Work Orders	Open Work Orders – Distribution Tags
136	CalPA	Set WMP-14	CalPA_Set WMP-14	13	CalPA_Set WMP-14_Q13	P. 463 of PG&E's WMP states, "EPSS does not cause a power outage." Given that EPSS settings can de-energize a line without prior warning, and without an apparent cause, please explain what is meant by the above quote.	operate in 0.1 seconds or less in order to de-energize and isolate affected portion(s) of our distribution system when a fault or abnormal condition is detected that could generate a spark and subsequent wildfire ignition as well as detecting higher impedance faults. Outages that occur when EPSS settings are enabled on protection devices are unplanned and only occur when an external event occurs on the distribution line causing a fault on the circuit. Stated another way, EPSS does not cause outages but rather outages may result from a line being quickly de-energized when a tree, vegetation or other foreign debris makes contact with the EPSS-enabled line. Unknown cause outages – or "outages without an apparent cause" – also occur without EPSS enabled. This does not mean there was not an actual fault condition present. Note that in 2022 PG&E reported 106 of 2,375 EPSS outages as 'Company Initiated'. In these	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
137	CalPA	Set WMP-14	CalPA_Set WMP-14	14	CalPA_Set WMP-14_Q14	Per PG&E's January 2023 EPSS monthly report, PG&E experienced 2,375 EPSS outages in 2022. a) Of the EPSS-triggered outages in 2022, in how many of these outages did PG&E find that no corrective actions were required prior to re-energizing (i.e. there was no persistent condition that PG&E needed to resolve upon inspecting the location of the outage)? b) Were there any EPSS-triggered outages in 2022 that PG&E determined were triggered by events that did not pose an ignition risk? c) If the answer to part (b) is yes, how many such EPSS-triggered outages occurred in 2022?	a) PG&E reported 1,083 unknown cause outages in 2022. Note that while this is indicative that a conclusive corrective action was not identified during the outage patrol and restoration process, it is not indicative of no ignition risk. Our focus during outage patrols and restoration is to restore power as soon as it is safe to do so for our customers and communities. b) Outages that occurred as a result of planned switching or from in rush current (e.g. a pump or heavy machinery start up) are examples of outages that do not present an ignition risk. c) There were 106 of these outages in 2022.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
138	CalPA	Set WMP-14	CalPA_Set WMP-14	15	CalPA_Set WMP-14_Q15	P. 465 of PG&E's WMP states, "In 2022, we expanded the scope of EPSS to all HFRAs in our service territory and select adjacent EPSS buffer areas." a) In 2022, did PG&E expand the scope of EPSS to all HFRAs and all HFTD? b) If PG&E did not expand the scope of EPSS to all HFTD in 2022, please state the basis for this decision. c) In 2023, will the scope of EPSS cover all HFRAs and all HFTD? d) If the answer to part (c) is no, please state the basis for this decision.	a) EPSS capability was extended to 100% of HFRA in 2022. 100% of HFTD was not targeted. b) PG&E's HFRA map is a purpose-built map to inform the Public Safety Power Shutoff (PSPS) and EPSS scoping process by identifying areas in PG&E's service area where overhead electrical infrastructure could be the source of an ignition that results in a catastrophic wildfire and accordingly, is used for EPSS scoping. The processes PG&E used to develop the HFRA were described in PG&E's 2021 and 2022 WMPs. See PG&E's 2021 WMP (June 3, 2021), starting at page 85, and PG&E's 2022 WMP (Feb. 25, 2022), starting at page 75. c) In 2023 EPSS will target 100% of HFRA and select HFRA-adjacent areas, referred to as EPSS Buffer Areas. HFTD is not targeted. d) Please see response to Question 15b.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
139	CalPA	Set WMP-14	CalPA_Set WMP-14	16	CalPA_Set WMP-14_Q16	Cal Advocates understands that a circuit segment that has been undergrounded may still experience PSPS outages, if segments upstream or downstream of the undergrounded circuit segment are subject to PSPS. a) Is the above understanding correct? If not, please correct the above. b) During the 2023-2025 WMP period, does PG&E intend to utilize temporary microgrids or other mitigations to fully eliminate the risk of a PSPS event de-energizing undergrounded lines? c) If the answer to part (b) is no, please explain why not. d) If the answer to part (b) is yes, please describe PG&E's plans.	a) Yes, that statement is correct. While it is unlikely that a downstream segment would affect the underground section, it is possible if there are no available downstream isolation devices. b) In cases where undergrounding segments affected by upstream overhead segments, mitigations such as Temp Microgrids may possibly remove the underground section from scope. However, it may not be feasible to utilize temporary microgrids due to resource constraints, and/or rapid changing weather conditions. c) See response to b. d) See response to b.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	9.1.5	Public Safety Power Shutoff	Performance Metrics Identified by the Electrical Corporation

140	CalPA	Set WMP-14	CalPA_Set WMP-14	17	CalPA_Set WMP-14_Q17	a) Has PG&E performed a study or back cast to predict the likelihood that an undergrounded segment will be subject to PSPS de-energizations due to upstream or downstream segments becoming subject to PSPS? b) If the answer to part (a) is yes, please provide the results of any such studies. c) If the answer to part (a) is no, please explain why not.	a) No, we have not performed a study or back cast mentioned in the question. b) See response to a. c) Projecting likelihood of an underground segment being subject to PSPS is possible but would take significant manual effort. However, back cast weather data was used to analyze the expected reduction in customers affected by PSPS for future underground work.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	9.1.5	Public Safety Power Shutoff	Performance Metrics Identified by the Electrical Corporation
141	CalPA	Set WMP-14	CalPA_Set WMP-14	18	CalPA_Set WMP-14_Q18	a) Has PG&E performed a study or back cast to predict the likelihood that an undergrounded segment will be subject to an EPSS-triggered de-energizations due to upstream or downstream segments becoming subject to EPSS? b) If the answer to part (a) is yes, please provide the results of any such studies. c) If the answer to part (a) is no, please explain why not.	a) We have not performed this type of study. b) Not applicable. Please see the response to subpart a). c) PG&E has not yet performed this type of study because the volume of mileage that has been placed underground is relatively small. The analysis would need to be circuit specific. For this type of study to be more meaningful, a greater number of underground miles would need to be evaluated. It is also important to note that undergrounding occurs on targeted line segments, which often means that other portions of the same circuit remain overhead and would require the protection of EPSS applied to the entire line segment including both UG and OH sections.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
142	CalPA	Set WMP-14	CalPA_Set WMP-14	19	CalPA_Set WMP-14_Q19	Please provide a list of all dig-in incidents that occurred from 2020-2022 and involved an underground electric distribution line. For each incident, please provide: a) Date of the incident b) Whether the dig-in was caused by PG&E employees, PG&E contractors, or a third-party c) Duration of the resulting outage, if applicable d) Injuries associated with the dig-in, if any e) Fatalities associated with the dig-in, if any f) Damage to non-PG&E structures associated with the dig-in, if any.	PG&E objects to this request as beyond the scope of this proceeding and unrelated to PG&E's 2023 WMP. Notwithstanding and without waiving these objections, we provide the following information in relation to dig ins that happened in the 2020 to 2022 timeframe within HFTD Tier 2 and Tier 3 zones: a) Please see column A of attachment "WMP-Discovery2023_DR_CalAdvocates_014-Q019Atch01.xlsx" for the requested information. b) Please see columns G and H of attachment "WMPDiscovery2023_DR_CalAdvocates_014-Q019Atch01.xlsx" for the requested information. c) Please see column E of attachment "WMP-Discovery2023_DR_CalAdvocates_014-Q019Atch01.xlsx" for the requested information. d) Please see column J of attachment "WMP-Discovery2023_DR_CalAdvocates_014-Q019Atch01.xlsx" for the requested information. Please note that these were no injuries	Holly Wehrman	4/11/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	1	N/A	8.4.2.1	Emergency Preparedness	Overview of Wildfire and PSPS Emergency Preparedness
143	CalPA	Set WMP-14	CalPA_Set WMP-14	20	CalPA_Set WMP-14_Q20	a) During the period from 2020-2022, did PG&E replace any distribution poles as part of its WMP activities for which PG&E had not fully recovered the original cost of the pole? b) If the answer to part (a) is yes, what was PG&E's practice regarding cost recovery on the unrecovered portion of the value associated with the replaced pole? c) If the answer to part (a) is yes, please provide the number of such poles that PG&E replaced.	(a) – (c) We cannot provide the requested data. Our asset registry and work execution systems are not set up to enable this cross-referenced data consolidation and we do not track the volume of assets replaced that have not been fully recovered.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.3	Grid Design and System Hardening	Distribution Pole Replacements and Reinforcements
144	CalPA	Set WMP-14	CalPA_Set WMP-14	21	CalPA_Set WMP-14_Q21	a) During the period from 2020-2022, did PG&E replace any distribution conductor as part of its WMP activities for which PG&E had not fully recovered the original cost of the conductor? This may involve undergrounding a previously hardened line, or replacing a bare overhead line with covered conductor. b) If the answer to part (a) is yes, what was PG&E's practice regarding cost recovery on the unrecovered portion of the value associated with the replaced conductor? c) If the answer to part (a) is yes, please provide the number of circuit miles of such conductor that PG&E replaced.	(a) – (c) We cannot provide the requested data. PG&E's asset registry and work execution systems are not set up to enable this cross-referenced data consolidation and we do not track the volume of assets replaced that have not been fully recovered.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.2.5.2	Grid Design and System Hardening	Traditional Overhead Hardening – Distribution
145	CalPA	Set WMP-14	CalPA_Set WMP-14	22	CalPA_Set WMP-14_Q22	a) During the period from 2020-2022, did PG&E replace any distribution transformers as part of its WMP activities for which PG&E had not fully recovered the original cost of the transformer? b) If the answer to part (a) is yes, what was PG&E's practice regarding cost recovery on the unrecovered portion of the value associated with the replaced transformer? c) If the answer to part (a) is yes, please provide the number of such transformers that PG&E replaced.	(a) – (c) We cannot provide the requested data. Our asset registry and work execution systems are not set up to enable this cross-referenced data consolidation and we do not track the volume of assets replaced that have not been fully recovered.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	8.1.4.11	Equipment Maintenance and Repair	Transformers
146	CalPA	Set WMP-14	CalPA_Set WMP-14	23	CalPA_Set WMP-14_Q23	a) In 2022, how many ignitions did PG&E experience related to overhead covered conductor distribution lines? b) In 2022, how many ignitions did PG&E experience related to overhead bare conductor distribution lines? c) In 2022, how many ignitions did PG&E experience related to underground distribution lines?	a) In 2022, PG&E observed 1 CPUC reportable ignition where the equipment type associated with the ignition was insulated distribution primary overhead conductor. b) In 2022, PG&E observed 183 CPUC reportable ignitions where the equipment type associated with the ignition was bare distribution primary overhead conductor. c) In 2022, PG&E observed 1 CPUC reportable ignition where the equipment type associated with the ignition was underground conductor.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-06 – Addressing Increase in Risk Events
147	CalPA	Set WMP-14	CalPA_Set WMP-14	24	CalPA_Set WMP-14_Q24	a) In 2022, how many ignitions did PG&E experience related to overhead secondary distribution lines? b) In 2022, how many ignitions did PG&E experience related to overhead service lines?	a) In 2022, PG&E observed 44 CPUC reportable ignitions associated with overhead secondary facilities. b) In 2022, PG&E observed 54 CPUC reportable ignitions associated with overhead distribution service facilities.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-06 – Addressing Increase in Risk Events
148	CalPA	Set WMP-14	CalPA_Set WMP-14	25	CalPA_Set WMP-14_Q25	P. 89 of PG&E's 2022 Joint Annual Report to Shareholders states: On October 26, 2022, the Utility notified the CPUC that the Utility's procedure for wood pole replacements did not comply with CPUC requirements for replacement of poles under certain conditions and, accordingly, in some instances, the Utility failed to replace wood poles with safety factors below the required minimum.5 a) Please provide a copy of the October 26, 2022 self-report referenced above. b) List the specific non-compliances referenced in the statement, "the Utility's procedure for wood pole replacements did not comply with CPUC requirements for replacement of poles under certain conditions." c) List the specific conditions referenced in the statement, "the Utility's procedure for wood pole replacements did not comply with CPUC requirements for	a) Please see "WMP-Discovery2023_DR_CalAdvocates_014-Q025Atch01.pdf" for the requested information. b) The specific referenced non-compliances were with General Order (GO) 95, Rules 12.2 and 44.3. Please see page 1 of "WMP:Discovery2023_DR_CalAdvocates_014-Q025Atch01." c) The specific referenced condition is when both the remaining strength of the pole and the loading on the pole results in a calculated safety factor below the at replacement value specified in rule 44.3. An example of this is described in "WMP:Discovery2023_DR_CalAdvocates_014-Q025Atch01.pdf" starting on page 1. d) "WMP-Discovery2023_DR_CalAdvocates_014-Q025Atch01.pdf" pages 3-4 includes the immediate risk remediation and longer-term corrective actions.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	1	N/A	8.1.2.3	Grid Design and System Hardening	Distribution Pole Replacements and Reinforcements
149	CalPA	Set WMP-14	CalPA_Set WMP-14	26	CalPA_Set WMP-14_Q26	P. 89 of PG&E's 2022 Joint Annual Report to Shareholders states: On December 22, 2022, the Utility submitted an update to the CPUC explaining the Utility had identified a population of wood poles that had not received intrusive inspections in accordance with GO 165's deadlines due to legacy issues, which should no longer be an issue due to changes in Utility procedures. a) Please provide a copy of the December 22, 2022 update referenced above. b) Describe the population of wood poles that had not received intrusive inspections in accordance with GO 165, referenced in the quote above. c) Describe the "legacy issues" referenced in the quote above. d) Describe the "changes in Utility procedures" referenced in the quote above. e) List the corrective actions PG&E has implemented to remediate the issues	a) Please see "WMP-Discovery2023_DR_CalAdvocates_014-Q026Atch01.pdf" for the requested information. b) 213 out of the 950 poles sampled (22%) did not have evidence of intrusive inspections within the compliance timeframe. Please see pages 2 through 3 of "WMP-Discovery2023_DR_CalAdvocates_014-Q026Atch01.pdf." c) The legacy issues referenced include eliminating the issues identified with "No Pole" or "Visual Only" records where these inspections were not properly meeting the General Order requirements. Please see pages 1 through 2 of "WMP:Discovery2023_DR_CalAdvocates_014-Q026Atch01.pdf" for additional details. d) The changes in utility procedure include revising procedure TD-2325P-01 to eliminate the option to complete Pole Test & Treat (PT&T) inspections based only on visual inspections.	Holly Wehrman	4/11/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_014.zip	1	N/A	8.1.2.3	Grid Design and System Hardening	Distribution Pole Replacements and Reinforcements
150	CalPA	Set WMP-15	CalPA_Set WMP-15	1	CalPA_Set WMP-15_Q1	PG&E will maintain clearances where EVM work occurred. PG&E will also be prescribing a minimum radial clearance of 12 feet throughout the system within HFTD and HFRA. Two new programs, Vegetation Management for Operational Mitigation (VMOM) and Focused Tree Inspection, are likely to result in individual trees that warrant enhanced clearance where EVM was not implemented. These programs inform clearances based on available outage data and trends, as well as site and tree specific conditions. While not called out as a uniform scope, clearances in portions of these targeted circuit segments may have similarities to EVM. a)Are the abovementioned two new programs (Vegetation Management for	b) Vegetation Management for Operational Mitigation (VMOM) will be primarily focused in HFTD and HFRA. There are instances where a circuit segment may cross in or out of HFTD/HFRA and VMOM would complete work on the whole circuit segment including the areas outside HFTD/HFRA. Focused Tree Inspections are planned for HFTD areas in the plan developed for 2023. b) Enhanced clearances under the VMOM may be warranted under a variety of circumstances because the driver for outages can vary by region. Examples include but are not limited to: 1. A tree identified under the Extent of Conditions patrol as having defects where enhanced clearances are needed to avoid tree-line conflicts. 2. A scenario where larger overhang clearance will be prudent to avoid limb or branch failure towards the line.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.6	Vegetation Management and Inspections	Discontinued Programs
151	CalPA	Set WMP-15	CalPA_Set WMP-15	2	CalPA_Set WMP-15_Q2	PG&E states in response to Question 1 (c) (iii) of CalAdvocates-PGE-2023WMP-08 that its strategy for determining desired clearance distances going forward will be "Minimum of 12 feet of clearance or enough clearance to mitigate potential impacts to facilities if tree (whole or portion of) failure were to occur." Please describe PG&E's planned methodology for determining sufficient clearance to mitigate potential impacts in the event of tree failure as mentioned above.	Obtaining clearance consistent with GO 95 Rule 35 at the time-of-trim recommendations in the HFTD may often require enhanced clearance beyond those recommendations to address tree conditions, the overall impacts of pruning to tree health, may compel tree removal, which can be interpreted as enhanced clearance. As a methodology, the goal is to mitigate identified problematic tree conditions between inspection cycles and obtaining 2-3 years of clearance whenever possible with landowner cooperation, permitting and other regulatory requirements. With this methodology we work the whole tree or portion of tree to mitigate potential impact to facilities.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.6	Vegetation Management and Inspections	Discontinued Programs
152	CalPA	Set WMP-15	CalPA_Set WMP-15	3	CalPA_Set WMP-15_Q3	PG&E states in its response to Question 2 (b) of CalAdvocates-PGE-2023WMP-08: "Two new programs, Vegetation for Operational Mitigations (VMOM) and Focus Tree Inspections (FTI) will identify new trees for the sort of work identified in this [tree] inventory. Additionally, if any priority trees are discovered while completing the TRI scope of work, they would be listed for work consistent with all other VM programs." Please describe how PG&E intends to track trees identified for work under VMOM and FTI.	PG&E intends to track trees identified for work under VMOM and FTI using the OneVM tool.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory

153	CalPA	Set WMP-15	CalPA_Set WMP-15	4	CalPA_Set WMP-15_Q4	PG&E states in its response to Question 1 (c)(iii) of CalAdvocates-PGE-2023WMP-08 that it will decide desired clearance distances "Based on analysis of outage data and trends by AOC. Additionally, any tree which is within MDR, will be within the MDR before next work completion cycle or is showing signs of imminent failure before next work completion cycle." a)Please provide how PG&E will determine desired clearance distances using analysis of outage data and trends by AOC. b)Does "MDR" stand for "Minimum Distance Requirement" in this instance? Please define if not. c)If yes, is the "Minimum Distance Requirement" referred to here from General Order 95, or from PG&E's internal procedures?	a) As a program being performed in addition to Routine VM, the objective of FTI is not based on a uniform or regional clearance specification or a "desired clearance". Outage analysis and data is intended to help inform the Vegetation Management Inspector (VMI) to identify which species and failure types are increasing localized outage trends. For example, this information can help determine if overhanging branch failure is a problematic local trend. In that situation, overhang reduction would be considered based on site and tree response characteristics. To the contrary, if overhanging branch failure is not a localized failure trend, targeting overhang elimination or reduction may not yield as effective results as other forms of vegetation work. The completion of regional pilots is intended to help address "how" PG&E will guide the program moving forward. b) Yes, that is correct. c) MDR is tied to all conductor clearance based on regulations in California. Including GO 95	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.6	Vegetation Management and Inspections	Discontinued Programs
154	CalPA	Set WMP-15	CalPA_Set WMP-15	5	CalPA_Set WMP-15_Q5	PG&E states in its response to Question 2 (c) of CalAdvocates-PGE-2023WMP-08 that it "utilized VM EPSS-enabled outage data, historical VM outage data, and customer outage impact data" in devising the VMOM scope of work. a)Please describe how PG&E has utilized each of the following data types in devising the VMOM scope of work: i.VM EPSS-enabled outage data ii.Historical VM outage data iii.Customer outage impact data.	a) i. VM EPSS-enabled outage data was used to determine both a planned unit forecast and identify CPZs where EPSS VM Outages took place. ii. Historical VM outage data was used to identify CPZs where reoccurring VM outages took place. iii. Customer outage impact data was used to identify customers who experienced more frequent outages.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
155	CalPA	Set WMP-15	CalPA_Set WMP-15	6	CalPA_Set WMP-15_Q6	PG&E states in its response to Question 2 (c) of CalAdvocates-PGE-2023WMP-08 that: For FTI, Areas of Concern (AOCs) were identified through a cross-functional effort utilizing county-based regional reviews to create polygons which are geographic areas. Initial polygon development utilized WDRMv3 consequence scores, Public Safety Specialist circuit-based evaluations, expertise, 30-year lookback of meteorology data, and analysis, identified PSPS Lookback Polygons, PSPS Vegetation Damage locations, vegetation caused ignition data, and vegetation caused outage data. The process is intended to be performed annually to identify where trends, models, or emerging available data indicated higher likelihood of tree caused damage or outages.	a) i. WDRMv3 Consequence scores aided in quality checking the AOC polygons. Adding this to the process resulted in adding two additional AOC polygons containing 32 circuit miles. WDRMv3 was also used to rank and prioritize the AOC into the tranches. ii. Public Safety Specialists (PSS) circuit-based risk assessments were not specifically developed to identify vegetation risks but often aligned the outage cluster data also utilized for the project. When strong alignment existed between circuits PSS ranked very high to severe and overlapped with other VM specific outage, ignition, or PSPS damage data an AOC polygon was developed. If a PSS very high to severe circuit ranking conflicted or did not align with other VM specific data or expertise, AOC polygons were not developed. iii. 30-year meteorology re-analysis data was provided to the AOC development team to	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
156	CalPA	Set WMP-15	CalPA_Set WMP-15	7	CalPA_Set WMP-15_Q7	PG&E states in its response to Question 2 (h) of CalAdvocates-PGE-2023WMP-08 its Tree Inventory Program "is planned to last 9 years". In response to Question 9 (a) of CalAdvocates-PGE-2023WMP-08, it provides a pace for the next three years of 15,000 trees in 2023, 20,000 trees in 2024, and 25,000 trees in 2025. a)Please explain why PG&E is forecasting it will take 9 years to work down its previously identified tree inventory. b)Please state the basis for the abovementioned pace of work up to the year 2025. c)Does PG&E have current goals or targets for the program past the year 2025? d)If so, please state such goals or targets. e)Please quantify, based on the currently available knowledge, the ignition risk	a) The pace was provided for the first three years of the program with intent to ramp up annual pace. 9 years is a starting point to plan the pace of work completion however, the lessons learned will inform the completion timing. b) We anticipate that there will be opportunities in the initial years of the program for lessons learned regarding safety, efficiencies, and coordination with other system hardening activities, so the program has been designed to ramp up over the first three years. c) The goals for 2025 and beyond are not yet determined. The progress and lessons learned in the first three years will inform goals for 2025 and beyond. d) N/A e) We do not have the explicit ignition risk posed by the tree inventory. However, based on the WDRM v3 weighted vegetation trunk risk total, vegetation trunk risk represents an ignition risk	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
157	CalPA	Set WMP-15	CalPA_Set WMP-15	8	CalPA_Set WMP-15_Q8	PG&E states in its response to Question 3 (h) of CalAdvocates-PGE-2023WMP-08 that "The Wildfire Data Risk Model (WDRM) v3 was utilized to prioritize nine CPZs for the VMOM program." a)Please provide the CPZs that were prioritized for the VMOM program. b)How was the WDRM v3 model utilized in prioritizing the nine CPZs? c)What risk threshold, or other criteria, was used in prioritizing the nine CPZs?	a) Narrows 2105221 Morgan Hill 2111XR398 Laureles 11112020 Templeton 2110901690 Big Basin 11010720 Silverado 210258626 Bellevue 2103552 Panorama 11021342 Green Valley 210136820 b) The WDRM v3 model includes a trunk failure component, which was used to identify the prioritization of work along with the miles to be patrolled.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.3	Vegetation Management and Inspections	VM for Operational Mitigations
158	CalPA	Set WMP-15	CalPA_Set WMP-15	9	CalPA_Set WMP-15_Q9	PG&E states in its response to Question 3 (f) of CalAdvocates-PGE-2023WMP-08 that "PG&E will utilize EPSS Outages Extent of Condition (EOC) patrols to identify and generate additional tree work throughout the year. Additionally, EPSS outage data will be utilized in the scope of work development for the following year." Please provide the time frame or date when PG&E would plan to complete the additional tree work that is generated throughout the year.	The additional tree work that is generated throughout the year will be worked according to normal VM program timelines. If vegetation is determined to be an immediate risk to PG&E facilities, described as a Priority 1 in the VM Priority Tag Procedure, the condition will be mitigated within 24 hours of identification as long as conditions are safe for the tree crew to proceed with work. Priority 2 tags are issued for vegetation that is within Minimum Distance Requirement (MDR) to the electric lines and will be mitigated within 20 business days.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.3	Vegetation Management and Inspections	VM for Operational Mitigations
159	CalPA	Set WMP-15	CalPA_Set WMP-15	10	CalPA_Set WMP-15_Q10	PG&E states in its response to Question 4 (e) of CalAdvocates-PGE-2023WMP-08 that "Pilot AOCs are prioritized using WDRMv3. The four pilot AOCs selected for 2023 incorporated additional reviews from the VM Execution Operational Team to select appropriate regional areas to inform the programs development." a)Please describe how the Pilot AOCs were prioritized using WDRMv3. b)Did reviews from the VM Execution Operational team change the WDRMv3-generated prioritization? If so please describe how.	a) WDRMv3 vegetation scores were aggregated at the AOC level for each circuit segment within AOC polygon boundaries. The resulting WDRMv3 aggregated scores were averaged per AOC, leading to a ranking which was used to prioritize AOCs. The pilot AOCs were selected among the top 25 ranked AOCs. Pilot AOC selection process is described in response b). b) The four pilot areas were all selected from the highest ranked tranches as prioritized by WDRMv3. These tranches had ranked values from 1-25. After review from VM Execution AOCs ranked 2 (Napa County),5 (Butte County),6 (El Dorado County) and 15 (Calaveras County) were selected for pilots. While these selections do not directly follow a 1-n WDRMv3 ranking they align as top model prioritized rankings and meet the goal to pilot in regions with different vegetation types to support broader program development business requirements, processes and potential variations in execution.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
160	CalPA	Set WMP-15	CalPA_Set WMP-15	11	CalPA_Set WMP-15_Q11	PG&E states in its response to Question 4 (g)(i) of CalAdvocates-PGE-2023WMP-08 that the scope of work for Focused Tree Inspection pilots is to Complete a focused tree inspection pilot project of ~300 OH line miles in 2023 to calibrate processes and optimize efficiencies. Inspections will utilize Tree Risk Assessment Qualification (TRAQ) Certified Arborists. Tree mitigations will be determined as necessary based on site and individual tree conditions. Pilots will begin in Q2 2023 and are intended to inform detailed SOW during the regional implementations. a)How was the initial scope of 300 OH line miles determined? b)Please list and describe the criteria PG&E will utilize to determine tree mitigations "as necessary" within the above-detailed scope of work and within the	a) With a goal to identify regionally variable AOC to pilot the initial program the four AOCs were selected (See response to Question 10b). The 300 miles represents approximately 10% of the overall prioritized AOCs available for 2023 and is intended to yield the learnings needed to support and inform future work plans. Certified Arborists with the additional TRAQ certification can implement industry best standards and guidance to identify, evaluate, perform appropriate inspection level(s) and prescribe work for the trees that require mitigation to reduce outage risks between inspection cycles. b) PG&E's territory is regionally diverse and composed of variable forest and stand conditions in proximity to assets. It is anticipated that the listing practices and clearance types and prescriptions will vary between distinct regions and forest types. For example, mitigations that are acceptable and effective in the Sierra Nevada Mountain Range are expected to be different in	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
161	CalPA	Set WMP-15	CalPA_Set WMP-15	12	CalPA_Set WMP-15_Q12	PG&E states in its response to Question 4 (h)(i) of CalAdvocates-PGE-2023WMP-08 that "While inspection tools and data collection are expected to be standardized it is anticipated that more regional guidance will utilize historical outage data to help us identify problematic tree species and failure modes and site conditions to support focused inspection decisions and prescriptions." a)Does "more regional guidance" mean guidance specific to each Area of Concern that will be developed after the pilots are complete? Please specify if not. b)If yes, please explain and provide relevant examples of how guidance would differ between AOCs.	a) The following clarifications are to provide more detail on what "more regional guidance" is intended to accomplish. Guidance associated with tools utilized and data collected are expected to be standardized for the FTI program in all AOCs during the initial pilots. The outage, species and tree failure details available for each AOC will vary and are expected to be reviewed prior to starting patrols. The data is for situational awareness, some of which may be unique within an AOC but this does not alter the guidance to have each span inspected by a TRAQ certified Arborist. Learnings from the pilot will better inform if unique regional guidelines can improve the program and standardize its execution. Examples of regional factors that could impact regional guidance include Coastal Zone Areas and Timberlands where California Forest Practice Rules apply. In areas such as these, there may be limitations or restrictions to what trees or portions of trees can be mitigated based on the regional factors, environmental restrictions, Limited	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
162	CalPA	Set WMP-15	CalPA_Set WMP-15	13	CalPA_Set WMP-15_Q13	PG&E states in its response to Question 4 (k) of CalAdvocates-PGE-2023WMP-08 that "Pass or Fail criteria is not anticipated for the FTI program. FTI will use TRAQ Certified Arborists to perform inspections and prescribe work based on site and tree specific conditions. Some trees will be trimmed and other will be removed to address associated risk between inspection cycles." Please provide all criteria that PG&E will employ to determine tree trimming and removal, including the abovementioned "site and tree specific conditions".	Level 1 inspections are to be performed during patrols . Site specific and tree specific conditions will help inspectors determine when Level 2 inspections are needed to determine if a tree needs to be completely removed or trimmed to mitigate risks between inspection cycles in the AOC. Guidance provided in the California Power Line Fire Prevention Field Guide, "HAZARD TREES/VEGETATION CLEARANCE" section, provides criteria that can aid in the appropriate level of inspection decision. Please see https://osfm.fire.ca.gov/media/3vqj2sft/2021-power-line-fire-prevention-field-guide-ada final_jf_20210125.pdf. The TRAQ Certified Arborists will utilize the Basic Tree Risk Assessment Form when performing a level 2 inspection to document the site and tree specific conditions that are relevant to the inspection. See attachment WMP Discovery2023_DR_CalAdvocates_015-Q013Atch01 to review the Basic Tree Risk Assessment Form.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	1	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
163	CalPA	Set WMP-15	CalPA_Set WMP-15	14	CalPA_Set WMP-15_Q14	PG&E states in its response to Question 6 (f) of CalAdvocates-PGE-2023WMP-08 that: "PG&E has performed lab testing which has shown DCD is able to detect and de-energize downed conductors reducing ignition risk where installed." a)Please describe the methods, scope, and findings of the abovementioned lab testing. b)Please provide any documents generated from the abovementioned lab testing, including reports, etc.	a) DCD lab testing was formally conducted at ATS in 2022 to validate DCD effectiveness to detect and de-energize downed conductors, as well as calibration, troubleshooting, tuning, maintenance, and debugging. The tests were designed to mimic high impedance fault conditions experienced in the system such as a tree resting on energized conductor, or an energized conductor lying on soil, concrete, and various fine fuels. These tests successfully demonstrated that DCD was able to detect the high impedance fault condition and de-energize high impedance downed conductor faults. b) Test results are included in the attached document titled "WMP Discovery2023_DR_CalAdvocates_015-Q014Atch01CONF." The test data is a summary of lab tests performed in 2022 to support DCD validation, including but not limited to DCD effectiveness testing, calibration, troubleshooting, tuning, maintenance, and debugging.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	1	N/A	8.2.3.4	Vegetation Management and Inspections	Fall-In Mitigation
164	CalPA	Set WMP-15	CalPA_Set WMP-15	15	CalPA_Set WMP-15_Q15	PG&E states in its response to Question 12 of CalAdvocates-PGE-2023WMP-08 that: "Should a program fall below a 95% pass rate, catch back plans will be developed in partnership with VM execution to mitigate for specific cause of deficient rate." Please describe the nature of the abovementioned "catch back plans".	A Catch Back is a recovery plan developed when project milestones are off-track. The Catch Back Plan is developed by the project owner with stakeholders, and includes the specific problem, counter measure(s) to date, raised issue date, target closure date, owner, and status.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.5	Vegetation Management and Inspections	Quality Assurance/Quality Control
165	CalPA	Set WMP-15	CalPA_Set WMP-15	16	CalPA_Set WMP-15_Q16	PG&E states in its response to Question 13 (parts a, b, and c) of CalAdvocates-PGE-2023WMP-08 that: Improved quality verticals have been established for 2023, allowing for greater insight into overall VM work product throughput and risk identification/mitigation. Clear definitions of acceptance criteria, sampling methodology, population eligibility, and pass rate calculations were established and communicated across the VM organization prior to beginning 2023 audits. a)Please define the term "improved quality verticals". b)Please list and describe the "improved quality verticals" that have been established for 2023. c)Please describe the "greater insight into overall VM work product throughput and	a) Quality Control > Quality Assurance were implemented as complimentary layers of defense against deficiencies. The "improved quality verticals" mean that PG&E has implemented complimentary layers of protection (swiss cheese model) to ensure safety, compliance and continuous improvement. b) In each of the primary VM programs (Routine Distribution, Routine Transmission, and Vegetation Control HFTD), a comprehensive quality management system which incorporates the complimentary layers typical of traditional quality management systems (work product>Quality Control>Quality Assurance) has been established. c) This year, PG&E's QMS has designed standard work tools and practices that ensure there are clear and applicable steps for work execution that align with industry code and internal requirements. This approach focused on the fundamentals will allow PG&E to consistently deliver	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.5.1	Vegetation Management and Inspections	Quality Assurance and Quality Verification

166	CalPA	Set WMP-15	CalPA_Set WMP-15	17	CalPA_Set WMP-15_Q17	PG&E states in its response to Question 17(a) of CalAdvocates-PGE-2023WMP-08 that "For Routine and Second Patrol, PG&E does not currently have standards specific to high-risk species", but that species types will be incorporated into Focused Tree Inspections pilots in 2023. PG&E states in its response to question 17(b) that "Development of any standards related to high-risk species is still being determined and contingent upon completion of FTI pilots in 2023. A determination will be made specific to that program as its guidance is formalized following the pilots." a)Why does PG&E not have standards specific to high-risk species for routine and second patrol? b)Why does PG&E only plan to develop standards related to high-risk species for Areas of Concern, rather than throughout its service territory?	a) Species is just one factor of many that PG&E takes into account to reliably identify the higher risk trees. Trees identified during routine and second patrol inspection cycles that require mitigation per PRC4293 and GO95 Rule 35 are expected to be identified and listed for work regardless of species. b) As described in response to CalAdvocates-PGE-2023WMP-08-Q17, the Focused Tree Inspection (FTI) is being piloted within Areas of Concern (AOC). The experience and findings during execution of these pilots may inform development of rogram-specific guidance that relates to regional high-risk species. PG&E will then determine which programs are best suited to incorporate species specific guidance due to anticipated regional variation. The development of any standards related to high-risk species is still being determined and contingent upon completion of FTI pilots in 2023.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.3.6	Vegetation Management and Inspections	High-Risk Species
167	CalPA	Set WMP-15	CalPA_Set WMP-15	18	CalPA_Set WMP-15_Q18	PG&E states in its response to Question 18 of CalAdvocates-PGE-2023WMP-08 that "The Quality Management team has aligned on setting target pass rates at 88% for Field Quality Control Active Observation Programs for the following core vegetation management programs: Routine Distribution, Second Patrol Distribution, Vegetation Control, and Routine Transmission." Please state the basis, provide the method, and supporting documentation for the abovementioned 88% target pass rate.	Basis for deciding on the 88% target − PG&E decided to utilize Q1 2023 data to establish a baseline target pass rate as pass rates were not calculated in previous years. Performance for Q1 2023 data shows an average pass rate of approximately 88% for Routine Distribution, Second Patrol Distribution, and Vegetation Control, which are the three programs for which we have data. We extended the 88% target pass rate to Routine Transmission. Method for calculating the metric − Pass Rate = Total Passing responses for Critical and Conformance Attributes divided by (Total responses for Critical and Conformance Attributes minus N/A responses) Supporting Documentation for calculating the metric − Supporting Documentation for calculating the metric is provided in the attachments: "WMP-	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	2	N/A	8.2.3.6	Vegetation Management and Inspections	High-Risk Species
168	CalPA	Set WMP-15	CalPA_Set WMP-15	19	CalPA_Set WMP-15_Q19	In its response to Question 5 of CalAdvocates-PGE-2023WMP-08, PG&E provides the following table of actual and forecasted costs for vegetation management programs. PG&E further states that "The EVM Transitional programs for VM are Focused Tree Inspections, VM for Operational Mitigations, and Tree Removal Inventory.". a)Please update this table to include the actual and forecast costs for each EVM Transitional Program, including: i.Focused Tree Inspections ii.VM for Operational Mitigations iii.Tree Inventory Removal.	a) Please see the updated table which includes forecast costs for each EVM transitional program. These programs were not active in 2022 therefore actual costs are not available. ACT FCST FCST 2022 2023 2024 Tree Mortality $ 108,129 $ 100,617 $ 98,112 EVM $ 590,971 N/A N/A (EVM) Transitional Programs N/A $ 160,357 $ 156,366 VM for Operational Mitigations $ 23,455 $ 22,872 Tree Removal Inventory $ 53,484 $ 52,153 Focused Tree Inspections in AOC $ 83,418 $ 81,342 Routine VM $ 607,751 $ 711,944 $ 694,225	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.5.2	Vegetation Management and Inspections	Quality Control
169	CalPA	Set WMP-15	CalPA_Set WMP-15	20	CalPA_Set WMP-15_Q20	In its response to Question 19(e) of CalAdvocates-PGE-2023WMP-08, PG&E says, "We do not have a source for tracking planned worked date for individual trees and are unable to provide the data at this time." a)Does PG&E plan to develop a source for tracking planned work date for individual trees? b)If the answer to part (a) is yes, when does PG&E expect to have such a system implemented? c)If the answer to part (a) is no, please explain why not.	a) No, PG&E does not have a plan to develop a source for tracking planned work date for individual trees. b) Not applicable. c) When individual trees are identified as needing work, they are packaged into a work request that may contain multiple trees on the same circuit. The work identified is then sent out and completed as a project. Tracking individual trees and individual work dates would be a strain on our resources. PG&E tracks on a project level basis providing a forecast date of when all work should be completed within the project.	Holly Wehrman	4/11/2023	4/14/2023	4/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_015.zip	0	N/A	8.2.3.4	Vegetation Management and Inspections	Fall-In Mitigation
170	TURN	004	TURN_004	1	TURN_004_Q1	Following up on the response to TURN Data Request 3, Question 2, please provide PG&E's data showing the "recorded reliability improvements at locations that have been undergrounded and/or have been hardened with covered conductor" that will be assessed in the study planned for completion on June 30, 2023.	We are providing the base 3-year outage dataset in the attachment "WMP-Discovery2023_DR_TURN_004-Q001Atch01CONF.xlsx." We are compiling additional complimentary datasets because hardening work is done at targeted high risk segments, and these project locations do not completely line up with the data captured in outage records. Please note that the attachment provided with this response contains confidential information.	Tom Long	4/12/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_004.zip	1	Yes	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
171	TURN	004	TURN_004	2	TURN_004_Q2	Regarding Table PG&E-22-35-1 (PSPS Events Lookback Analysis) on page 972 of PG&E's 2023-2025 WMP: a.For each column with numerals, provide a verbal description of all input data and of how the numerals in each column were calculated. b.Provide the table in live Excel format.	a. Input Data: the columns in Table PG&E-22-35-1 used the following input data: 2022 PSPS Five-Year Lookback Analysis (2018-2022): this is an analysis which shows the hypothetical PSPS events created by applying 2022 PSPS guidance to the weather from 2018-2022. This is our most accurate method of estimating PSPS impacts based on our latest PSPS guidance, and results in a dataset identifying the list of customers impacted per hypothetical event. This list of customers is used in this WMP to calculate projected PSPS customer impacts. Customers whose PSPS impact is prevented due to existing mitigations (as-of the end of 2022) are not included in this dataset. Some customers in this dataset may experience short-duration outages due to use of a downstream MSO device in the hypothetical PSPS events. When scoping PSPS events, we also add areas to scope based on the presence of certain asset and vegetation tags, if those areas also meet Minimum Fire Potential Conditions. This results in an incremental	Tom Long	4/12/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_004.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-35 Quantify Mitigation Benefits of Reducing PSPS Scale, Scope, and Frequency
172	TURN	004	TURN_004	3	TURN_004_Q3	Regarding PG&E's response to ACI PG&E 22-35, beginning on page 971 of its WMP: a.Please identify each mitigation discussed in PG&E's current WMP or its 2022 WMP that has the potential to mitigate the scale, scope, frequency, or duration of PSPS events. b.Please explain why Table 22-35-1 only looks at the impact of two mitigations, undergrounding and MSO, and does not consider the other mitigations identified in response to subpart (a). c.Please provide all PG&E analyses similar to what is presented in Table 22-35-1 regarding the impact on PSPS scale, scope, frequency, or duration of any or all of the other mitigations identified in response to subpart (a).	a. The 2022 WMP and 2023 WMP collectively discuss the following mitigations with the potential to mitigate the scale, scope, frequency, or duration of PSPS events: • Distribution Sectionalizing Devices • Transmission Line Sectionalizing or Switching • Distribution Line Motorized Switch Operator (MSO) Replacements • Temporary Distribution Microgrids • System Hardening (Distribution) • Undergrounding b. We currently do not have initiatives to add additional mitigations devices such as Sectionalizing devices and Temporary Microgrids as described in subpart (a). In each of the 2022 and 2023	Tom Long	4/12/2023	4/17/2023	4/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_004.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-35 Quantify Mitigation Benefits of Reducing PSPS Scale, Scope, and Frequency
173	CPUC - SPD (Safety Policy Division)	003	CPUC - SPD (Safety Policy Division)_003	1	CPUC - SPD (Safety Policy Division)_003_Q1	1.Fill in the attached spreadsheet "Wildfire Mitigation Table DR – PG&E." The first tab is a "Glossary" which provides definitions for each attribute. The other tabs, "Data Input," "Asset Inspections," and "VM Inspections;" all need to be completed with data inputted from PG&E.	Please see attachment "WMP-Discovery2023_DR_SPD_003-Q001Atch01.xlsx" which is the completed Wildfire Mitigation Table DR – PG&E template provided to us by SPD.	Kevin Miller	4/12/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_003.zip	1	N/A	8	Wildfire Mitigation	N/A
174	CPUC - SPD (Safety Policy Division)	003	CPUC - SPD (Safety Policy Division)_003	2	CPUC - SPD (Safety Policy Division)_003_Q2	2.In "PGE_2023_WMP_R0_Section_642_Atch01," SPD has observed the mitigation effectiveness of Covered Conductor is on the order of 49% compared to the value reported in the WMP which is 64% (page 340). Explain the discrepancy.	The cited information is incorrect in the WMP. We have corrected it in response to this discovery request. We will reach out to Energy Safety to discuss this update and making corrections to the WMP pursuant to Energy Safety's Guidelines. The 49% effectiveness cited above was due to an incorrect link in the original file and has been corrected in "WMP-Discovery2023_DR_SPD_003-Q004Atach1". The correct effectiveness factor is approximately 64%. As seen in the attachment there is some minor variation in effectiveness per circuit segment depending on the specific sub-drivers.	Kevin Miller	4/12/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_003.zip	0	N/A	8.1.2.1	Grid Design and System Hardening	Covered Conductor Installation – Distribution
175	CPUC - SPD (Safety Policy Division)	003	CPUC - SPD (Safety Policy Division)_003	3	CPUC - SPD (Safety Policy Division)_003_Q3	3.Confirm or revise PG&E's Butte County OH to UG conversion factor in the 2023-2025 WMP (currently 1.57 in the GRC) based on actual and estimated UG miles for 2023-2026. In the PG&E 2023 GRC Reply Brief (Dec '22) PG&E forecast 2,000 SH UG miles (MAT 08W) and 100 Butte County UG miles (MAT 95F) for 2023-2026.	PG&E confirms that our Butte County OH to UG conversion factor for the 2023-2025 WMP is 1.57.	Kevin Miller	4/12/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_003.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
176	CPUC - SPD (Safety Policy Division)	003	CPUC - SPD (Safety Policy Division)_003	4	CPUC - SPD (Safety Policy Division)_003_Q4	4.Based on WSPS' initial review of the wildfire ignitions and general understanding of PG&E's undergrounding program, it appears that undergrounding would have prevented only 87% of CPUC-reportable ignitions in the HFTD area between 2020-2022 primarily due to the impact of secondary and service conductor ignitions. Additionally, SPD noted ten CPUC-reportable ignitions in PG&E territory during 2022 which were related to undergrounding. [The data used is the fire ignition data stored here: Wildfire and Wildfire Safety (ca.gov). Please note, WSPS is still cleaning the data and determining the best methodology to analyze the data.] a.Provide the justification for the 99% mitigation effectiveness value for undergrounding reported in the Wildfire Mitigation Plan. Explain how secondary, service conductor, and underground ignitions are accounted for in the 99%	a) In the 2022 WMP discovery process, we provided a data response that showed how PG&E estimated the effectiveness of undergrounding in reducing ignitions (WMP-Discovery2022_DR_CalAdvocates_028-Q04). As PG&E explained in that data request: PG&E's estimate of the effectiveness of undergrounding in reducing ignitions is based on subject matter expertise. We validated this estimation using the ignition rate per mile for overhead and underground circuits respectively. Based on 2015-2021 historical CPUC-reportable ignitions and the system circuit miles, the effectiveness of undergrounding is approximately 95-96% from an ignition rate perspective as indicated in Table 1 below. However, Table 1 does not fully represent wildfire risk reduction as an ignition is different than wildfire frequency or consequences. Based on the 2015-2021 dataset, no underground ignition resulted in a fire greater than 10 acres, further substantiating	Kevin Miller	4/12/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_003.zip	1	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
177	CPUC - SPD (Safety Policy Division)	003	CPUC - SPD (Safety Policy Division)_003	5	CPUC - SPD (Safety Policy Division)_003_Q5	5.Regarding the UG workplan table provided by PG&E, 2023-03-27_PGE_2023_WMP_R0_Appendix D ACI PG&E-22-16_Atch01_CONF.xlsx: a.Why does Column "O" "Risk Rank (V2)" begin at Rank 7 (as opposed to 1) for circuits? i.Why does it end at 3328? ii.Why do the gaps in rank 1-N exist? b.Why does Column "R" "Risk Rank (V3)" begin at Rank 6 (as opposed to 1) for circuits? i.Why does it end at 3263? ii.Why do the gaps in rank 1-N exist?	a. There are three primary reasons why the risk ranking does not begin at 1: 1. If the circuit segment length is less than 1 mile then those smaller segments are bundled with other larger projects (e.g., the circuit segments that are risk ranked 1, 3, 4, and 5 were all less than 1 mile and bundled with other larger groups of circuit segments). 2. Some of the circuit segments are privately owned lines; we send an annual letter to the owner reminding them of their responsibility to maintain the line but do not take action on these circuits (e.g., the circuit segment that is risk ranked 2 is privately owned). 3. Some circuits are in the risk model data but work has been completed on that circuit segment and therefore the circuit segment is not included in planned work in the 2023-2026 work plan (e.g., work on a circuit segment that is risk ranked 6has already been completed). i. We have approximately 3,600 CPZs identified in the HFTD as part of the 2021 WDRM V2 .	Kevin Miller	4/12/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_003.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-16 – Progress and Updates on Undergrounding and Risk Prioritization
178	OEIS	002	OEIS_002	1	OEIS_002_Q1	a.Has PG&E used its Targeted Tree Species study to identify additional clearances for and begin inventory of trees with the highest growth and highest failure potential? i.If so, explain the results and how PG&E has and will integrate this knowledge into its VM programs. ii.If not, please explain PG&E's plan to perform this analysis and provide a timeline for completion and operationalization. b.Has PG&E reviewed the Process and Procedures for collecting and enhancing checklists for field inspections and current clearance guidance? i.If so, explain the results and how PG&E has and will integrate this knowledge into its VM programs.	a. i. No, PG&E has not used its Targeted Tree Species study to identify additional clearances for inventory of trees with the highest growth and highest failure potential and there is currently no plan to begin such an inventory. The Targeted Tree Species Study (TTSS) did not include in its objective any analysis of tree growth rates or make any recommendations on clearances to be obtained at time of tree pruning. ii. PG&E does not have a plan to perform this analysis at this time. b. We are currently reviewing the Process and Procedures for field inspections and current clearance guidance. i. The plan is to complete the review by year end 2023, any updates deemed necessary will be incorporated for operationalization in 2024.	Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-24 – Progression of Vegetation Management Maturity

179	OEIS	002	OEIS_002	2	OEIS_002_Q2	a.What are the minimum qualifications for an inspector preforming the tree-risk assessment for the Focused Tree Inspections? b.Why and how did PG&E choose to use the American National Standards Institute (ANSI) A-300 tree risk assessment standard over PG&E's Tree Assessment Tool (TAT) for Focused Tree Inspections? Include a comparison of the benefits and drawbacks of ANSI A-300 and PG&E's TAT.	a) The minimum qualifications for an inspector performing the tree-risk assessment for the Focused Tree Inspection is a Tree Risk Assessment Qualification (TRAQ) through the International Society of Arboriculture (ISA). b) We will utilize the International Society of Arboriculture (ISA) Basic Tree Risk Assessment Form for the Focused Tree Inspections. The Basic Tree Risk Assessment Form is provided with the ISA Tree Risk Assessment Manual, which is based on ANSI A-300. We utilized industry standards, regulatory guidance, and existing commitments in the decision to select ANSI A-300 as a beneficial framework as guidance for the FTI program. • ANSI A-300 is an industry wide standard that was created independent of PG&E with decades of proven usage in the field and research employed. • A300 is called out for use and guidance in California Power Line Fire Prevention Field Guide (2021 EDITION)	Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
180	OEIS	002	OEIS_002	3	OEIS_002_Q3	On page 621, PG&E references its Company Emergency Response Plan (CERP). Provide an unredacted version of the CERP and all annexes.	The confidential attachments are being provided pursuant to the accompanying confidentiality declaration. a. Please see attachment "WMP-Discovery2023_DR_OEIS_002-Q003Atch01CONF.pdf" for a unredacted version of our CERP. Please see attachments "WMP-Discovery2023_DR_OEIS_002-Q003Atch02CONF.pdf" and "WMP-Discovery2023_DR_OEIS_002-Q003Atch03CONF.pdf" for our unredacted Wildfire Annex and PSPS Annex, respectively.	Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	3	N/A	8.4.1	Emergency Preparedness	Overview
181	OEIS	002	OEIS_002	4	OEIS_002_Q4	a.On page 567, PG&E references the weather stations deployed over their 70,000 square mile territory for monitoring conditions. i.Provide the installation standard that all PG&E weather stations are installed to. Include height from ground, direction of cross-arm, and which side of the pole/tower they are installed on. b.On page 570, PG&E references the maintenance for their weather stations and calibrations preformed to "our standard". i.Provide the PG&E specific standard that is being referenced for the calibrations as compared to the manufactures standards. ii.Provide the total number of stations that are serviced annually over the past 3 years, and the maintenance preformed on each station. iii.Provide the total number of stations not serviced annually over the past 3 years	a. i. Please see the attachment "WMP-Discovery2023_DR_OEIS_002-Q004Atch01CONF.pdf" for the requested information. b. i. Please see the attachment "WMP-Discovery2023_DR_OEIS_002-Q004Atch01 Atch02CONF.pdf" for the requested information. We developed our calibration procedure in coordination with Western Weather Group, who provides guidance on calibration and maintenance cycles. ii. Over the last 3 years, 611 out of 622 stations were calibrated in 2020, 981 out of 991 stations in 2021, and 1297 out of 1315 stations in 2022. The remainder of these stations were not able to be serviced due to External Factors such as customer refusals, environmental-concern related refusals, weather conditions, and safety issues. We are unable to provide the historical	Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	2	N/A	8.3.2.1	Situational Awareness and Forecasting	Existing Systems, Technologies, and Procedures
182	OEIS	002	OEIS_002	5	OEIS_002_Q5	Please provide an Excel version of Table 7-4: Summary of Risk Reduction for Top Risk Circuit Segments from PG&E's 2023 WMP.	In reviewing this request, we discovered that some of the information in Table 7-4 is incorrect. We have corrected it in response to this discovery request. We will reach out to discuss this update and making corrections to the WMP pursuant to Energy Safety's Guidelines. Please see WMP attachment "WMP-Discovery2023_DR_OEIS_002-Q005Atch01.xlsx."	Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	1	N/A	7.2.2.3	Wildfire Mitigation Strategy Development	Projected Risk Reduction on Highest-Risk Circuits Over the 3-Year WMP Cycle
183	OEIS	002	OEIS_002	6	OEIS_002_Q6	Under Section 8.1.2.8, PG&E only includes additional information for distribution protective devices. What program(s) does PG&E currently have for system automation equipment at the transmission level?	As indicated in Section 8.1.8.1.2 of the 2023-2025 WMP, on the transmission system, auto reclosing is disabled for the entire wildfire season when the FPI rating reaches R3 or greater. In addition, in Section 9.2.1, we explained how our Transmission Asset Health Specialist reviews the system to identify if there are low impact lines that do not meet our PSPS scoping criteria (e.g. Asset health, Vegetation Risk, Wildfire Consequence) but can be deenergized without incremental impact to customers or other adverse effects to the grid. In addition, we have implemented EPSS on some transmission lines and are evaluating expanding EPSS protection or other enhanced protection schemes on additional transmission lines.	Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	0	N/A	8.1.2.9.1	Grid Design and System Hardening	T Line removal (in HFTD) - Transmission
184	OEIS	002	OEIS_002	7	OEIS_002_Q7	a.Provide a definition for PG&E's "Critical Pass Rate" for its asset inspection QC, as shown in Table PG&E-22-21-1. This should include criteria for what qualifies as "critical" including any risk thresholds, associated equipment-types, or other relevant determinations. b.Does "Critical Pass Rate" differ from the "QA Review HFTD Pass Rate" provided in Table RN-PG&E-22-08-05 in response to Critical Issue RN-PG&E-22-08 (f)? If not, describe how the two differ. c.Does "Critical Pass Rate" differ from the inverse of the "QC Review HFTD – Failure Rate" provided in Table RN-PG&E-22-08-04 in response to Critical Issue RN-PG&E-22-08 (f)? If not, describe how the two differ.	a. "Critical Pass Rate" is the number of assets reviewed by QC that did not have a Critical Attribute (as defined by Asset Strategy) failure or miss divided by the number of assets reviewed by QC. This is shown as a percentage. A Critical Attribute is defined as: a condition that could lead to either an ignition point or wire down situation that could result in a potential fire ignition. b. "Critical Pass Rate" does not differ from "QA Review HFTD Pass Rate." Critical attributes are defined by Asset Strategy. c. "Critical Pass Rate" is not the inverse of "QC Review HFTD-Failure Rate." These items differ because "Critical Pass Rate" only looks at Critical Attributes as defined by Asset Strategy, whereas "QC Review HFTD-Failure Rate" is a measure of all errors within the QC review checklist, not just Critical Attributes. "QC Review HFTD:Failure Rate" is the number of reviews completed by QC that have at least one QC finding divided by the total number of reviews	Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22--21 Asset Inspections Quality Assurance and Quality Control ACI PG&E-22--08 Better Application of Specific Lessons Learned from Utility-Caused Fires
185	OEIS	002	OEIS_002	8	OEIS_002_Q8	a.How many ignitions were evaluated via PG&E's EIA program in 2021, 2022, and 2023 (if applicable) respectively? b.When would PG&E perform an EIA? c.Provide an example of an ignition PG&E performed EIA for, including supporting documentation and reports as applicable. d.Via Excel format, provide the following information for each ignition in which PG&E performed an EIA, following the same definitions as Table 6 of the QDR: i.CPZ in which ignition occurred ii.HFTD Tier iii.Date of ignition iv.Qualifier for performing EIA (HFTD tier, EPSS protected facility, etc.)	a. We conducted EIA evaluative actions for 116 ignitions in 2021, we established the EIA program in 2021 and the scope/breadth of these evaluations may vary. Under the EIA program, we completed 147 ignition evaluations in 2022, and 17 ignition evaluations year-to-date in 2023. b. As outlined in our Utility Procedure: RISK-6306P-02 Fire Incident Enhanced Ignition Analysis Procedure (first published in September 2022), ignitions with these conditions meet EIA criteria: • PG&E Facility Ignitions in a High Fire Risk Area (HFRA) or High Fire Threat District (HFTD) Note: Facility ignitions caused by insulator tracking that do not result in a CPUC reportable ignition will not be included in-scope for Enhanced Ignition Analysis. • Ignitions on an Enhanced Powerline Safety Settings (EPSS) enabled circuit protection zone (CPZ) • All CPUC Reportable Transmission and Substation Ignitions c. The table below defines each of the four (4) values appearing in column 5 of the spreadsheet, PG&E provided. EPSS Outage Type FTS "Fast Trip Setting"; Post-Optimized Circuit Settings HLT "Hot Line Tag"; Pre-Optimized Circuit Settings T-EPSS "Transmission"-EPSS; EPSS outages on transmission lines C/OUT "Reclosing Cut-out"; Only subject to reclose blocking b. EPSS does not cause outages. Any time there is a fault condition on powerlines, there is an inherent risk of sparks and/or thermal energy dissipation from that fault condition leading to a potential wildfire ignition. Those conditions have been simulated in a laboratory environment to both demonstrate that a fault condition can ignite vegetation as well as demonstrate that de-energization of the line with EPSS significantly reduces the fault energy and associated sparks	Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	4	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22--08 Better Application of Specific Lessons Learned from Utility-Caused Fires
186	OEIS	002	OEIS_002	9	OEIS_002_Q9	a.Provide the definitions for the EPSS Outage Types under Column 5 for the tab labeled "2022 EPSS Outage Data". b.What analysis has PG&E performed on EPSS-caused outages to determine which outages would have led to an ignition? c.What percentage of EPSS-caused outages since the establishment of the EPSS program would have led to an ignition had EPSS not been enabled? d.Broken down by year since establishment of the EPSS program, how many ignitions have occurred on EPSS-enabled circuits while EPSS was enabled at the time of ignition? e.Broken down by year since establishment of the EPSS program, how many ignitions have occurred on EPSS-enabled circuits while EPSS was not enabled at		Colin Lang	4/13/2023	4/18/2023	4/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-32 – Updates on EPSS Reliability Study
187	OEIS	002	OEIS_002	10	OEIS_002_Q10	a.Provide an Excel sheet listing all work orders closed by PG&E in 2022 following the same format and information as Table 13 of the QDR, with the additional columns: i.Date the work order was closed ii.PG&E Priority (A, B, E, H, and F) iii.Whether or not the infraction qualified as an "Ignition-Risk HFTD/HFRA" tag iv.Whether the infraction is Non-Pole or Pole b.Provide an updated Excel sheet listing all current open work orders following the same format and information as Table 13 of the QDR, with the additional columns: i.PG&E Priority (A, B, E, H, and F) ii.Whether or not the infraction qualifies as an "Ignition-Risk HFTD/HFRA" tag iii.Whether the infraction is Non-Pole or Pole	a. Please see the "Table 13 - Closed" tab in attachment "WMP:Discovery2023_DR_OEIS_002-Q010Atch01.xlsx" for the requested information. Please note, this data was pulled on January 31, 2023. b. Please see the "Table 13 – Open" tab in attachment "WMP:Discovery2023_DR_OEIS_002-Q010Atch01.xlsx" for the requested information. Please note, this data was pulled on February 20, 2023.	Colin Lang	4/13/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_002.zip	1	N/A	8.1.7	Open Work Orders	N/A
188	TURN	005	TURN_005	1	TURN_005_Q1	1.Please provide any decision tree schematic in PG&E's possession that shows, for a given location where PG&E believes that system hardening is necessary, how PG&E decides which mitigation technique to use – i.e., undergrounding, covered conductor, remote grid installation, etc. – including without limitation the criteria that PG&E uses to select the mitigation technique for that location. Please provide a narrative explanation of what the decision tree schematic shows.	• PG&E has used three relevant decision trees to scope work for System Hardening: (1) System Hardening, (2) Targeted Undergrounding, and (3) Fire Rebuild taking place in an HFTD. Before the Targeted 10K UG program, PG&E predominantly used the System Hardening (see attachment WMP-Discovery2023_DR_TURN_005-Q001Atch03) and Fire Rebuild Decision trees (see attachment WMP:Discovery2023_DR_TURN_005-Q001Atch02) to scope work. Most of the system hardening work in 2023 was scoped using these decision trees. Since late 2021, PG&E has completed most of our new planned scoping using a Targeted Undergrounding decision tree (see attachment WMP:Discovery2023_DR_TURN_005-Q001Atch01) after line removal is considered (if feasible). If undergrounding is ultimately determined to be infeasible, we typically proceed with overhead covered conductor. Since our current scoping efforts primarily utilize the Targeted undergrounding decision tree, and the fire rebuild decision tree (where appropriate), we provide additional context regarding these	Tom Long	4/13/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_005.zip	3	N/A	8.1.2	Grid Design and System Hardening	ALL
189	TURN	005	TURN_005	2	TURN_005_Q2	2.If the response to question 1 is that PG&E has no such decision tree schematic, then please describe the process that PG&E uses to decide, for a given location, which mitigation technique to use – i.e., undergrounding, covered conductor, remote grid installation, etc. – including without limitation the criteria that PG&E uses to select the mitigation technique for that location.	Not applicable. PG&E has a decision tree. Please see our response to TURN_005-Q001.	Tom Long	4/13/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_005.zip	0	N/A	8.1.2	Grid Design and System Hardening	ALL
190	TURN	005	TURN_005	3	TURN_005_Q3	3.In choosing among alternative system hardening mitigation techniques – i.e., undergrounding, covered conductor, remote grid installation, etc. – for a given location, please explain how PG&E takes into account the execution and schedule risks associated with undergrounding compared to other alternatives. PG&E discusses those risks in its 2023-2025 WMP at pages 344-346. They were also discussed in PG&E's Revised 2021 WMP (version dated 6/30/21) at pages 600-601 (Section 7.3.3.17.1, Subsection 3)(b)), where PG&E uses the terms "execution risk" and "schedule risk."	During the field scoping process, the team reviews all high-impact dependencies that could extend the execution. During review, we evaluate alternative undergrounding routes to avoid such impacts, design decisions that could mitigate that risk, and the steps we can take to work with the applicable agencies to address potential scheduling and execution risk issues (e.g., permitting and land rights). Our current strategy is to plan for potential schedule and execution risks and work with agency partners to remove roadblocks where encountered. If there is a location where undergrounding is infeasible that we cannot solve through relocation, or other mitigation measures, then other design alternatives (e.g., covered conductor) may be considered later in the design stage.	Tom Long	4/13/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_005.zip	0	N/A	8.1.2	Grid Design and System Hardening	ALL
191	TURN	005	TURN_005	4	TURN_005_Q4	4.For the undergrounding work described in PG&E's 2023-2025 WMP, please describe PG&E's policy concerning undergrounding of service connections and the removal of poles on which service connections are attached. To the extent that this determination varies by project, please describe the criteria that PG&E uses to decide whether PG&E undergrounds service connections in a given location.	Our 10,000-mile undergrounding program is focused on undergrounding higher-voltage primary distribution powerlines in areas of high fire risk. While there is a degree of risk anywhere there are energized overhead facilities, historically, we have observed more frequent ignitions and larger wildfires associated with the overhead primary distribution powerlines. This is compared to lower voltage secondary distribution lines, service connections, and high voltage transmission lines. At this time, we are not undergrounding lower voltage secondary lines or service drops to address risk. In most cases overhead lower voltage secondary lines and service drops will remain overhead. There are some cases in which we may underground secondary powerlines, such as when lines run parallel to the trench path or for constructability reasons. In these special cases, the poles attached to the secondary lines will be removed. We will overhead border remaining secondary and service lines by replacing poles with	Tom Long	4/13/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution

192	TURN	005	TURN_005	5	TURN_005_Q5	5.For the undergrounding work described in PG&E's 2023-2025 WMP, please describe PG&E's policy concerning undergrounding of secondary distribution lines (as opposed to primary lines) and the removal of poles on which secondary lines are attached. To the extent that this determination varies by project, please describe the criteria that PG&E uses to decide whether PG&E undergrounds secondary lines in a given location.	Please see response to TURN_005-Q004, which includes our policy as it relates to secondary distribution lines.	Tom Long	4/13/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
193	TURN	005	TURN_005	6	TURN_005_Q6	For the distribution circuits on which PG&E plans System Hardening undergrounding (as opposed to Rebuild undergrounding) as that term is used in PG&E's WMP (see, e.g., Table PG&E-8.1.2-2 on page 347), please provide PG&E's best estimate of the percentage of existing poles in the affected circuits (including poles supporting primary lines, secondary lines, and services) that will be removed as a result of the planned System Hardening undergrounding mileage in 2023-2025. Please explain how PG&E made this calculation and provide all inputs and assumptions.	PG&E does not currently track the existing poles that will be removed by undergrounded circuits. The analysis would require manual review at the individual project level and would include: • Determining the poles that are to be removed • Determining the poles that will be topped • Determining the poles that are jointly owned and will remain after undergrounding In the absence of any material data on this front, PG&E does not have an estimate available for the "percentage of existing poles in the affected circuits" to provide in response to this request at this time. Even if historical data was available, PG&E expects that the number of poles that will be removed will vary substantially from one project to the next based on many factors including: the presence of joint pole utilities (like telecom lines) who would need to maintain the poles and the density of homes and services which would have service poles remaining. In addition, our UG	Tom Long	4/13/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
194	TURN	005	TURN_005	7	TURN_005_Q7	7.With respect to the values for 2023-2025 in the column for Estimated System Hardening Undergrounding Miles in Table PG&E-8.1.2-2 on page 347 of PG&E's 2023-2025 WMP: a.For each year, please provide PG&E's estimate of the overhead circuit miles that will be replaced and explain how this estimate was determined; b.For the figures provided in response to subpart "a", please provide an estimated breakdown of the overhead circuit miles replaced by: primary lines, secondary lines, and services.	a. Based on subject matter expertise and a sample of completed projects, the estimated overhead to undergrounding conversion rate is 1.25 miles of underground line installed for every 1 mile of overhead primary line removed. Our target undergrounding miles for 2023-2026 is 2,100 miles. Using the estimated conversion rate, the overhead primary miles removed is projected to be approximately 1,680 miles. b. The estimate provided in part a is for the primary lines only. This information is not available for secondary and service lines. As described in TURN_005-Q004, at this time, we are not undergrounding lower voltage secondary lines or service drops to address risk. In most cases overhead lower voltage secondary lines and service drops will remain overhead. There are some cases in which we may underground secondary powerlines, such as when lines run parallel to the trench path or for constructability reasons.	Tom Long	4/13/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
195	TURN	005	TURN_005	8	TURN_005_Q8	8.With respect to the values for 2023-2025 in the column for Estimated Butte County Rebuild Miles in Table PG&E-8.1.2-2 on page 347 of PG&E's 2023-2025 WMP: a.For each year, please provide PG&E's estimate of the overhead circuit miles that will be replaced and explain how this estimate was determined; b.For the figures provided in response to subpart "a", please provide an estimated breakdown of the overhead circuit miles replaced by: primary lines, secondary lines, and services.	a. As described in our GRC1, the estimated overhead to undergrounding conversion rate in the Butte Rebuild area is 1.57 miles of underground line installed for every 1 mile of overhead primary line removed. The 1.57 factor was based on relocated Community Rebuild overhead miles (2022-2025) and local topography. Our current estimate for Butte County undergrounding mileage for 2023-2026 is 175 miles. Using the estimated conversion rate, the overhead primary miles removed are projected to be 111 miles. b. The estimate provided in part a is for the primary lines only. This information is not available for secondary and service lines.	Tom Long	4/13/2023	4/19/2023	4/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
196	CalPA	Set WMP-16	CalPA_Set WMP-16	1	CalPA_Set WMP-16_Q1	Regarding PG&E's SCADA Underground (UG) Switches: a) Please explain PG&E's operating procedure for operating a SCADA UG switch to energize and de-energize a circuit or circuit segment. b) Please provide PG&E's written procedures or other documentation related to your response to part (a). c) Please explain in detail PG&E's operating procedure, from start to finish, for the following operation: after opening a normally closed switch, the switch is returned to its normally closed position during switching. d) Please explain in detail PG&E's operating procedure, from start to finish, for the following operation: after closing a normally open switch, the switch is returned to its normally open position during switching.	The confidential attachments are being provided pursuant to the accompanying confidentialy declaration. a) For distribution operations operating procedures, SCADA UG switch when de energizing is an open command in RT SCADA with load read on SCADA devices before and after de-energizing. Energizing with a SCADA UG switch will have source side protective device reclosing relay cut out, the ground relay will be checked to verify cut in, close command will be given in RT SCADA to energize the section, and then the load read will be taken once closed. Reclosing relay will then be cut in on source side protective device if not EPSS enabled. b) Please reference "WMP-Discovery2023_DR_CalAdvocates_016-Q001Atch01CONF.pdf" for our Operating Procedures for Primary Underground Separable Terminations. Please also reference "WMP Discovery2023_DR_CalAdvocates_016-Q001Atch02CONF.pdf" for our Distribution Switching Procedures.	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	2	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment
197	CalPA	Set WMP-16	CalPA_Set WMP-16	2	CalPA_Set WMP-16_Q2	Regarding PG&E's Load Break Elbows: a) Please explain PG&E's operating procedure for operating a load break elbow in a vault to energize or de-energize a circuit or circuit segment. b) Please provide PG&E's written procedures or other documentation related to your response to part (a). c) Please explain in detail PG&E's operating procedure, from start to finish, for the following: after opening a circuit segment via a load break elbow that is normally in a closed position, the circuit segment is returned to its normally closed position during switching. d) Please explain in detail PG&E's operating procedure from start to finish of the following operation: after closing a circuit segment via a load break elbow that is	The confidential attachments are being provided pursuant to the accompanying confidentiality declaration. a) For distribution operations operating procedures, if de-energizing or energizing from Load break elbows that are not protected by fuses on the source side, then reclosing a relay is first cut out or verified cut out on the source side protective device as well as ground relay verified cut in. Following the source side protective setup (reclosing relay cut/out ground relay cut/in), the ok is then given to the field operations to then manually remove or place load break elbow to de energize/energize circuit segment. De-energizing elbows will be placed on insulated stand off and protective equipment installed. To energize elbows, protective equipment is removed, and elbows are placed/closed in operating position. Once operation is complete, relays are then placed to their previous state.	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2.10.3	Grid Design and System Hardening	Motor Switch Operator Switch Replacement
198	CalPA	Set WMP-16	CalPA_Set WMP-16	3	CalPA_Set WMP-16_Q3	Regarding PG&E's Junction Boxes: a) Please explain in detail PG&E's operating procedure for operating a junction box in a vault to energize or de-energize a circuit or circuit segment. b) Please provide PG&E's written procedures or other documentation related to your response to part (a). c) Please explain in detail PG&E's operating procedure, from start to finish, for the following operation: after closing a circuit segment via a junction box that is normally in an open position, the circuit segment is returned to its normally open position during switching. d) Please explain in detail PG&E's operating procedure, from start to finish, for the following operation: after closing a circuit segment via a junction box that is normally	The confidential attachments are being provided pursuant to the accompanying confidentiality declaration. a) For distribution operations operating procedures, junction boxes my contain either Load Break elbows or dead break elbows. For Load break operations, see the responses to question 2 of this data request set. Dead Break elbows cannot be used to energize or de-energize circuit segments. Dead break elbows are only to be opened or closed on a de-energized circuit segment after checking that the cables are de-energized. b) Please reference "WMP-Discovery2023_DR_CalAdvocates_016-Q001Atch01CONF.pdf" and "WMP-Discovery2023_DR_CalAdvocates_016-Q001Atch01CONF.pdf" provided in response to Question 001 of this data request set for a copy of these Procedures. c) For distribution operations operating procedures, see the responses to Question 2 of this data	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2.10	Grid Design and System Hardening	Other Grid Topology Improvements to Minimize Risk of Ignitions
199	CalPA	Set WMP-16	CalPA_Set WMP-16	4	CalPA_Set WMP-16_Q4	Please explain PG&E's selection criteria for where to install the following equipment on underground circuits: a) SCADA UG switches b) Junction boxes c) Load break elbows	a) SCADA underground switches are typically only installed at mainline intersections. The 3-way SCADA switch can have up to two positions enabled with SCADA due to the space constraints on the top of the switch. Additionally, a communications signal to enable SCADA is not always available at the location where we would otherwise like to install a SCADA-enabled switch. While SCADA-enabled switches are preferred in these locations (mainline intersections where communication are available), it is at the discretion of the Electric Distribution Planning Engineer to specify the appropriate device as part of the project design. b) PG&E installs junction boxes on both mainline (600 Amp, AKA 600A) and tap-line(200A) systems. i. A mainline junction is the connection of multiple 600A separable connectors tied together in a subsurface enclosure and mounted on a wall of the enclosure. This connection could also include	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2	Grid Design and System Hardening	Other Grid Topology Improvements to Minimize Risk of Ignitions
200	CalPA	Set WMP-16	CalPA_Set WMP-16	5	CalPA_Set WMP-16_Q5	Please explain PG&E's selection criteria for where to install the following equipment on underground circuits a) Pad-mounted transformers b) Subsurface transformers	a) PG&E's standard is to install pad-mounted transformers on underground circuits where transformers are need. See the response to subpart b for when a pad-mount may not be used in favor of a subsurface transformers [For residential customers, we prefer to install pad-mounted transformers in the street franchise, easement, or right-of-way areas for multiple customers or on the customer's property for a single service. For non-residential customers, the preference is to install pad-mounted transformers outside / adjacent to the building on a concrete pad.] b) Subsurface transformers are typically not installed unless it is required to support easement acquisition, there is no space available for a pad-mounted transformer to be installed, or it is otherwise specified due to project-specific concerns. Reasons that subsurface transformers are not preferred include that a subsurface transformer located in an enclosure where the air circulation is restricted and the ambient temperature is high, such as in the Central Valley or	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment
201	CalPA	Set WMP-16	CalPA_Set WMP-16	6	CalPA_Set WMP-16_Q6	For each of the undergrounding projects that PG&E has planned for 2023, please answer the following questions on each project: a) How many SCADA underground switches will be installed? b) How many overhead switches will be removed? c) How many tie switches to adjacent circuits currently exist? d) How many OH tie switches to adjacent circuits will be removed? e) How many tie switches (OH or UG) will exist when the project is complete? f) How many SCADA overhead switches will be removed? g) How many SCADA underground switches will be installed as tie points to adjacent circuits? h) How many SCADA underground switches will be installed for sectionalizing?	PG&E objects to this request as overbroad and unduly burdensome. We do not maintain the requested information in a manner that allows it to be aggregated without a manual review of each project's engineering and construction documentation. Manually collecting the data across hundreds of projects would require significant time and resources and the development of multiple processes to ensure data accuracy. If you would like to discuss this request further, please feel free to reach out to us.	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment
201	CalPA	Set WMP-16	CalPA_Set WMP-16	6 SUPP	CalPA_Set WMP-16_Q6 SUPP	For each of the undergrounding projects that PG&E has planned for 2023, please answer the following questions on each project: a) How many SCADA underground switches will be installed? b) How many overhead switches will be removed? c) How many tie switches to adjacent circuits currently exist? d) How many OH tie switches to adjacent circuits will be removed? e) How many tie switches (OH or UG) will exist when the project is complete? f) How many SCADA overhead switches will be removed? g) How many SCADA underground switches will be installed as tie points to adjacent circuits? h) How many SCADA underground switches will be installed for sectionalizing?	PG&E objects to this request as overbroad and unduly burdensome. We do not maintain the requested information in a manner that allows it to be aggregated without a manual review of each project's engineering and construction documentation. Manually collecting the data across hundreds of projects would require significant time and resources and the development of multiple processes to ensure data accuracy. If you would like to discuss this request further, please feel free to reach out to us. Revision: In response to a request to provide the results of a manual review of a few projects, PG&E completed this review on a series of four projects at Clark Road 1102 LR81296 Phase 1.1-1.4. PG&E is providing the total quantities for the four projects that are constructed on the same circuit. The following orders are the associated projects that can be found on our Undergrounding	Holly Wehrman	4/18/2023	5/2/2023	5/1/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment
202	CalPA	Set WMP-16	CalPA_Set WMP-16	7	CalPA_Set WMP-16_Q7	For each of the undergrounding projects that PG&E has planned for 2024, please answer the following questions on each project: a) How many SCADA underground switches will be installed in each circuit. b) How many overhead switches will be removed? c) How many tie switches to adjacent circuits currently exist? d) How many OH tie switches to adjacent circuits will be removed? e) How many tie switches (OH or UG) will exist when the project is complete? f) How many SCADA overhead switches will be removed? g) How many SCADA underground switches will be installed as tie points to adjacent circuits? h) How many SCADA underground switches will be installed for sectionalizing?	PG&E objects to this request as overbroad and unduly burdensome. We do not maintain the requested information in a manner that allows it to be aggregated without a manual review of each project's engineering and construction documentation. Manually collecting the data across hundreds of projects would require significant time and resources and the development of multiple processes to ensure data accuracy. If you would like to discuss this request further, please feel free to reach out to us.	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment
203	CalPA	Set WMP-16	CalPA_Set WMP-16	8	CalPA_Set WMP-16_Q8	8.1.2.3 – Distribution Pole Replacements and Reinforcements Page 352 of PG&E's WMP states, "Pole replacement and reinforcement reduce outage likelihood which decreases the chances of the area being impacted in future PSPS events. These programs also support public and employee safety because they improve the overall health of the distribution poles." Please provide the average, median, minimum and maximum age of poles that PG&E: a) Replaced in 2020 b) Repaired in 2020 c) Replaced in 2021 d) Repaired in 2021	a) The average, median, minimum and maximum age of poles (in years) replaced in 2020, 2021, and 2022 are as follows: 2020 2021 2022 Average 49 48 49 Median 49	Holly Wehrman	4/18/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2.3	Grid Design and System Hardening	Distribution Pole Replacements and Reinforcements

204	CalPA	Set WMP-16	CalPA_Set WMP-16	9	CalPA_Set WMP-16_Q9	8.1.2.10 - Other Grid Topology Improvements to Minimize Risk of Ignitions 8.1.2.10.1 -Downed Conductor Detection Devices Pg 374-375 of PG&E's WMP states, "Installation of DCD on existing, new, and retrofitted recloser controllers is expected to reduce the number of ignitions due to high impedance line-to-ground faults by quickly detecting and de-energizing the fault, which is the primary existing gap in EPSS protection on primary overhead distribution conductor. Approximately half of the CPUC reportable ignitions in HFTD that occurred in 2022 while EPSS was enabled were the result of high-impedance faults." a) Explain the existing gap on EPSS. b) Explain how DCD technology can mitigate this gap to encompass all high impedance faults.	a) While EPSS has proven to be highly effective in lowering the incident energy during traditional faults and associated potential ignitions, reliable detection, and de energization of high impedance fault conditions continues to be a gap that we are working to close. As part of EPSS, we deployed an expansive use of low set, non directional ground fault overcurrent protection, commonly referred to as Sensitive Ground Fault (SGF) to aid in this effort. While SGF has been effective in closing the gap on high impedance faults, it also has effectiveness limits and further protection strategies like DCD that are being explored to allow for even greater sensitivity, detection, and de-energization of high impedance fault conditions. In addition to SGF and DCD, partial voltage (PV) force out and the gang trip functionality which are incorporated under the core EPSS strategy have also been deployed to help close the gap. These practices are all part of a defense in depth strategy to provide layered levels of protection against high impedance faults.	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	0	N/A	8.1.2.10	Grid Design and System Hardening	Other Grid Topology Improvements to Minimize Risk of Ignitions
205	CalPA	Set WMP-16	CalPA_Set WMP-16	10	CalPA_Set WMP-16_Q10	Please provide an Excel sheet listing each circuit (in its own row) that had circuit outages that occurred from 2020 to 2022 in any HFTD area. A circuit outage is when the Substation circuit breaker trips and de-energizes the entire circuit due to a fault. For each circuit with an outage, the Excel sheet should list each Circuit Outage as a row. Please provide the following additional information (in columns): a) ID number of the circuit affected b) The date of the outage c) Cause of outage. d) For all equipment failure outages, please state the specific type of failure (i.e.: OH transformer failure, overload, cross arms, UG transformer failure, cable failure, splice failure etc.) e) The outage duration in minutes	Please see "WMP-Discovery2023_DR_CalAdvocates_016-Q010Atch01.xlsx" for a list of sustained outages in a HFTD in 2020 through 2022. The undergrounding information in response to subsections G and H is based on the undergrounding workplan submitted in the 2023-2025 WMP. a) See Column C b) See Column D c) See Column F and Column G d) See Column J e) See Column H f) See Column I g) See Column L • Cells with multiple years indicate that individual projects have been completed on that circuit	Holly Wehrman	4/18/2023	4/21/2023	4/21/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	1	N/A	QDR	N/A	N/A
206	CalPA	Set WMP-16	CalPA_Set WMP-16	11	CalPA_Set WMP-16_Q11	Regarding PG&E's Average Peak Load for UG Projects. For the purposes of this question, if any portion of a circuit was or will be undergrounded as part of an OH to UG conversion project, the circuit should be included: a) Provide the average peak load to circuit ampacity in percent from 2017 to 2019 for the circuits with OH to UG conversion completed in 2020. b) Provide the average peak load to circuit ampacity in percent from 2018 to 2020 for the circuits with OH to UG conversion completed in 2021. c) Provide the average peak load to circuit ampacity in percent from 2019 to 2021 for the circuits with OH to UG conversion completed in 2022. d) Provide the average peak load to circuit ampacity in percent from 2020 to 2022 for the circuits that will be undergrounded in 2023. e) Provide average peak load to circuit ampacity in percent from 2020 to 2022 for	Please see "WMP-Discovery2023_DR_CalAdvocates_016-Q011Atch01.xlsx" for the requested information. The attachment includes a separate worksheet for each subsection to this response and is labeled accordingly (a, b, c, etc.). Please note that the circuits included in this response for planned work (relevant to subsections d – g) are based on the undergrounding workplan submitted in the 2023-2025 WMP (based on our workplan as of January 3, 2023). In response to subsections f and g, "adjacent circuit" is defined as a circuit that shares an open point. The adjacent circuits included in the response may also be a circuit included in the workplan if it is adjacent to another in the workplan.	Holly Wehrman	4/18/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_016.zip	1	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment
207	MGRA	Data Request No. 2	MGRA_Data Request No. 2	1	MGRA_Data Request No. 2_Q1	With regard to PG&E's response to CalPA_Set WMP-11_Q14: PG&E states that one of the significant changes to the grid required for REFCL is "The replacement of old, direct bury underground cable": Please explain the incompatibility of "old, direct bury underground cable" with REFCL.	During the demonstration project, we reviewed primary distribution equipment insulation ratings. During REFCL operation, line-to-ground voltage increases by 1.7 times, so the equipment must be able to withstand this increased voltage. A long run of old (1970 build), direct bury underground cable was identified during the review. The cable was tested for concentric neutral resistance and tan delta. The cable sections did not pass the tests and would likely fail during REFCL operation, so the cable sections were replaced. Underground cable replacements like this may be needed before a REFCL can be put into service for a given distribution substation.	Joseph Mitchell	4/20/2023	4/25/2023	4/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_002.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
208	MGRA	Data Request No. 2	MGRA_Data Request No. 2	2	MGRA_Data Request No. 2_Q2	With regard to PG&E's response to CalPA_Set WMP-11_Q14: PG&E states that one of the significant changes to the grid required for REFCL is "The replacement of old, direct bury underground cable": Does PG&E have any recently undergrounded segments that are also "direct bury"? If so would these be incompatible with REFCL?	Direct bury of underground cable, meaning laying the cable directly in a dirt trench and not inside a conduit, is not a standard, approved design for our underground electric distribution system at this point in time. As such, no, we have not recently undergrounded any electric distribution segments via direct bury. The direct bury underground cable design itself would not be incompatible with REFCL, however, many direct bury underground cable installations are old and the cable insulation may not withstand the 1.7 times normal line-to-ground voltages required during REFCL operation.	Joseph Mitchell	4/20/2023	4/25/2023	4/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_002.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
209	MGRA	Data Request No. 2	MGRA_Data Request No. 2	3	MGRA_Data Request No. 2_Q3	With regard to PG&E's response to CalPA_Set WMP-11_Q14: PG&E states that one of the significant changes to the grid required for REFCL is "The replacement of old, direct bury underground cable": Does PG&E's future undergrounding plans include "direct bury" and if so would that make these segments incompatible with REFCL?	No, PG&E's undergrounding plans include cable in conduit with standard voltage ratings exceeding REFCL operating voltage.	Joseph Mitchell	4/20/2023	4/25/2023	4/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_002.zip	0	N/A	8.1.8.1.3.1	Grid Operations and Procedures	Rapid Earth Fault Current Limiter
210	MGRA	Data Request No. 2	MGRA_Data Request No. 2	4	MGRA_Data Request No. 2_Q4	Please provide non-confidential versions of the following documents: WMP-Discovery2023_DR_OEIS_001-Q007Atch02CONF.pdf	Please see "WMP-Discovery2023_DR_OEIS_001-Q007Atch02_Redacted.pdf."	Joseph Mitchell	4/20/2023	4/25/2023	4/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_002.zip	1	N/A	Appendix B	Supporting Documentation for Risk Methodology and Assessment Definitions	Detailed Model Documentation
211	MGRA	Data Request No. 2	MGRA_Data Request No. 2	5	MGRA_Data Request No. 2_Q5	Please provide non-confidential versions of the following documents: WMP-Discovery2023_DR_OEIS_001-Q007Atch03CONF.pdf	Please see "WMP-Discovery2023_DR_OEIS_001-Q007Atch03_Redacted.pdf."	Joseph Mitchell	4/20/2023	4/25/2023	4/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_002.zip	1	N/A	Appendix B	Supporting Documentation for Risk Methodology and Assessment Definitions	Detailed Model Documentation
212	MGRA	Data Request No. 2	MGRA_Data Request No. 2	6	MGRA_Data Request No. 2_Q6	Please provide non-confidential versions of the following documents: WMP-Discovery2023_DR_OEIS_001-Q007Atch04CONF.pdf	Please see "WMP-Discovery2023_DR_OEIS_001-Q007Atch04_Redacted.pdf."	Joseph Mitchell	4/20/2023	4/25/2023	4/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_002.zip	1	N/A	Appendix B	Supporting Documentation for Risk Methodology and Assessment Definitions	Detailed Model Documentation
213	MGRA	Data Request No. 2	MGRA_Data Request No. 2	7	MGRA_Data Request No. 2_Q7	Please provide a GIS file of 2022 outages occurring on circuits where EPSS was enabled.	The method of providing a geospatial file with the location of 2022 outages on EPSS enabled circuits would require the disclosure of device location and therefore the geospatial representation of outage location that would be provided in this response to this data request involves the identification of Critical Energy Infrastructure Information (CEII), which we are required by law to maintain as confidential and cannot produce without the requesting party agreeing to protect the information through a non disclosure agreement.	Joseph Mitchell	4/20/2023	4/25/2023	4/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_002.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
214	MGRA	Data Request No. 2	MGRA_Data Request No. 2	8	MGRA_Data Request No. 2_Q8	Please provide a GIS file of 2022 ignitions occurring on circuits where EPSS was enabled.	Please see "WMP-Discovery2023_DR_MGRA_002-Q008Atch01.kmz."	Joseph Mitchell	4/20/2023	4/25/2023	4/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_002.zip	1	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
215	OEIS	003	OEIS_003	1	OEIS_003_Q1	Regarding Activities that Exceed GO 166 On page 624, PG&E states it "is currently working with internal and external stakeholders, including CalOES, to develop and implement activities that exceed compliance requirements in CPUC General Order (GO) 166, Standards for Operation, Reliability, and Safety During Emergencies and Disasters." a. List and describe the referenced activities. b. Explain how each listed activity exceeds GO 166.	CPUC General Order 166 Standard 1A, Internal Coordination, requires California electric utilities to provide as part of their emergency plans a description of internal coordination functions how they gather, process, and disseminate information within their service areas, set priorities, allocate resources, and coordinate activities to restore service. GO 166 Standard 1D, External and Government Coordination, requires California electric utilities to address as part of their emergency planning coordination with Essential Customers and state and local government agencies. a) The additional items referenced above that are not required by GO 166 are listed below: i. We have drafted a Threat Hazard Identification Risk Assessment (THIRA) and will be sharing the results with external agency partners. ii. We participate in quarterly MARAC meetings. iii. We hold quarterly Operational Area calls with our PG&E Public Safety Specialists	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	8.4.1.1	Emergency Preparedness	Objectives
216	OEIS	003	OEIS_003	2	OEIS_003_Q2	Regarding Emergency Preparedness Plans Beyond Stated Objectives On page 624, PG&E states that there are, "current plans for wildfire-related activities beyond the objectives in Table 8-33 and Table 8-34." a. List and describe the "plans… beyond the objectives." b. Explain why plan beyond the objectives are not presented as objectives in WMP Table 8-33 and 8-34.	a) The table below provides our current plans beyond the objectives in Table 8-33 and Table 8-34 of our WMP. • Cybersecurity (NERC CIP-008 compliance), EMER-3102M • Disaster Rebuild, EMER-3012M • Extreme Weather Annex (EMER-3108M) • Infectious Disease and Pandemic Response Annex, EMER-3103M • Nuclear Annex • Electric, EMER-3002M • Emergency Communications, EMER-3008M • Information Technology, EMER-3007M • Tsunami Annex, EMER-3104M • Aviation Services Annex, EMER-3010M	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	8.4.1.1	Emergency Preparedness	Objectives

217	OEIS	003	OEIS_003	3	OEIS_003_Q3	Regarding After Action Reports a. Provide After Action Reports (or similar post-event reports) for each wildfire-related emergency in 2021 and 2022. b. Does PG&E have internal After-Action Reports (or similar post event reports) for both actual and potential PSPS events that differ from reports filed with the CPUC? If so, provide these internal reports for events in 2021 and 2022.	The confidential attachments are being provided pursuant to the accompanying confidentiality declaration. a. We interpret "wildfire-related emergency" as wildfire events for which our Emergency Operations Center was activated. Please reference "WMP:Discovery2023_DR_OEIS_003-Q003Atch01CONF.pdf" for the After Action Report for the wildfire-related emergency that occurred in 2021. Please note, the EOC was not activated for any"wildfire- related emergencies" in 2022. b. Yes, please reference the following attachments for the requested information. • WMP-Discovery2023_DR_OEIS_003-Q003Atch02CONF.pdf • WMP-Discovery2023_DR_OEIS_003-Q003Atch03.pdf • WMP-Discovery2023_DR_OEIS_003-Q003Atch04CONF.pdf	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	4	N/A	8.4	Emergency Preparedness	N/A
218	OEIS	003	OEIS_003	4	OEIS_003_Q4	Regarding Support for Medical Baseline Customers a. How does PG&E support Medical Baseline (MBL) customers during wildfire emergencies?	[illegible] Organizations (CBOs) to activate services based on the wildfire footprint and estimated customer impact. Two contact centers are activated during emergencies to provide 24/7 emergency live agent service for customers to report emergencies and obtain information on support resources. PG&E's partnership with 211 connects customers identified as Access and Functional Need (AFN), including Medical Baseline (MBL) customers, with approximately 11,000 CBOs and government agencies across PG&E's service area. 2-1-1 provides emergency needs screening via incoming calls and texts, outbound efforts, and in-person visits to identify the needs of households during wildfire emergencies. 2-1-1 provides Care Coordination. Through the Care Coordination process, individuals will undergo an intake assessment with a 2-1-1 Care Coordinator, including their current household situation, electricity needs, and medication and/or [illegible]	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	8.4.6	Emergency Preparedness	Customer Support in Wildfire and PSPS Emergencies
219	OEIS	003	OEIS_003	5	OEIS_003_Q5	Regarding Emergency Operations Customer Surveys a. Provide an example of each customer survey sent in 2021 and 2022 regarding emergency operations and any reports analyzing those surveys' results.	[illegible] following survey questionnaires and executive summaries for surveys regarding outreach effectiveness and general customer awareness of PSPS: • 2021 PSPS Pre-season Questionnaire and Executive Summaries; • 2021 PSPS Post-Season Questionnaire and Executive Summaries; • 2021 PSPS Outreach Effectiveness Questionnaire and Executive Summaries; • 2022 PSPS Pre-season Questionnaire and Executive Summaries; • 2022 PSPS Post-Season Questionnaire and Executive Summaries; and • 2022 PSPS Outreach Effectiveness Questionnaire and Executive Summaries. Due to limitations around uploading compressed documents (zip files) to OEIS's Docket portal, we are unable to serve this attachment through the confidential Docket. We have placed the [illegible]	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	1	N/A	8.4.4	Emergency Preparedness	Public Emergency Communication Strategy
220	OEIS	003	OEIS_003	6	OEIS_003_Q6	[illegible] a. Provide a GIS layer of PG&E's Areas of Concern (AOC) with the following attributes for each AOC polygon: i. Name of the AOC ii. Number of overhead circuit miles in the AOC that are in scope for Focused Tree Inspections iii. AOC in pilot? (Yes/No) iv. Cumulative probability of ignition caused by vegetation coupled with consequence of ignition as given by WDRM v3 (wdrmv3_v_c) v. Average probability of ignition caused by vegetation coupled with consequence of [illegible]	[illegible] Discovery2023_DR_OEIS_003-Q006Atch01.xlsx" and "WMP-Discovery2023_DR_OEIS_003-Q006Atch02.zip"1 for the requested information. Specifically for Overall Utility Risk, Ignition Risk, and PSPS Risk, these are typically presented in terms of circuit segments or circuit protection zones. The AOC polygons do not always align with CPZ segments so circuit segments can be partially included or completely included. Since PG&E does not calculate the percentage of risk within the circuit segment designations, we will provide pro-rated risk scores based purely on the percentage of miles that fall within the AOC as an approximation for this data response. b. Yes, PG&E used vegetation related data sources to identify the density/presence of overstrike trees to create the AOCs. Please see supporting data 'WMP:Discovery2023_DR_OEIS_003-Q006Atch03.zip'1. The AOC drafting and development was completed using Google Earth and [illegible]	Colin Lang	4/21/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	3	N/A	8.2	Vegetation Management and Inspections	N/A
221	OEIS	003	OEIS_003	7	OEIS_003_Q7	a. During the decision process to discontinue use of the Tree Assessment Tool (TAT) and adopt the ISA's Basic Tree Risk Assessment Form (ISA form), did PG&E consider incorporating elements from the ISA's form into the TAT? b. Is PG&E collecting a digital record of each ISA form generated by inspectors, in OneVM or another system? c. How does PG&E plan to incorporate known localized risk factors (e.g., wind, outage rates by species) into tree risk assessments? d. Did PG&E perform any analysis or study that compared the outcomes of the TAT and the ISA's checklist in the field? If so, provide this analysis or study. e. Has PG&E benchmarked or/or discussed the latest version of its TAT and the [illegible]	[illegible] elements of the ISA Form in 2022. b. At this time, the TRAQ form will not be digitized for the Focused Tree Inspection Program (FTI). It is the current plan that FTI Inspections will be performed by 100% TRAQ certified arborists and the TRAQ form will be used as a guide. c. We will utilizing the TRAQ form for tree risk assessments which considers local weather patterns. Inspection will also be informed by historical vegetation cased outage trends within the area of concern. d. Yes, we did informally compare the outcomes of the TAT and the ISA form. The comparison included a field testing of a sample of locations and trees for validation purposes. This study and analysis effort was not finalized. [illegible]	Colin Lang	4/21/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	1	N/A	8.2	Vegetation Management and Inspections	N/A
222	OEIS	003	OEIS_003	8	OEIS_003_Q8	Regarding Confidential Stakeholder Data Requests a. Provide PG&E's confidential responses and attachments to the following Data Requests: i. WMP-Discovery2023_CalAdvocates_002-Q001 ii. WMP-Discovery2023_CalAdvocates_006-Q007 iii. WMP-Discovery2023_CalAdvocates_006-Q008 iv. WMP-Discovery2023_CalAdvocates_006-Q011 v. WMP-Discovery2023_CalAdvocates_006-Q012 vi. WMP-Discovery2023_CalAdvocates_009-Q016	declaration. Please see requested attachments: i. WMP-Discovery2023_DR_CalAdvocates_002-Q001.pdf WMP-Discovery2023_DR_CalAdvocates_002-Q001Atch01CONF.pdf WMP-Discovery2023_DR_CalAdvocates_002-Q001Atch02CONF.pdf WMP-Discovery2023_DR_CalAdvocates_002-Q001Atch03CONF.pdf WMP-Discovery2023_DR_CalAdvocates_002-Q001Atch04.xlsx WMP-Discovery2023_DR_CalAdvocates_002-Q001Atch05.pdf WMP-Discovery2023_DR_CalAdvocates_002-Q001Atch06CONF.zip ii. WMP-Discovery2023_DR_CalAdvocates_006-Q007.pdf	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	7	Wildfire Mitigation Strategy Development	N/A
223	OEIS	003	OEIS_003	9	OEIS_003_Q9	Regarding PG&E's Asset Inspection Program a. Provide the inspection checklists used for both PG&E's patrols and detailed inspections. b. If PG&E tailors its inspections specifically to inspect wildfire risk specific items, identify which items within the checklist this applies to, particularly if such differs from standard GO 95 inspections. c. On average, how many detailed inspections are completed by inspectors per day?	[illegible] ACCOMPANYING CONFIDENTIALITY DECLARATION. Distribution Inspection Program a) Please see attachment "WMP-Discovery2023_DR_OEIS_003-Q009Atch01.xlsx" for the inspection checklist used by our detailed distribution inspections. Please note that no checklist is used during distribution patrols. b) Please see column F of attachment "WMP-Discovery2023_DR_OEIS_003-Q009Atch01.xlsx" for the items specific to wildfire risk. The checklist items that are related to wildfire risk have been designated as "critical attributes." c) On average, PG&E completes 25 to 30 structures per day, per inspector. Transmission Inspection Program [illegible]	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	5	N/A	8.1.3	Asset Inspections	N/A
224	OEIS	003	OEIS_003	10	OEIS_003_Q10	Regarding PG&E's Asset Inventory a. Provide a list of all fields that PG&E's asset inventory captures (i.e. equipment, equipment type, age, installation date). b. Provide a list of all types of equipment captured within PG&E's asset inventory. c. Provide a percentage in which PG&E is missing data for each data field listed in part (a) within its asset inventory. d. Provide an estimated percentage for the amount of assets missing from PG&E's asset inventory.	System(s) of PG&E's 2023-2025 WMP, PG&E uses several asset inventory databases. Geographic Information System (GIS) is the primary system of record for electric asset inventory (Asset Registry), spatial location, electrical connectivity, and attribute data. Asset Registry data is generally stored in GIS databases that are specific to Electric Distribution and Electric Transmission, also known as Electric Distribution Geographic Information System (EDGIS), and Electric Transmission Geographic Information System (ETGIS). The asset inventory attributes captured as fields in the Asset Registry systems vary by asset type. Not all fields are considered critical or mandatory. In Q4 of 2021, PG&E initiated an Asset Registry Data Quality (ARDQ) program with [illegible]	Colin Lang	4/21/2023	5/10/2023	5/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	2	N/A	8.1.5	Asset Management and Inspection Enterprise System(s)	N/A
225	OEIS	003	OEIS_003	11	OEIS_003_Q11	Regarding PG&E's Response to P-WMP_2023-PG&E-002-Q07 a. PG&E states that a Critical Attribute is defined as "a condition that could lead to either an ignition point or wire down situation that could result in a potential fire ignition." Provide all supporting documentation for procedures PG&E uses to determine whether something is a Critical Attribute. If such procedures do not exist, PG&E must provide the following: i. A description of PG&E's process for how it determines what qualifies as a Critical Attribute. ii. A list of criteria PG&E uses to qualify an asset as a Critical Attribute. b. What does PG&E mean by "as defined by Asset Strategy"?	i. For distribution, a critical attribute is any question that identifies a condition that could lead to either an ignition point or wire down situation that could result in a potential fire ignition. The determination of critical attribute was created based on discussions with multiple stakeholders/SMEs from Asset Strategy, Standards, and System Inspections. The finalized list was routed through EDRS and was approved by leaders from Asset Strategy and System Inspections. This list is provided as Atch01, included in our response to Question 011.A.II below. For transmission, the guidance within "Electric Transmission Line Guidance for Setting Priority Codes" provided in our response to Question 009, in accordance with GO-95 Rule 18, informs whether issues identified through inspection are critical attributes in the context of QA/QC for the conversation.	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22--21 Asset Inspections Quality Assurance and Quality Control ACI PG&E-22--08 Better Application of Specific Lessons Learned from Utility-Caused Fires
226	OEIS	003	OEIS_003	12	OEIS_003_Q12	[illegible] a. PG&E states that it is still performing targeted equipment repairs relating to EPSS. Is this a program separate from that described within Section 8.1.7 of its WMP? If so, provide the following: i. Description and procedures in which PG&E uses to decide when and where it will perform EPSS-related targeted equipment repairs. ii. How PG&E reallocates resources to address these EPSS-related targeted equipment repairs (particularly in relation to the program described in Section 8.1.7). iii. The scale of such EPSS-related targeted equipment repairs (i.e. number of work orders, number of CPZs included in this program). [illegible]	[illegible] declaration. a. (i) (ii) (iii) EPSS targeted equipment repairs are incorporated into the Open Work Orders Tag program as described in Section 8.1.7 of the WMP. EPSS targeted equipment repairs can be either an EC, ER, or CE Notification. Notifications with a potential reliability impact on EPSS circuits receive a priority ranking for visibility during work scheduling to allow them to be scheduled on a priority basis compared to other work. Field Operations uses the priority ranking during scheduling to help in decision-making and subsequent execution. PG&E is currently using the prioritization criteria from 2022 that is based on circuit risk rankings. b. EPSS targeted equipment repairs are currently included as a part of attachment "WMP-Discovery2023_DR_OEIS_002-Q009Atch02.xlsb" in column T (Open Work Tags (Asset)). [illegible]	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-32 – Updates on EPSS Reliability Study
227	OEIS	003	OEIS_003	13	OEIS_003_Q13	Regarding PG&E's Response to P-WMP_2023-PG&E-002-Q08 a. Provide all Enhanced Ignition analysis (EIA) reports completed for instances in which the qualifier was an EPSS protected facility.a. Provide all Enhanced Ignition analysis (EIA) reports completed for instances in which the qualifier was an EPSS protected facility.	declaration. In response to Question 8 of Energy Safety's Second Data Request, subpart (d), PG&E provided a list of ignitions that were evaluated/partially evaluated in the Enhanced Ignition Analysis (EIA) program and listed why each ignition event qualified to be included in the program. The program is primarily focused on analyzing ignitions in HFTD and HFRA, but PG&E includes ignitions on EPSS protected facilities in the process as an exception, regardless of location. As indicated in the spreadsheet in response to Question 8(d), there were 22 ignitions on circuits protected by EPSS that were included into the EIA program when the location criteria was not also met. PG&E understands this request is a follow-up asking for the deliverables for the 22 events where the only qualifier was EPSS. Given the limited time to respond to this request, PG&E is providing [illegible]	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22--08 Better Application of Specific Lessons Learned from Utility-Caused Fires
228	OEIS	003	OEIS_003	14	OEIS_003_Q14	Regarding PG&E's Fault Ramer Replacements a. Provide the numbers of fault tamers PG&E has replaced by year since 2020. b. Provide PG&E's targets for fault tamer replacements in 2023 and 2024, as applicable. c. Provide the number of fault tamer devices within PG&E's HFTD. d. Provide the number of fault tamer devices identified as needing replacement within PG&E's HFTD.	[illegible] not failed or operated normally due to a fault. In July 2021, in response to our 2020 causal evaluation of 4 apparent fault tamer failures, we published a bulletin that requires replacement of the entire fuse after a fault (no re□use of the backup limiter portion of the fuse). We replaced fuses at seven locations associated with recent transformer changeouts in high wildfire consequence zones. At the time, there was a hypothesis that fault tamer failures were correlated with transformer changeouts. That hypothesis has since been disproven. Several fault tamer replacements from circuits in the Sonoma division were completed in August 2022 to support our failure evaluation. On 10/06/2022, after identifying an internal weld separation issue as the root cause of a recent increase in failures associated with 2021 and newer vintage fuses, we issued a full stop of new fault tamer installs, and we purged and returned a[illegible]	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	N/A	N/A	N/A
229	OEIS	003	OEIS_003	15	OEIS_003_Q15	Regarding PG&E's V4 of its Wildfire Distribution Risk Model (WDRM) a. What is PG&E's status for review and approval of V4? b. When does PG&E intend to use V4 output to influence its undergrounding plan? Include discussion on details of how this may affect PG&E's undergrounding plan. c. Provide a list of the differences and improvements being made to V4 in comparison to V3. d. Is V4 undergoing third-party review similar to V2 and V3? If so, provide a status update on the review, including expected completion date for the related report.	b. The WDRM v4 will be available as an input to the underground program development after approval in Q2 2023. Beyond the response provided to ACI PG&E-22-34, the impact to the undergrounding program—i.e., how it will be applied and which years it will be used to plan—has not yet been determined. c. WDRM v4 has not yet been finalized, so we do not have a final list of differences and improvements being made to v4 in comparison to v3. However, in our 2023-2025 WMP, we discussed potential changes and improvements to WDRM v4 at high level. In Section 6.7 (page 213), we discussed our Risk Assessment Improvement Plan, including potential model improvements. Similarly, on page 848 in Appendix B we discussed WDRM v4 as part of our model development schedule. And ACI 22-07 (page 855) discusses our lessons learned from third-party review of our models.	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	6.2.1	Risk Methodology and Assessment	Risk and Risk Component Identification

230	OEIS	003	OEIS_003	16	OEIS_003_Q16	Regarding PG&E's response to OEIS Data Request 2 Question 5 Attachment 1 a. How did PG&E determine a mitigation effectiveness of 11.8% for down conductor detection (DCD)? b. In Table 8-4, PG&E has included 2023, 2024 and 2025 targets for DCD. Additionally, in response to CalAdvocates Data Request 10 Question 1, PG&E supplies that 21,000 miles will be covered by DCD by 2025. However, within the attachment, PG&E only demonstrates goals of approximately 27.34, 1.40, and 0 miles in 2023, 2024, and 2025 respectively.2 Explain this discrepancy. c. Include the number of miles DCD covered in 2022, as well as how many additional miles will be covered based on PG&E's targets for 2023, 2024, and 2025 broken down by year.	a) The mitigation effectiveness for down conductor detection was based on the incremental benefit to EPSS. The mitigation effectiveness was determined by reviewing the ignitions that occurred during EPSS enablement periods. Out of the 30 ignitions reviewed, 14 of them are high impedance faults. Of the 14 ignitions, we estimate that 25% can be prevented based on subject matter expert review. That review considered the fault characteristics relative to DCD's ability to detect high impedance faults as small as 1 amp, and that DCD can detect line to ground faults, but not line to line faults. Based on the above, the calculation of effectiveness is as follows: 14/30 * 25% = 11.8% b) The approximate miles that OEIS calculates is only the miles in the Top 5% of risk (41 circuit segments) and not the full mileage across all locations in which DCD is covering. c) Approximately 3,500 HFRA miles were covered by Down Conductor Detection (DCD) in 2022,	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	8.1.2.10	Grid Design and System Hardening	Downed Conductor Detection Devices
231	OEIS	003	OEIS_003	17	OEIS_003_Q17	Regarding undefined terms in 8.4.6 PG&E discusses "red tagged" customers, "impacted" communities, and "impacted" customers (including cities, counties, and tribal governments) in Section 8.4.6; however, definitions of such terms are not provided. a. Provide a definition, as it pertains to both wildfire and PSPS events in the context of Section 8.4.6, and the criteria for these groups being identified as such for: i. "Red tagged" customers ii. "Impacted" communities iii. "Impacted" customers	Red Tag: For natural disasters, including wildfires, in which the Governor or POTUS declares a State of Emergency, the official definition comes from D.19-07-015 (page 16) "…when a disaster(s) has resulted in the destruction or damage of a structure, such that utility service is disrupted voluntarily or involuntarily due to safety concerns or reconstruction activities to address the damage from a proclaimed state of emergency event…". Impacted Communities: this term was used as shorthand for all impacted customers and facilities. Impacted Customers: In a typical wildfire event, PG&E uses the fire perimeter maps available on National Inter-Agency Fire Center website and expand them by 2 miles each day. Any customer attached to a meter within the extended perimeter becomes an "impacted customer". The list of impacted customers and structures are refreshed daily, until the fire is contained.	Colin Lang	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_003.zip	0	N/A	8.4.6	Emergency Preparedness	Customer Support in Wildfire and PSPS Emergencies
232	CalPA	Set WMP-17	CalPA_Set WMP-17	1	CalPA_Set WMP-17_Q1	<<BEGIN CONFIDENTIAL>> Table 1 – Projects not pursued for Undergrounding in first 2100 miles PG&E's WDRM V3 ranks circuit protection zones (CPZs) based on risk measured across 17 risk models to create a "cumulative risk score" for each CPZ.4 In Table 1 above, select CPZs that PG&E has decided not to pursue Undergrounding in its first 2100 miles of UG projects5 are compared by: • Cumulative risk score for the CPZ in WDRM V3 • Total CPZ length in miles measured by projecting the feature class in WDRM V3 to a UTM projection and calculating geometry in GIS	Upon review, PG&E respectfully finds that the CPZ mileages presented in Table 1 are incorrect. As a result of the mileage errors in the Table, the Calculated Risk/Mile CONFIDENTIAL – Provided Pursuant to Confidentiality Declaration ("WMP-Discovery2023_DR_CalAdvocates_017_Confidentiality Declaration.pdf") WMP-Discovery2023_DR_CalAdvocates_017-Q001CONF Page 3 figures are incorrect as well. We also note that we do not use the term "cumulative risk." We use the term "composite risk" and interpret this question as involving "composite risk" scores. Any difference between these two terms is not material to our response. The attachment used to develop the quoted miles from this analysis, WMP Discovery2022_DR_CalAdvocates_035, does not represent the total OH miles contained	Matthew Taul	4/21/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_017.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
233	CalPA	Set WMP-17	CalPA_Set WMP-17	2	CalPA_Set WMP-17_Q2	In general, identify all the factors PG&E considers when deciding that a CPZ with a large average risk profile or large total risk in WDRM V3 should not be prioritized in PG&E's 2023 WMP project selection.	We are selecting locations in 2022 and 2023 based on the Wildfire Feasibility Effectiveness (WFE) analysis, which leveraged WDRM V3 risk data, to prioritize for project selection. As part of the WFE analysis, for operational efficiency, individual Circuit Protection Zones (CPZs) were bundled together for project selection and design. Once bundled together with adjacent CPZs that are also identified for targeted undergrounding, the combined bundled WFE score is used to select projects. In that process, it is possible that an individual CPZ with a larger average risk profile, is combined with another adjacent CPZ within the 10-year undergrounding plan scope that may result in a lower combined WFE score that drives the bundled project to be lower than other projects that are selected for project development. We believe this CPZ bundling approach is appropriate not only to improve field operational efficiency but also because bundling adjacent CPZs:	Matthew Taul	4/21/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_017.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
234	CalPA	Set WMP-17	CalPA_Set WMP-17	3	CalPA_Set WMP-17_Q3	<<BEGIN CONFIDENTIAL>> In Table 2 above, select CPZs that PG&E has decided to pursue Undergrounding in its first 2100 miles of UG projects6 are compared by: • Cumulative risk score for the CPZ in WDRM V3 • The total mile length of Undergrounding which PG&E quoted for each UG project in Confidential response to Question 1 on "WMP-Discovery2022_DR_CalAdvocates_035" • A calculated "risk per mile" or "average risk" value derived from the two previous values • Whether the CPZ has experienced outages due to PSPS or EPSS in the past	a) Upon review, we respectfully find that the CPZ mileages presented in Table 2 are incorrect. As a result of the mileage errors in the Table, the Calculated Risk/Mile figures are incorrect as well. We also note that we do not use the term "cumulative risk." We use the term "composite risk" and interpret this question as involving "composite risk" scores. Any difference between these two terms is not material to our response. The attachment used to develop the quoted miles from this analysis, WMP Discovery2022_DR_CalAdvocates_035, does not represent the total OH miles contained within each circuit segment, but the total projected UG miles from the "project." These "projects" can include multiple circuit segments and represent the UG miles planned to be installed, not the OH miles removed used to calculate the risk value. Each of the segments referenced in this question were bundled with other high-risk segments and combined to be worked concurrently.	Matthew Taul	4/21/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_017.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
235	CalPA	Set WMP-17	CalPA_Set WMP-17	4	CalPA_Set WMP-17_Q4	In general, identify all the factors PG&E considers when deciding that a CPZ with small total risk profiles and small average risk profiles in WDRM V3 should be prioritized in PG&E's 2023 WMP project selection.	We are selecting locations in 2022 and 2023 based on the Wildfire Feasibility Effectiveness (WFE) analysis, which leveraged WDRM V3 risk data, to prioritize for project selection. As part of the WFE analysis, for operational efficiency, individual Circuit Protection Zones (CPZs) were bundled together for project selection and design. Once bundled together with adjacent CPZs that are also identified for targeted undergrounding, the combined bundled WFE score is used to select projects. In that process, it is possible that an individual CPZ with a lower average risk profile, is combined with another adjacent CPZ within the 10-year undergrounding plan scope that may result in a higher combined WFE score that drives the bundled project to be selected for project development. We believe this CPZ bundling approach is appropriate not only to improve field operational efficiency but also because bundling adjacent CPZs:	Matthew Taul	4/21/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_017.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
236	TURN	006	TURN_006	1	TURN_006_Q1	1. Regarding the System Hardening Decision Tree provided as Attachment 3 to the response to TURN data request 5-1, please define the following acronyms used in the Decision Tree: a. PSS b. FSD c. EASOP d. WGC e. ECOP	a. PSS = Public Safety Specialist. PG&E PSS team members with extensive, local wildfire operations experience. Many had a previous career with CAL FIRE or other fire agencies. b. FSD = Field Scoping Desktop Meeting. Meeting to scope potential undergrounding project sites held in office as opposed to in the field. c. EASOP = Economic Analysis Software Program. Program used by PG&E to evaluate project economics. d. WGC = Wildfire Governance Committee. Also referred to as PG&E's Wildfire Risk Governance Steering Committee (WRGSC). It makes decisions about developing and prioritizing mitigation initiatives. e. ECOP = Electric Correction Optimization Program. This program considers existing open electric work when prioritizing, leveraging opportunities to gain efficiency by bundling multiple	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_006.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
237	TURN	006	TURN_006	2	TURN_006_Q2	Regarding the System Hardening Decision Tree provided as Attachment 3 to the response to TURN data request 5-1 and discussed in that response: a. Does PG&E intend to use this Decision Tree for future projects during the 2023-2025 period for selecting which system hardening mitigation to usefor a given location? b. If the answer to "a" is anything other than an unequivocal "no," please explain each and every circumstance under which PG&E intends to use this Decision Tree for future projects.	a) No. The System Hardening Decision Tree was used to scope base system hardening projects in the workplan from 2023-2026 that were selected using the WDRM, version 2. Much of this work was initiated for scoping prior to the 10K UG program announcement in late 2021. This System Hardening Decision Tree is not and will not be used for newly scoped work. b) N/A	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_006.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
238	TURN	006	TURN_006	3	TURN_006_Q3	Regarding the Undergrounding Decision Tree provided as Attachment 1 to the response to TURN data request 5-1 and discussed in that response: a. Please provide a time range in months for each of the "Key Phases" listed in the box in the lower left corner. b. Please explain how PG&E defines the words "infeasible," as used in the text of the response (related to the possibility that undergrounding may ultimately be determined to be "infeasible"), and "unfeasible" as used in the Decision Tree.	a) Circuit Segment Risk Ranking – The WDRM risk model is the first step in identifying the list of circuit segments where wildfire risk is the highest. This data is updated roughly on an annual basis. Circuit Selection Process – The inputs to the feasibility score, bundling methodology following the previous year's lessons learned, and new inputs are developed in parallel, but require multiple reviews of the analysis and ultimate approval. This can take 2-3 months, but the first discussions often start before the risk model is finalized. Once the model is available, and barring any major modifications to inputs, it can be 1-2 months following release of the new risk model and associated Circuit Segment Risk Ranking. Feasibility study – Currently, the outlook for steady state output from this step is 40-70 miles per month with many activities being done in parallel. The Grid Design team can usually complete this	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_006.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
239	TURN	006	TURN_006	4	TURN_006_Q4	Regarding the Fire Rebuild Decision Tree provided as Attachment 2 to the response to TURN data request 5-1 and discussed in that response: a. Please define the following acronyms used in the Decision Tree: PIH, EASOP, OEC, DG, SG b. Does PG&E intend to use this Decision Tree for future fire rebuild projects during the 2023-2025 period for selecting which system hardening mitigation to use for a given location? c. If the answer to "b" is anything other than an unequivocal "no," please explain each and every circumstance under which PG&E intends to use this Decision Tree for future fire rebuild projects.	a) PIH – Pre-Installed Interconnection Hub – In this context this refers to a tie-in point to facilitate generation connection to serve customers on a radially fed circuit with no available field-side operational ties (AKA "back-ties"). EASOP – Economic Analysis Software Program – Program used by PG&E to evaluate project economics. A OEC – Operations Emergency Center – Regional operation center activated during an emergency event to manage resources and response locally. DG – Distribution Generators – Generators installed on the primary voltage system serving multiple customers. SG – Service Generators – Generators installed in the secondary/service conductor often serving only one customer. b) Yes.	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_006.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
240	TURN	006	TURN_006	5	TURN_006_Q5	Regarding the response to TURN data request 5-4, please explain the following terms used in the last paragraph of that response: a. Gray services b. Tree-connects c. "Breakaway" connectors	a) Gray Services – An older type of insulated service aerial conductor that is more susceptible to water ingress and deterioration. b) Tree-connects – In this context, a service or secondary wire that is tied / connected directly to trees instead of poles. c) Break-away connectors – A connector system, primarily used at the service pole, that is designed to separate safely (AKA "break-away"), in the event of a tree or branch falling into the line, at the pole instead of pulling down the energized service wire or disconnecting at the weather head. The breakaway connector system is designed to leave no exposed energized components on the downed service line.	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_006.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
241	TURN	006	TURN_006	6	TURN_006_Q6	Regarding the response to TURN data request 5-6: a. Please explain what is meant by the word "topped" in the phrase: "Determining the poles that will be topped." b. Is PG&E unable to offer even a rough approximation of the percentage of existing poles in the affected distribution circuits -- including poles supporting primary lines, secondary lines and service – that would be removed as a result of the planned undergrounding mileage in 2023-2025? Please provide such a rough approximation if possible.	a. When the primary conductor is removed and only communication wire remains, the top of the pole above the comms will be removed/cut off to leave only the height of the pole necessary to support the remaining connections. b. No, PG&E is not able to offer a rough approximation that is reasonably accurate of the percentage of existing poles on the impacted distribution circuits that will be removed as part of the underground plans from 2023-2025. PG&E cannot provide this information because we have not completed the engineering design for each of the 2023-2025 undergrounding projects. Individual undergrounding projects vary significantly in the amount of poles that will be removed, topped, or left in place as part of the construction process.	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_006.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
242	TURN	007	TURN_007	1	TURN_007_Q1	1. Regarding the 2023-2026 Undergrounding Workplan referenced on page 910 of the WMP (R1) and provided in Excel format in response to TURN Data Request 2-4: a. Please explain how, if at all, either or both of Simplified Wildfire Risk Spend Efficiency (SWRSE) and Wildfire Feasibility Efficiency (WFE) values (discussed on p. 968 of the WMP (R1)) were used in developing this workplan. b. Please explain what measure(s) PG&E used to prioritize projects in this workplan and how such measure(s) were used. c. Please add to the Excel spreadsheet columns showing the SWRSE and WFE for each listed circuit segment. d. Comparing this Workplan with Table 7-2 of the WMP, please explain how the	The confidential attachment is being provided pursuant to a signed NDA with PG&E. The circuits listed in Table 7-2 are the same circuits listed in Table 7-4 where additional detail is provided. a. As described in ACI 22-34, PG&E used the SWRSE and WFE to identify where we could most efficiently reduce risk at specific locations. We selected the roughly 8,100 OH miles with the highest SWRSE to produce roughly 10,000 miles of undergrounding. b. We describe these measures in WMP (R1) section 8.1.2.2 (page 343) c. Please refer to attachment "WMP-Discovery2023_DR_TURN_007-Q001Atch01CONF.xlsx" • See column AC for HF_WFE Score • See column AD for HF_WFE Ranking • We do not provide a separate SWRSE score because, as indicated on page 968 of the 2023-	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_007.zip	1	Yes	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution

243	TURN	007	TURN_007	2	TURN_007_Q2	Regarding Table 7-2 in the WMP: a. TURN understands from Table 6-5 that the Overall Risk Score values in Table 7-2 are the sum of Total Ignition Risk Score and the Total PSPS Risk Score. Please explain how these input values to the Overall Risk Score column were calculated. Please include in the explanation the relevant mathematical equation(s). b. If not explained in response to "a", please explain how the Overall Risk Score relates to the Wildfire Mean Risk Score. c. Please provide, in live Excel format, a table that shows the information in Table 7-2 for all HFTD circuit segments. If PG&E has the same information for its self-identified HFRA circuit segments, please include that information also, and indicate which circuit segments are HFRA.	a. The Overall Risk Score is calculated by the calibration of the Wildfire Risk and PSPS Risk scores to the overall Enterprise Risk Model in the form of Multi Attribute Value Function (MAVF) units. This is shown in Section 7.2.2.2: $Overall\ Utility\ Risk = Wildfire\ Risk\ (Dx, Tx, Sub) + PSPS\ Risk\ (Backcast, PIC)$ $Enterprise\ Risk\ MAVF\ (Dx + Tx + Sub) = (23,082 + 772 + 14) + (2170) = 26,038$ Each individual risk model that included further granularity at the structure or circuit segment level was calibrated to the overall enterprise risk MAVF scores. For example, in Table 7.2.2-4, PG&E shows an example calculation of the workplan location risk scores based on the Wildfire Distribution Risk Model (WDRM) that includes a WDRM to Enterprise MAVF Calibration of 23,082 / 2,022 = 11.41. The workplan locations and its associated risk reduction is re-calibrated by 11.41 to arrival at comparable enterprise level	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_007.zip	1	N/A	7.1.3	Wildfire Mitigation Strategy Development	Risk-Informed Prioritization
244	TURN	007	TURN_007	3	TURN_007_Q3	Regarding the System Hardening Workplan provided as Attachment 1 to the response to TURN data request 2-2 (which in turn asked for a response provided to Cal Advocates): a. The first tab in this Excel workbook is named "SH Workplan_2023-2026_Conf", which suggests that this response to Cal Advocates was taken from a document that also included the years 2025 and 2026. Please provide the most up-to-date version of this workbook for the period 2023- 2026. Indicate the date of the information in the workbook that is provided. b. It appears that some of the circuit segments listed as high risk in Table 7-2 of the WMP and in the 2023-2026 Undergrounding Work Plan referenced on page 910 of the WMP (R1), e.g., Indian Flat 1104CB and Bonnie Nook 1101CB (only Bonnie	The confidential attachment is being provided pursuant to a signed NDA with PG&E. a. Please refer to attachment "WMP-Discovery2023_DR_TURN_007-Q003Atch01CONF.xlsx" which is the System Hardening workplan prepared for the 2023-2026 WMP (plan dated January 3, 2023). Please see columns AH-AK and AL-AO that includes the 2025 and 2026 forecasted miles, respectively. The estimated mileage forecasts for each sub-type of hardening (overhead, underground and line removal) will vary from the actual mileage completed in each year. Additionally, if we complete system hardening miles above the annual targets in a particular year, we may lower future annual targets in a subsequent WMP or plan update. b. The following are the reasons why circuit segments from Table 7-2 may not be on the undergrounding workplan:	Tom Long	4/21/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_007.zip	1	Yes	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
245	TURN	007	TURN_007	4	TURN_007_Q4	Regarding Attachment 2023-03-27_PGE_2023_WMP_R1_Section 6.4.2_Atch01, which is referenced on page 195, fn. 77 of the WMP (R1): a. Please provide a version of this Excel workbook that includes the same information for all of PG&E's HFTD circuit segments, or as many of those segments for which PG&E has such information. b. If PG&E has comparable information for its self-identified HFRA segments, please provide that information. c. Has PG&E calculated RSEs at the circuit segment level for any of the various mitigations shown in this workbook? If so, which mitigations? Provide those calculated RSEs, preferably as additional columns in the workbook(s) provided in response to "a" and "b".	a) Please see attachment WMP-Discovery2023_DR_TURN_007-Q002Atch1.xlsb. Two additional columns N:O were added to this 'TopRisk_Table' tab and the rows were extended to capture applicable circuit segments. Please note, line items outside of the top 5% risk circuit segments do not have same level of detailed review given the limited time to respond to this request. b) Please see attachment WMP-Discovery2023_DR_TURN_007-Q002Atch1.xlsb. Two additional columns N:O were added to this 'TopRisk_Table' tab and the rows were extended to capture applicable circuit segments. Please note, line items outside of the top 5% risk circuit segments do not have same level of detailed review given the limited time to respond to this request. c) RSEs were not a requirement of the 2023-2025 WMP, only risk reduction. The risk reduction	Tom Long	4/21/2023	4/26/2023	4/26/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_007.zip	0	N/A	6.4.2	Risk Methodology and Assessment	Top Risk-Contributing Circuits/Segments
246	CalPA	Set WMP-18	CalPA_Set WMP-18	1	CalPA_Set WMP-18_Q1	PG&E states in response to Question 1(a) of CalAdvocates-PGE-2023WMP-15: Vegetation Management for Operational Mitigation (VMOM) will be primarily focused in HFTD and HFRA. There are instances where a circuit segment may cross in or out of HFTD/HFRA and VMOM would complete work on the whole circuit segment including the areas outside HFTD/HFRA. Focused Tree Inspections are planned for HFTD areas in the plan developed for 2023. a) Is it correct to interpret the statement above to mean that Focused Tree Inspections will take place only in HFTD areas (and will not include the HFRA, as VMOM will) in 2023? b) If Focused Tree Inspections will take place only in HFTD areas and not in HFRA, please explain why.	a. No, but the following clarifications are provided to better inform an accurate interpretation. Most of HFRA overlaps with HFTD as HFRA refinements utilized HFTD as the base map for evaluating areas to add or remove based on identified risk, risk misidentification, or false-precision associated with HFTD boundaries. AOCs prioritized for execution are dominantly in HFTD but AOC are based on polygons and the circuit segments contained. HFTD can have "islands" of non-HFTD that portions of circuits transect, and in these cases the limited areas of non-HFTD are included in the inspection assignment for 2023. b. All portions of circuits in targeted AOCs will be inspected with the same guidance. The areas with include HFTD, HFRA, and limited non-HFTD as noted in response a. Due to the GO95 compliance requirements for vegetation clearances and hazardous tree identification in HFTD	Holly Wehrman	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_018.zip	0	N/A	8.2.2.2.6	Vegetation Management and Inspections	Discontinued Programs
247	CalPA	Set WMP-18	CalPA_Set WMP-18	2	CalPA_Set WMP-18_Q2	PG&E states in response to Question 3 of CalAdvocates-PGE-2023WMP-15 that "PG&E intends to track trees identified for work under VMOM and FTI using the OneVM tool." Please provide the following regarding the OneVM tool: a) Its purpose(s) b) How the tool works (i.e. what mechanisms or procedures it will use to achieve outputs) c) When the tool was developed d) When PG&E will begin utilizing the tool.	a) The purpose of the One VM tool is to provide map-based work execution, monitoring, and validation through a single software platform that incorporates VM work management systems into one. With increased integration between our databases and data, additional visibility of what work is being performed at what times could be achieved to reduce the risk of overlapping programs, reduce potential of disruption to our customers, and enable better risk-informed planning and decision-making. b) The One VM tool is governed by the same procedures affecting VM Distribution Routine and Second Patrol. The way One VM functions is by providing a comprehensive overview of projects from planning to execution to completion/closure, linking work lifecycles through parent-child relationships, and providing visibility into the workforce that performs the work via a dispatcher console with Gannt. This CRM or workforce management platform then is linked to our reporting	Holly Wehrman	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_018.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
248	CalPA	Set WMP-18	CalPA_Set WMP-18	3	CalPA_Set WMP-18_Q3	PG&E states in its response to Question 5(a)(i) of CalAdvocates-PGE-2023WMP-15: "VM EPSS-enabled outage data was used to determine both a planned unit forecast and identify CPZs where EPSS VM Outages took place." Please explain what "planned unit forecast" refers to in the above instance.	'Planned unit forecast' refers to an estimate of the number of trees that may be worked under the program. The word 'forecast' is used because the exact number of trees is unknown until inspection has occurred.	Holly Wehrman	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_018.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
249	CalPA	Set WMP-18	CalPA_Set WMP-18	4	CalPA_Set WMP-18_Q4	PG&E states in its response to Question 7(a) of CalAdvocates-PGE-2023WMP-15 that its forecasted 9-year pace of work for its Tree Inventory Program "was provided for the first three years of the program with intent to ramp up annual pace. 9 years is a starting point to plan the pace of work completion however, the lessons learned will inform the completion timing." a) Please explain your reasoning for using nine years as a "starting point". b) Did PG&E consider durations other than nine years "to plan the pace of work completion"? Please explain. c) Does PG&E intend for the Tree Inventory Program to continue for more than nine years?	a) Nine years was selected as the starting point based on a realistically achievable average pace of approximately 33,000 trees removed per year (33,000 x 9 = 297,000) with the pace and duration of the program to be re-evaluated as needed based on the lessons learned from the initial years of the program. As of August 29, 2022, when the Tree Removal Inventory (TRI) program was being formulated, it was estimated that approximately 350,000 trees would remain at the conclusion of the Enhanced Vegetation Management (EVM). 84,000 of these trees listed for a work prescription of removal were identified as needing re-inspection due to having Tree Assessment Tool (TAT) ratings other than "Abate", typically due to the extent of clearance needed to achieve EVM overhang clearance requirements despite having no other significant defects. Given that the re-inspection was likely to lower the population to some extent, the pace was set to complete approximately 297,000 trees. Additionally, over the course of nine years all	Holly Wehrman	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_018.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
250	CalPA	Set WMP-18	CalPA_Set WMP-18	5	CalPA_Set WMP-18_Q5	In response to question 19(b)(iii) of CalAdvocates-PGE-2023WMP-15, PG&E states: The difference [in projected vegetation management costs] of $24,861,000 between 2023 and 2024 is due to several factors, this is how PG&E will achieve this reduction; (1) Transitioning from EVM to three new programs; (2) reducing the amount of Routine VM work conducted each year commensurate with the amount of undergrounding miles completed; and (3) reducing unit costs through efficiencies over the rate case period through targeted programmatic adjustments that refine processes and improve resource efficiency. a) How does transitioning from EVM to three new programs result in a cost reduction?	a-b) Year Number of Undergrounding Miles to be Completed Planned reduction in Number of Routine VM Miles Amount of Routine VM Cost Savings from Undergrounding ($$$) 2023 350 Miles	Holly Wehrman	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_018.zip	0	N/A	8.2.5.2	Vegetation Management and Inspections	Quality Control
250	CalPA	Set WMP-18	CalPA_Set WMP-18	5 SUPP	CalPA_Set WMP-18_Q5 SUPP	In response to question 19(b)(iii) of CalAdvocates-PGE-2023WMP-15, PG&E states: The difference [in projected vegetation management costs] of $24,861,000 between 2023 and 2024 is due to several factors, this is how PG&E will achieve this reduction; (1) Transitioning from EVM to three new programs; (2) reducing the amount of Routine VM work conducted each year commensurate with the amount of undergrounding miles completed; and (3) reducing unit costs through efficiencies over the rate case period through targeted programmatic adjustments that refine processes and improve resource efficiency. a) How does transitioning from EVM to three new programs result in a cost reduction?	a. The EVM program concluded in 2022 and would not contribute to a savings between 2023 and 2024. The reduction in Routine work and Second Patrol work, reduction in unit costs, and programmatic efficiencies are expected to contribute to the $24M in savings that is shown in this table. ACT FCST FCST 2022 2023 2024 Tree Mortality $ 108,129 $ 100,617 $ 98,112 EVM $ 590,971 N/A N/A (EVM) Transitional Programs N/A $ 160,357 $ 156,366 VM for Operational Mitigations $ 23,455 $ 22,872 Tree Removal Inventory $ 53,484 $ 52,153	Holly Wehrman	4/24/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_018.zip	0	N/A	8.2.5.2	Vegetation Management and Inspections	Quality Control
251	CalPA	Set WMP-18	CalPA_Set WMP-18	6	CalPA_Set WMP-18_Q6	In response to question 19(b)(iii) of CalAdvocates-PGE-2023WMP-15, PG&E states: The difference [in projected vegetation management costs] of $24,861,000 between 2023 and 2024 is due to several factors, … (3) reducing unit costs through efficiencies over the rate case period through targeted programmatic adjustments that refine processes and improve resource efficiency. a) For which specific programs does PG&E anticipate reducing unit costs as mentioned in the quote above? b) For each individual program identified in your response to the previous part, please state the following: i. Program/initiative name	a) PG&E anticipates reducing costs on EVM Transitional, Routine, Tree Mortality, and VC pole clearing programs b) i. The three EVM transitional programs are Vegetation Management for Operational Mitigation (VMOM), Tree Removal Inventory (TRI), and Focused Tree Inspections (FTI). ii. To maximize reduction of wildfire risk effectively and efficiently, the EVM program concluded in 2022 the transitional programs will be incorporated into the 2023 workplan, we anticipate a significant decrease in VM spend due to this. As PG&E continues the effort to underground distribution lines, we anticipate a reduction in costs related to tree work, we are evaluating additional operational mitigations, including partial voltage detection, downed conductor detection, and breakaway connector, each of which we anticipate further reduce the risk of catastrophic wildfires.	Holly Wehrman	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_018.zip	0	N/A	8.2.5.2	Vegetation Management and Inspections	Quality Control
252	CalPA	Set WMP-18	CalPA_Set WMP-18	7	CalPA_Set WMP-18_Q7	Please provide the following information regarding actual and projected costs for each WMP initiative under Chapter 8.2 (Vegetation Management and Inspections). Each initiative should be a row in the table below. WMP Initiative Number Initiative Name 2022 Capital Expendi-ture (Actual) 2023 Capital Expendi-ture (Forecast) 2024	We report vegetation management financials pursuant to the OEIS Guidelines in Table 11 of the Quarterly Data Report. In the table below, we provide additional high-level information into the figures reported in Table 11 based on information available at this time. Please note that due to the nature of vegetation management work the costs listed are all Operating Expenses and no Capital Expenditures. Also note table below includes updates and corrections, and will align with the Q1 QDR WMP update that PG&E will send on May 1,2023.	Holly Wehrman	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_018.zip	0	N/A	8.2	Vegetation Management and Inspections	N/A
253	TURN	008	TURN_008	1	TURN_008_Q1	Please provide PG&E's most recent calculation of RSEs for Undergrounding, by year from 2023-2025, at the most granular level for which PG&E has computed them. For this question, "Undergrounding" refers to all programs that underground distribution lines for wildfire mitigation purposes and/or fire rebuild purposes. Please provide the workpapers with the supporting inputs and calculations for these RSEs in Excel format.	Our most recent calculation of RSEs for Undergrounding is shared in our 2023 GRC Supplemental Filing from February 2022. The most granular level at which we calculated RSEs is at the tranche level. This is summarized in attachment "WMP Discovery2023_DR_TURN_008-Q001Atch01." The RSE results are summarized in the 'RSE Results' tab with the RSE across 2023-2026 shown in cells 'H12:L12'. The supporting inputs are spanned across M002 references in tabs '1-Program Exposure', '2-Program Cost', '3-Eff – Freq Program', 'M002', 'M002 – SME input', and 'M002 – Effectiveness tabs'. Specific to more granular level assessments at the circuit segment level, WMP guidelines require risk reduction not RSE based on 2023-2025 workplans. Those risk reduction values are provided in workpaper "2023-03-27_PGE_2023_WMP_R2_Section 6.4.2" and provided with	Tom Long	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_008.zip	2	N/A	7.2	Wildfire Mitigation Strategy Development	Risk Impact of Mitigation Initiatives
254	TURN	008	TURN_008	2	TURN_008_Q2	Please provide PG&E's most recent calculation of RSEs for Covered Conductor, by year from 2023-2025, at the most granular level for which PG&E has computed them. Please identify all activities that PG&E includes in the calculation of RSEs for Covered Conductor. Please provide the workpapers with the supporting inputs and calculations for these RSEs in Excel format.	Our most recent calculation of RSEs for Covered Conductor is shared in our 2023 GRC Supplemental Filing in February 2022. The most granular level at which we calculated RSEs is at the tranche level. This is summarized in attachment "WMP Discovery2023_DR_TURN_008-Q001Atch01". The RSE results are summarized in the 'RSE Results' tab with the RSE across 2023-2026 shown in cells 'H11:L11'. The supporting inputs are spanned across M002 references in tabs '1-Program Exposure', '2-Program Cost', '3-Eff – Freq Program', 'M002', 'M002 – SME input', and 'M002 – Effectiveness tabs'. Specific to more granular level assessments, WMP guidelines require risk reduction, not RSE, based on 2023-2025 workplans. Those risk reduction values are provided in workpaper 2023-03-27_PGE_2023_WMP_R2_Section 6.4.2 and provided with this response as "WMP-Discovery2023_DR_TURN_008-Q001Atch02."	Tom Long	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_008.zip	0	N/A	7.2.2	Wildfire Mitigation Strategy Development	Risk Impact of Mitigation Initiatives

255	TURN	008	TURN_008	3	TURN_008_Q3	Regarding the Underground Decision Tree provided in response to Data Request 5-1, Atch 1, is there an error in the alternative responses to the question at the far right: "Will a route or project scope change mitigate impediments?" It appears that the "Yes" and "No" alternatives should be flipped. If there is an error, please provide a corrected Decision Tree.	The decision tree is correct as originally submitted.	Tom Long	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_008.zip	0	N/A	8.1.2	Grid Design and System Hardening	ALL
256	TURN	008	TURN_008	4	TURN_008_Q4	The first paragraph of the response to TURN data request 5-4 states that, historically, PG&E has observed more frequent ignitions and larger wildfires associated with the overhead primary distribution powerlines, compared to lower voltage secondary distribution lines, service connections and high voltage transmission lines. a. Please provide, in live Excel format, the data on which this statement was based, and provide an explanation of what PG&E believes the data show. b. Please provide data, from 2015 to the present, showing for each of primary distribution overhead lines, secondary distribution overhead lines, service connections, and high voltage transmission lines: i. Number of ignitions	a. This statement was based on our CPUC reportable ignitions in High Fire Threat Districts (HFTDs) across PG&E's service territory in 2019–2022. See Worksheet a of attachment WMP-Discovery2023_DR_TURN_008-Q004Atch01.xlsx. The detailed data by ignition can be found in worksheet entitled "Detail_CPUC HFTD 2015-2022." As shown in the table on Worksheet a, we observed 33 of 489 (~7%) equipment-related ignitions in HFTDs associated with transmission powerlines, 33 of 489 (~7%) equipment related ignitions in HFTDs associated with lower voltage service distribution powerlines, and 25 of 489 (~5%) equipment-related ignitions in HFTDs associated with lower voltage secondary distribution powerlines. In contrast, for the same period, we observed over 80% of ignitions in HFTDs on primary distribution powerlines. b. Please see four separate worksheets for each subpart in attachment	Tom Long	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_008.zip	1	N/A	8.1.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
257	TURN	008	TURN_008	5	TURN_008_Q5	In response to TURN DR 5-4, after stating that PG&E is not undergrounding service drops and is not undergrounding secondary lines in most cases, PG&E states in the last paragraph, "We will overhead remaining secondary and service 3 lines by replacing open-wire secondary, gray services, and tree-connects with the current standard covered aerial conductor." (emphasis added) a. What is meant by the word "remaining" in this quote? b. Does this mean that, in a project PG&E describes as an undergrounding project, some of the "undergrounding" work typically consists of overhead hardening of secondary and service lines? Please explain your answer. c. Please explain the conditions under which an undergrounding project would include overhead hardening of secondary and service lines and when an	a) In some cases, where secondary or service wires are in-line with the primary being undergrounded, it too will be undergrounded in the same trench; however, any secondary or service lines that are "lateral" to the undergrounded primary will not be placed underground. Therefore, the term "remaining" is meant to apply to those lateral secondary or service lines that are going to remain overhead. Those "remaining" secondary and service lines will be hardened by replacing open-wire secondary, gray services, and tree-connects with the current standard covered aerial conductor. b) Yes, our underground projects include overhead hardening of secondary and services where required as described in subpart a). We also execute some "hybrid" system hardening projects where portions of a circuit are undergrounded and other portions of the circuit are overhead hardened where undergrounding is deemed infeasible. Some projects also contain overhead line	Tom Long	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_008.zip	0	N/A	8.1.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
258	TURN	008	TURN_008	6	TURN_008_Q6	SCE's WMP (R0), p. 232, states that: "SCE has determined that lines with covered conductor have a 90% risk in PSPS activations. When a circuit (or fully isolatable circuit segment) is all covered conductor, the de-energization threshold is increased to 40/58 mph (sustained wind/gusts)." a. Please provide any data, studies or reports in PG&E's possession that address whether lines with covered conductor have experienced a reduction in PSPS activations. b. Please provide any reports or studies in PG&E's possession that assess whether any de-energization thresholds should be changed for circuits (or portions thereof) with covered conductor. c. Does PG&E have plans to do any studies in the future to assess whether any de-	a. We have not performed studies or have reports to support whether lines with covered conductors experienced a reduction in PSPS activations. b. We have not performed studies or have reports to support whether any de-energization thresholds should be changed for circuits (or portions thereof) with covered conductor. We currently do not plan on adjusting thresholds for circuits with covered conductors for the reasons stated in (c). c. As stated in response to ACI PG&E-22-31 in the 2023-2025 WMP, due to our PSPS modeling approach, we would not manually adjust our final PSPS risk thresholds to account for covered conductor or any other program that reduces the probability of catastrophic outcomes. Our Catastrophic Fire Probability model (discussed in Section 9) is a risk-based assessment of the probability of ignition given an outage multiplied by the probability of catastrophic fires (Fire	Tom Long	4/24/2023	4/27/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_008.zip	0	N/A	8.1.2.1 & 9	Grid Design and System Hardening & PSPS	Covered Conductor and PSPS
259	CalPA	Set WMP-19	CalPA_Set WMP-19	1	CalPA_Set WMP-19_Q1	Please list PG&E's expected average useful life for a given installation of the following technologies: a) DCD b) REFCL	a) DCD technology is provisioned on protective relay equipment. Expected useful life based upon similar technology obsolescence, as well as asset health and lifecycle, is projected to be 20-30 years. b) REFCL expected useful life of the core components is estimated to be 30 years.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1	Grid Design, Operations, and Maintenance	Down Conductor Detection Devices Rapid Earth Fault Current Limiter
260	CalPA	Set WMP-19	CalPA_Set WMP-19	2	CalPA_Set WMP-19_Q2	a) In 2023, what is the average per-circuit-mile cost that PG&E expects to incur for asset inspection and maintenance for a covered conductor distribution line installed in the HFTD? b) In 2023, what is the average per-circuit-mile cost that PG&E expects to incur for asset inspection and maintenance for an underground distribution line installed in the HFTD? c) In 2023, what is the average per-circuit-mile cost that PG&E expects to incur for asset inspection and maintenance for a bare distribution line installed in the HFTD? d) Please state the assumptions and limitations of your estimates for parts (a) through (c).	a) Conductor is inspected as part of our General Order (GO) 165 detailed ground inspections and patrols program. It is also inspected during infrared inspection. These inspection processes currently do not differentiate between covered conductor and bare conductor. The cost that we expect to incur for distribution overhead asset inspections in HFTDs in 2023 is roughly $2,310 per-circuit-mile, regardless of whether the conductor is covered or bare. In addition, the cost that we expect to incur for distribution overhead asset maintenance in HFTDs in 2023 is $14,565 per-circuit-mile. b) Underground cable is inspected as part of our GO 128 underground inspections and patrols program, which has an expected cost in 2023 of $93/unit for inspection and $11/unit for patrol. We do not calculate a per-circuit-mile cost on distribution underground inspections because the unit of inspection is an enclosure, padmount, subsurface vault, manhole, or J-box. We expect to	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1.5	Asset Management and Inspection Enterprise System(s)	N/A
261	CalPA	Set WMP-19	CalPA_Set WMP-19	3	CalPA_Set WMP-19_Q3	a) State the total costs that PG&E incurred in 2022 for asset inspections and maintenance on covered conductor distribution lines installed in the HFTD. b) State the total number of circuit-miles of covered conductor distribution lines that PG&E had in the HFTD as of January 1, 2022. c) State the total costs that PG&E incurred in 2022 for asset inspections and maintenance on underground distribution lines installed in the HFTD. d) State the total number of circuit-miles of underground distribution lines that PG&E had in the HFTD as of January 1, 2022. e) State the total costs that PG&E incurred in 2022 for asset inspections and maintenance on bare overhead distribution lines installed in the HFTD. f) State the total number of circuit-miles of bare overhead distribution lines that	a) In 2022, we spent $241 million for asset inspections and maintenance on distribution overhead lines installed in the HFTDs. We do not differentiate costs between covered and bare conductor, so these costs are for all assets in the HFTDs. Further, we only included the maintenance costs associated with general overhead Electric Corrective (EC) Notifications. These costs are tracked at the Maintenance Activity Type (MAT) level, not detailed by asset type, so we could not extract the costs associated with conductor only EC Notifications. In addition, the costs for our proactive asset replacement programs were not included. b) In response to 2022 WMP Discovery, Cal Advocates 028, Question 3, provided on August 1, 2022, PG&E reported our total overhead distribution line circuit-miles as approximately 25,030 in the HFTDs. This data was originally extracted from the Quarterly Data Report (QDR), Table 8. Our GIS system is a dynamic, "real-time" system that reflects the current assets in our service	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1.2	Grid Design, Operations, and Maintenance	Grid Design and System Hardening
261	CalPA	Set WMP-19	CalPA_Set WMP-19	3SUPP	CalPA_Set WMP-19_Q3SUPP	a) State the total costs that PG&E incurred in 2022 for asset inspections and maintenance on covered conductor distribution lines installed in the HFTD. b) State the total number of circuit-miles of covered conductor distribution lines that PG&E had in the HFTD as of January 1, 2022. c) State the total costs that PG&E incurred in 2022 for asset inspections and maintenance on underground distribution lines installed in the HFTD. d) State the total number of circuit-miles of underground distribution lines that PG&E had in the HFTD as of January 1, 2022. e) State the total costs that PG&E incurred in 2022 for asset inspections and maintenance on bare overhead distribution lines installed in the HFTD. f) State the total number of circuit-miles of bare overhead distribution lines that	PG&E is amending subparts b, d and f of our original response. Although there is not a specific attribute in GIS to distinguish covered and bare conductors, we were able to utilize the conductor type codes to differentiate between covered and bare conductors. a) In 2022, we spent $241 million for asset inspections and maintenance on distribution overhead lines installed in the HFTDs. We do not differentiate costs between covered and bare conductor, so these costs are for all assets in the HFTDs. Further, we only included the maintenance costs associated with general overhead Electric Corrective (EC) Notifications. These costs are tracked at the Maintenance Activity Type (MAT) level, not detailed by asset type, so we could not extract the costs associated with conductor only EC Notifications. In addition, the costs for our proactive asset replacement programs were not included.	Holly Wehrman	4/25/2023	5/10/2023	5/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1.2	Grid Design, Operations, and Maintenance	Grid Design and System Hardening
262	CalPA	Set WMP-19	CalPA_Set WMP-19	4	CalPA_Set WMP-19_Q4	a) In 2023, what is the average per-circuit-mile cost that PG&E expects to incur for vegetation management for an overhead distribution line installed in the HFTD? b) In 2023, what is the average per-circuit-mile cost that PG&E expects to incur for vegetation management for an underground distribution line installed in the HFTD?	a) Based on 2019-2022 data, our cost for vegetation management maintenance systemwide was approximately $8,500 per mile. We expect to incur similar costs in 2023. Costs for vegetation management are not forecast separately between HFTD and Non-HFTD. b) We do not separately forecast an average per-circuit mile cost incurred for vegetation management for an underground distribution line installed in HFTD.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.2	Vegetation Management and Inspections	N/A
263	CalPA	Set WMP-19	CalPA_Set WMP-19	5	CalPA_Set WMP-19_Q5	a) State the total costs that PG&E incurred in 2022 for vegetation management on overhead distribution lines in the HFTD. b) State the total costs that PG&E incurred in 2022 for vegetation management on underground distribution lines in the HFTD.	a) We do not separately track costs incurred in HFTD vs. Non-HFTD for vegetation management on overhead distribution lines. b) We do not separately track costs incurred in HFTD vs. Non-HFTD for vegetation management on underground distribution lines.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.2	Vegetation Management and Inspections	N/A
264	CalPA	Set WMP-19	CalPA_Set WMP-19	6	CalPA_Set WMP-19_Q6	a) Please describe the vegetation management activities that PG&E currently undertakes on rights-of-way with underground lines in the HFTD. b) Please describe any changes PG&E plans to make during the 2023-2025 WMP period regarding the vegetation management activities that PG&E plans to undertake on rights-of-way with underground lines in the HFTD. c) Please provide any protocols, procedures, or manuals that describe PG&E's approach to vegetation management where PG&E has underground lines in the HFTD.	a) Where there are no overhead electric facilities, we do not conduct routine vegetation management activities. As part of GO 165, the PG&E System Inspection program can identify vegetation work as part of clearing and maintenance for padmount transformers and other typical undergrounding equipment. b) Not applicable. c) Not applicable.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.2	Vegetation Management and Inspections	N/A
265	CalPA	Set WMP-19	CalPA_Set WMP-19	7	CalPA_Set WMP-19_Q7	Pages 454-455 of PG&E's WMP describe PG&E's plan to reduce its backlog of open distribution work orders. As part of this plan, PG&E states that it plans to eliminate the ignition-risk backlog by the end of 2029, and the non-ignition risk backlog by the end of 2032. a) Does the plan described above apply to PG&E's entire service territory, or only those tags in the HFTD/HFRA? b) When does PG&E expect to eliminate its backlog of ignition-risk distribution work orders that exist outside the HFTD/HFRA? c) When does PG&E expect to eliminate its backlog of non-ignition-risk distribution work orders that exist outside the HFTD/HFRA?	a) This plan only applies to tags in HFRA/HFTD areas because these areas constitute 99% of the wildfire risk in our service territory. b) We are still in the process of creating a plan/timeline for eliminating our backlog of tags outside of our HFRA/HFTD areas. Given that the HFRA/HFTD areas comprise 99% of the wildfire risk in our territory, we are prioritizing this work in order to reduce our wildfire risk as quickly and efficiently as possible. c) Please see the response to subpart (b) above.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1.7.2	Open Work Orders	Open Work Orders – Distribution Tags
266	CalPA	Set WMP-19	CalPA_Set WMP-19	8	CalPA_Set WMP-19_Q8	Page 454 of PG&E's WMP states, "We divide remaining notifications into two groups: (1) ignition risk notifications in the HFTD/HFRA; and (2) non-ignition risk notifications in the HFTD/HFRA." a) How does PG&E determine whether a maintenance issue is an "ignition risk notification" or a "non-ignition risk notification"? b) Are there circumstances where a tag is a "non-ignition risk tag" but still poses other public safety hazards? c) If the answer to part (b) is yes, please list all such circumstances.	a) "Ignition Risk" notifications are maintenance tags that have been determined to have some form of ignition risk as a result of the non-conformance identified on the tag (e.g., conductor or structural support deficiency). We used a combination of wildfire risk models to calculate the wildfire risk for each notification. Each notification contains one or multiple FDA (Facility-Damage-Action) code(s) for documenting the associated issue. A team of subject matter experts from Asset Strategy, Wildfire Risk Management, and Standards/Work Methods reviewed each combination of FDAs and bucketed them into the following categories: i. No – Not Ignition Risk. This FDA has no probability of ignition. ii. Yes - Ignition risk, and then mapped to an associated wildfire risk model (example: Conductor composite model, support structure equipment failure model, vegetation composite model). Then	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1.7.2	Open Work Orders	Open Work Orders – Distribution Tags

267	CalPA	Set WMP-19	CalPA_Set WMP-19	9	CalPA_Set WMP-19_Q9	Page 895 of PG&E's WMP references an external study that stated, "for fire weather purposes, it may be necessary to position additional weather stations in canyons and other regions where short-term winds can rapidly spread wildfires." a) In response to this report, has PG&E assessed the need to position additional weather stations in canyons and other regions where short-term winds can rapidly spread wildfires? b) If the answer to part (a) is yes, please describe the results of any such assessment. c) In the 2023-2025 period, does PG&E plan to assess (or continue assessing) the need to position additional weather stations in canyons and other regions where short-term winds can rapidly spread wildfires?	a) We assess the need to position weather stations in canyons, but not specifically in response to this report. The external report did not provide specific guidance on canyons and other localized locations. Therefore, we continually evaluate the need for additional weather stations during each year of the program and install weather stations where appropriate. b) Please see the response above. The siting of new weather station locations is a routine part of the program and not a unique assessment that can be provided. c) Yes, this is part of our routine program.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-10 – Justification of Weather Station Network Density
268	CalPA	Set WMP-19	CalPA_Set WMP-19	10	CalPA_Set WMP-19_Q10	Table PG&E-22-11-3 on page 903 of PG&E's WMP lists the component costs of covered conductor installation. Below the table, PG&E states, "The costs in Table PG&E-22-11-3 include the components for CC that are comparable with the other IOUs as part of the Joint IOU efforts. They do not include all cost components that make up our comprehensive Overhead System Hardening Program." a) Please add rows to Table PG&E-22-11-3 for the components that are part of PG&E's comprehensive overhead system hardening program but were not included in Table PG&E-22-11-3. b) For each item in Table PG&E-22-11-3, including the elements noted in part (a), please provide a brief description of the work and materials that are included in each component.	a) The statement referenced was to simply point out that the System Hardening Program is made up of a suite of mitigation options including Covered Conductor, Remote Grid, Removal, and Underground. The costs associated with the overhead hardening projects recorded were bundled into similar categories for only the overhead hardening portion of our System Hardening program. There are no additional costs associated with overhead hardening that were excluded from Table 22-11-3. b) Not applicable.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-11 – Covered Conductor Effectiveness Lessons Learned
269	CalPA	Set WMP-19	CalPA_Set WMP-19	11	CalPA_Set WMP-19_Q11	Pages 968-969 of PG&E's WMP describe PG&E's simplified wildfire risk spend efficiency (SWRSE), used to prioritize its undergrounding projects. Page 1006 states, "For the Undergrounding Program, we selected the roughly 8,000 OH miles with the highest SWRSE to produce roughly 10,000 miles of undergrounding." a) Is there a threshold SWRSE value at which PG&E determines that covered conductor is a more suitable mitigation than undergrounding? Please explain your answer. b) Is there a threshold SWRSE value at which PG&E determines that undergrounding is not a suitable mitigation? Please explain your answer. c) Does PG&E plan to underground any portion of line with a lower SWRSE than	a) No, there is no threshold in SWRSE that we use to determine that covered conductor is a more suitable mitigation than undergrounding. SWRSE helps provide ranking of locations which have higher risk spend efficiency to mitigate wildfire work as compared to other locations and is used to select miles for undergrounding. Regarding the decision between covered conductor and undergrounding, the overall consideration of the amount of risk reduction the mitigation provides is important. By undergrounding, the amount of residual risk is virtually removed, while covered conductor does not fully mitigate the risk. b) No, there is not currently a threshold of SWRSE that we use to determine that undergrounding is not a suitable mitigation. In these early stages of our permanent system resilience mitigation work (undergrounding), we are focusing on undergrounding miles in the highest risk areas as defined in Section 8.1.2.2 of the 2023-2025 WMP, which include high risk circuits based on our	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-34 – Revise Process of Prioritizing Wildfire Mitigations
270	CalPA	Set WMP-19	CalPA_Set WMP-19	12	CalPA_Set WMP-19_Q12	Attachment 1 to PG&E's response to data request CalAdvocates-PGE-2023WMP-14 states that on November 18, 2019, an intrusive inspection indicated that a pole had 18% remaining strength. On January 14, 2020, the inspector issued a priority E tag to replace the pole by January 13, 2021. a) Why was the tag for the above pole created approximately two months after the initial finding? b) Describe any actions that PG&E took between November 18, 2019 and January 14, 2020 to address the safety of the pole noted above. c) Why was the tag created with a one-year deadline based on the tag creation date, rather than a deadline based on the date of the initial finding? d) Under PG&E's current procedures and process, is the compliance deadline for a	a) The delay was due to this pole being intrusively inspected using our legacy inspection system, which did not release inspection records until the inspection project was closed, enabling the downstream corrective action notifications to be created. In the legacy inspection system, inspection projects were created with a finite volume of poles (generally between 200 and 400 poles) and the project was not closed until the entire pole population was inspected. Due to access issues and other constraints, it was not unusual for projects to remain open for multiple months. We acknowledged this gap and, in March of 2022, we retired this legacy inspection system. We migrated intrusive inspections onto the updated inspection application, which releases inspection records in real time and creates corrective action notifications on the same day as the inspection.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1.3.2.3	Asset Inspections	Intrusive Pole Inspections
271	CalPA	Set WMP-19	CalPA_Set WMP-19	13	CalPA_Set WMP-19_Q13	The PG&E Independent Safety Monitor Status Update Report by Filsinger Energy Partners on October 4, 2022, page 9 states: During the period, the ISM reviewed data provided by PG&E related to PG&E's Underground Transmission asset ages and the average age of certain PG&E Underground Transmission assets. For example, 60% of one type of underground transmission cable is beyond its useful life.[18] Footnote 18 states, "Internal PG&E Report." Page 9 of the ISM report further states, "PG&E also states in an internal report published in May 2022 that underground transmission provides a low-risk score." a) Please provide a copy of the internal PG&E report referenced in footnote 18. b) Please provide a copy of the internal PG&E report published in May 2022,	The confidential attachment is being provided pursuant to the accompnaying confidentiality declaration. a) Please reference "WMP-Discovery2023_DR_CalAdvocates_019-Q013Atch01CONF.pdf" for our internal PG&E presentation from May 2022. Specifically, the references are found on Slide number 16. We clarify that "beyond its useful life" refers to expected average based on industry benchmarking information. Actual condition of the assets such as their physical environment, loading conditions, inspection results, etc. may adjust this useful life. The percentage was provided to show, on a high level, where we may need to focus life extension and asset renewal efforts. b) Please reference "WMP-Discovery2023_DR_CalAdvocates_019-Q013Atch01CONF.pdf" included in part (a) of this response.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	1	N/A	8.1.2.5	Grid Design and System Hardening	Traditional Overhead Hardening –Transmission Conductor and Distribution
272	CalPA	Set WMP-19	CalPA_Set WMP-19	14	CalPA_Set WMP-19_Q14	On April 13, 2023, Cal Advocates met with a Senior Director of Grid Research Innovation and Development at PG&E. During this meeting, PG&E stated that REFCL is not a scalable product. a) Does the above statement accurately reflect PG&E's current assessment of REFCL? Please explain your answer. b) If the answer to part (a) is yes, please state all the reasons why PG&E believes REFCL is not a scalable product.	a) We are still evaluating REFCL technology in the EPIC3.15 demonstration project including field testing and gaining operational experience. We expect to have final results by the end of 2023. Decisions about further deployment of REFCL will be made after completion of the demonstration project with consideration for all wildfire risk mitigations available. b) Not applicable.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1.8.1.3.1	Grid Design, Operations, and Maintenance	8.1.8.1.3.1 Rapid Earth Fault Current Limiter
273	CalPA	Set WMP-19	CalPA_Set WMP-19	15	CalPA_Set WMP-19_Q15	a) Has PG&E performed a study to estimate the combined effectiveness of one or more combinations of covered conductor, EPSS, DCD, PVD, and REFCL in mitigating wildfires, when installed on distribution circuits in the HFTD? b) If the answer to part (a) is no, please explain why not. c) If the answer to part (a) is no, does PG&E plan to perform such a study? If so, provide the timeline for initiating and completing it. d) If the answer to part (a) is yes, please provide the results of any such study, including any reports, workpapers, or other work products.	a) PG&E is actively analyzing the effectiveness of Covered Conductor (CC), in combination with EPSS and DCD/PV. In addition, we are actively analyzing the effectiveness of Bare Conductor (BC), in combination with EPSS and DVD/PV. PG&E is in the initial phase of these two studies and intends to use the results to compare the effectiveness of CC and BC. b) As noted in the response to subpart a, we have not done this analysis previously, but it is underway. One reason that this analysis has not been completed to date is the evolution of our combined mitigations. 2022 was the first year of broad-scale application of EPSS, while DCD and PV were in development and refinement phases in 2022, such that we were still developing the knowledge, experience, and data regarding how these tools would work to mitigate wildfire risk.	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	8.1.2	Grid Design and System Hardening	Various
274	CalPA	Set WMP-19	CalPA_Set WMP-19	16	CalPA_Set WMP-19_Q16	Table 7 on page 20 of the Joint IOU Covered Conductor Working Group Report lists SCE's estimate of the combined effectiveness of its covered conductor program, asset inspections, and several vegetation management programs. a) Has PG&E performed a similar estimate of the combined effectiveness of covered conductor, asset inspections, and vegetation management? b) If the answer to part (a) is yes, please explain the results of PG&E's estimate. c) If the answer to part (a) is no, please explain why not. d) If the answer to part (a) is no, does PG&E plan to perform such a study?	a) We have not performed a similar analysis of covered conductor (CC) with the same methodology as used in Table 7. b) Not applicable. c) We did not conduct a similar estimate of the combined effectiveness of covered conductor, asset inspections, and several VM programs because Figure 8, Table 6, and Table 7 in the Joint IOU Covered Conductor Working Group Report were preliminary work and some assessments of the values for Table 6 and Table 7 were inputted by the joint utilities for illustrative purposes only. As stated on pages 17 and 18 in the Alternatives section of the Joint IOU Covered Conductor Working Group Report, the framework (Figure 8, page 18) used to support Table 7 is preliminary. Table 7 is an illustration of how that proposed framework in Figure 8 would work as	Holly Wehrman	4/25/2023	4/28/2023	4/28/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_019.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-11 – Covered Conductor Effectiveness Lessons Learned
275	CalPA	Set WMP-20	CalPA_Set WMP-20	1	CalPA_Set WMP-20_Q1	a) Describe PG&E's standard process for retiring an asset from service. b) Describe how PG&E records the retirement of an asset from service.	a) Decisions to replace an asset and retire it from service are driven by various factors such as asset risk, condition, design usefulness, and capacity needs, and are determined by the asset managers of each asset family. Different programs establish varied processes for making decisions on when to retire an asset from service. As an example, in our distribution system hardening and the undergrounding program, PG&E follows TD-9001M Chapter 15 requirements attached as "WMPDiscovery2023_DR_CalAdvocates_020-Q001Atch01.pdf". The overhead assets are therefore retired when they are replaced with new, hardened assets (either overhead or underground) based on PG&E's determination driven from the wildfire distribution risk model as described in the WMP.	Holly Wehrman	4/26/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_020.zip	1	N/A	8.1.5	Asset Management and Inspection Enterprise System(s)	N/A
276	CalPA	Set WMP-20	CalPA_Set WMP-20	2	CalPA_Set WMP-20_Q2	a) In 2022, as part of its WMP system hardening activities, did PG&E retire from service (i.e., replace, remove, destroy, or decommission) any assets that had not been fully depreciated at the time of retirement? b) Please describe how PG&E recorded the retirement of assets during 2022 system hardening activities.	a) Not applicable. The assets replaced as part of WMP system hardening activities (electric distribution overhead assets) follow group depreciation and retirement accounting. As such, there is no undepreciated value for the assets that were retired. Please refer to our response to Question 005, Subpart (a) for additional information on group depreciation and retirement accounting. b) Please see the response to Question 001, Subparts (a) - (b) of this Data Request. The retirement of assets during 2022 system hardening activities followed PG&E's standard process for recording the retirement of assets.	Holly Wehrman	4/26/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_020.zip	0	N/A	8.1.2	Grid Design and System Hardening	All
277	CalPA	Set WMP-20	CalPA_Set WMP-20	3	CalPA_Set WMP-20_Q3	a) In 2023, as part of its WMP system hardening activities, does PG&E intend to retire from service (i.e., replace, remove, destroy, or decommission) any assets that are not fully depreciated at the time of retirement? b) Please describe how PG&E will record the retirement of assets during 2023 system hardening activities.	a) Not applicable. The assets to be replaced as part of WMP system hardening activities in 2023 follow group depreciation and retirement accounting. As such, there is no undepreciated value of the assets that will be retired. Please refer to our response to Question 005, Subpart (a) for additional information. b) See response to Question 001, Subparts (a) - (b) of this Data Request Set. The retirement of assets during 2023 system hardening activities follow PG&E's standard process for recording the retirement of assets.	Holly Wehrman	4/26/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_020.zip	0	N/A	8.1.2	Grid Design and System Hardening	All
278	CalPA	Set WMP-20	CalPA_Set WMP-20	4	CalPA_Set WMP-20_Q4	What is PG&E's standard practice for tracking assets that are retired from service before they are fully depreciated?	Please see the response to Question 001, Subpart (b) for information regarding the tracking of PG&E's retired assets. Please also see Question 005, Subpart (a) for information on group depreciation and retirement accounting, as established by the CPUC, FERC, and the National Association of Regulatory Utility Commissioners (NARUC), which PG&E follows.	Holly Wehrman	4/26/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_020.zip	0	N/A	8.1.5	Asset Management and Inspection Enterprise System(s)	N/A
279	CalPA	Set WMP-20	CalPA_Set WMP-20	5	CalPA_Set WMP-20_Q5	a) If PG&E retires from service an asset that has not been fully depreciated, does it remove the remaining undepreciated value of the asset from its rate base? b) How does PG&E determine the remaining undepreciated value of an asset at the time the asset is retired from service? c) Please describe any scenario in which PG&E would retire from service an asset that has not been fully depreciated, but would keep the remaining undepreciated value of the asset in its rate base.	a) The premise of this question is incorrect. PG&E follows group depreciation and retirement accounting, as established by the CPUC, FERC, and the National Association of Regulatory Utility Commissioners (NARUC). Group depreciation accounting refers to the well-established regulatory accounting method for large groups of homogenous assets. The premise of group depreciation accounting principles (which may be referred to as "mass asset accounting" or "group depreciation") is that assets retired are deemed fully depreciated at the time of their retirement, and hence their value in rate base going forward is zero. As such, there is no undepreciated value of WMP assets retired. PG&E follows group depreciation practices, which are based on the average service life of elements of plant and equipment. The average age takes into account the ages of assets whenever they	Holly Wehrman	4/26/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_020.zip	0	N/A	8.1.5	Asset Management and Inspection Enterprise System(s)	N/A

280	CalPA	Set WMP-20	CalPA_Set WMP-20	6	CalPA_Set WMP-20_Q6	a) As of the date of this data request, does PG&E's rate base currently include any portion of the value of any assets that are no longer in service? b) If the answer to part (a) is yes, please explain why. c) If the answer to part (a) is no, list the controls in place that ensure PG&E's rate base does not currently include any portion of the value of assets that are no longer in service.	a) No. Please see the response to Question 005, Subpart (a) for a detailed explanation. b) Not applicable, as described in subpart (a) of this response. c) PG&E follows group depreciation and retirement accounting established by the CPUC, FERC, and National Association of Regulatory Utility Commissioners (NARUC). As such, there is no undepreciated value of WMP retired assets in rate base or required controls. Please see the response to Question 005, Subpart (a), for a detailed explanation.	Holly Wehrman	4/26/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_020.zip	0	N/A	8.1.5	Asset Management and Inspection Enterprise System(s)	N/A
281	CalPA	Set WMP-20	CalPA_Set WMP-20	7	CalPA_Set WMP-20_Q7	In its response to data request CalAdvocates-PGE-2023WMP-14, questions 20-22, PG&E stated, "We cannot provide the requested data. Our asset registry and work execution systems are not set up to enable this cross-referenced data consolidation and we do not track the volume of assets replaced that have not been fully recovered." a) Please explain what is meant by the statement, "Our asset registry and work execution systems are not set up to enable this cross-referenced data consolidation." b) Please explain what is meant by the statement, "we do not track the volume of assets replaced that have not been fully recovered." c) Is PG&E able to determine the number of assets that have not been fully	a) Please see the response to Question 001, Subparts (a) and (b). When an asset is retired from service, PG&E has an as-built process to document work completed in the field. These as-builts are submitted for mapping in the system of record and the retired asset is removed from our Geospatial System or record (GIS). In addition, the retired asset is also removed from the in-service partition of the work management system (SAP) and placed in the archival partition within SAP, where it can be accessed for reference only. b) Please see the response to Question 007, Subpart (a). When an asset is retired from service, it is removed from our GIS system and archived within SAP. Please see also the response to CalAdvocates_020-QQuestion 005, Subpart (a) which describes that the assets replaced in the WMP follow group accounting, and there	Holly Wehrman	4/26/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_020.zip	0	N/A	8.1	Grid Design, Operations, and Maintenance	Distribution Pole and Replacements Traditional Overhead Hardening Transformers
282	TURN	009	TURN_009	1	TURN_009_Q1	1. Regarding the 2023-2026 Undergrounding Workplan referenced on page 910 of the WMP (R1) and provided in Excel format in response to TURN Data Request 2-4: a. For each undergrounding project listed in this document, please provide the RSE calculated in accordance with the CPUC's S-MAP Settlement (see pp. 242 et seq of PG&E's WMP-R1) (not SWRSE or WFE) that PG&E calculated for the undergrounding project. Please provide all inputs and calculations for these RSE values, in live Excel format. b. For each undergrounding project listed in this document, please provide the RSE calculated in accordance with the CPUC's S-MAP Settlement (see pp. 242 et seq of PG&E's WMP-R1) that PG&E calculated for any alternative mitigation for the	a) As explained on page 906 of the 2023-2025 WMP, PG&E developed a measurement described in the 2022 Revised WMP as the Simplified Wildfire Risk Spend Efficiency (SWRSE) or Wildfire Feasibility Efficiency (WFE) to identify where PG&E could most efficiently reduce risk given the terrain feasibility at a particular location due to the presence of hard rock, large water crossings, and/or gradient. PG&E calculates the SWRSE as follows: SWRSE = Wildfire Risk = ______Wildfire Risk____________ Cost Standard Cost * Feasibility Score While in practice the standard cost per mile of undergrounding is expected to decline over time, PG&E assumed it to be fixed at 1 for all circuit segments so that the selection is only driven by feasibility and risk. This defines the WFE Score: =	Tom Long	4/26/2023	5/1/2023	5/1/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_009.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-16 – Progress and Updates on Undergrounding and Risk Prioritization
283	MGRA	Data Request No. 3	MGRA_Data Request No. 3	1	MGRA_Data Request No. 3_Q1	Please provide for Asset Point data for Camera, Fuse, Support Structure, and Weather Station.	The attachments have been reuploaded to ESFT.	Joseph Mitchell	4/27/2023	5/2/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_003.pdf	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
284	MGRA	Data Request No. 3	MGRA_Data Request No. 3	2	MGRA_Data Request No. 3_Q2	Provide Asset Line data for Transmission Line (as permitted as non-confidential), Primary Distribution Line, and Secondary Distribution Line.	The attachments have been reuploaded to ESFT.	Joseph Mitchell	4/27/2023	5/2/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_003.pdf	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
285	MGRA	Data Request No. 3	MGRA_Data Request No. 3	3	MGRA_Data Request No. 3_Q3	Provide PSPS Event data. Include Event Log, Event Line, Event Polygon data. Please exclude customer meter data. Provide all PSPS Event Asset Damage data including photos.	The attachments have been reuploaded to ESFT.	Joseph Mitchell	4/27/2023	5/2/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_003.pdf	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
286	MGRA	Data Request No. 3	MGRA_Data Request No. 3	4	MGRA_Data Request No. 3_Q4	Provide Risk Event Point data, including Wire Down, Ignition, Transmission unplanned outage (as classified non-confidential), Distribution Unplanned Outage data, Distribution Vegetation Caused Unplanned Outage, Risk Event Asset Log.	The attachments have been reuploaded to ESFT.	Joseph Mitchell	4/27/2023	5/2/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_003.pdf	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
287	MGRA	Data Request No. 3	MGRA_Data Request No. 3	5	MGRA_Data Request No. 3_Q5	Under Initiatives, please provide Grid Hardening data, including Hardening Log, Hardening Point, and Hardening Line data. Inspection data is not requested at this time.	The attachments have been reuploaded to ESFT.	Joseph Mitchell	4/27/2023	5/2/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_003.pdf	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
288	MGRA	Data Request No. 3	MGRA_Data Request No. 3	6	MGRA_Data Request No. 3_Q6	Under Initiatives, please provide Other Initiative data for point, line, polygon features and the Other Initiative Log.	The attachments have been reuploaded to ESFT.	Joseph Mitchell	4/27/2023	5/2/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_003.pdf	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
289	MGRA	Data Request No. 3	MGRA_Data Request No. 3	7	MGRA_Data Request No. 3_Q7	Under Other Required Data, please provide Red Flag Warning Day polygon data.z	The attachments have been reuploaded to ESFT.	Joseph Mitchell	4/27/2023	5/2/2023	4/27/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_003.pdf	0	N/A	6.4	Risk Methodology and Assessment	Risk Analysis Results and Presentation
290	CalPA	Set WMP-21	CalPA_Set WMP-21	1	CalPA_Set WMP-21_Q1	Per Table 8-12, Vegetation Management Implementation Objectives, PG&E's Focused Tree Inspection (FTI) Program is currently under development. By the end of 2025, PG&E plans to "Fully implement AOC cross-functional team to implement guidelines across all AOCs."4 PG&E states in response to question 11 of data request CalAdvocates-PGE-WMP-15 that its FTI pilot of 300 overhead miles is "intended to yield the learnings needed to support and inform future work plans." Please provide an anticipated schedule for PG&E's rollout of the Focused Tree Inspection Program in the table below (adding rows as needed). Include, at a minimum, when and how PG&E will execute the pilots, analyze data collected from those pilots, and translate said data into a fully realized Focused Tree Inspection	Please see the table below for the Focused Tree Inspection Program schedule. PG&E is still developing the procedures for this program. We intend to use Q4 of 2023 to analyze the results of the pilots to inform our 2024 FTI plan. Step in implementing the Focused Tree Inspections Program Beginning Date Completion Date Execute FTI Pilots 5/30/2023 12/31/2023 Evaluate how mid-cycle inspections sequence can adjust with FTI 6/1/2023 11/30/2023 Review relevant processes and procedures 3/1/2023 10/31/2023 Implement guidelines across all AOCs in HFRA 10/31/2024 12/31/2024 Evaluate feasibility of developing a multi-year historical dataset 8/1/2023 3/1/2024	Holly Wehrman	4/27/2023	5/2/2023	5/2/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_021.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
291	CalPA	Set WMP-21	CalPA_Set WMP-21	2	CalPA_Set WMP-21_Q2	Per Table 2 in PG&E's Revised Quarterly Data Report for quarter 4 of 2022, PG&E had the following numbers of level 2 and level 3 findings from distribution inspections in the HFTD in 2020, 2021, and 2022: Distribution Inspection Findings in HFTD 2020 2021 2022 Detailed Inspection Level 2 findings 48,309 21,193	After reviewing the data to provide a response to this request, PG&E realized that the data provided in our prior submission was incorrect. This discrepancy was the result of an Excel error that occurred when PG&E revised Table 2 with the additional inspection type details required for Q4 2022. Please see attachment "WMPDiscovery2023_DR_CalAdvocates_021-Q002Atch01.docx" for updated distribution inspection findings in HFTD from 2020 to 2022. Based on this corrected data, PG&E address the patterns in the findings below. (a) & (b) For our detailed ground inspections, increases in findings over these three years (particularly in 2022) in both Tier 2 and Tier 3 HFTD areas can be attributed to our renewed focus on training and quality of inspections. These key improvements to our inspection process included the following: • The addition of indicators for ignition risk conditions on training	Holly Wehrman	4/27/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_021.zip	1	N/A	QDR	N/A	N/A
292	CalPA	Set WMP-21	CalPA_Set WMP-21	3	CalPA_Set WMP-21_Q3	In response to data request CalAdvocates-PGE-2023WMP-16, question 10, PG&E stated, "The five most common problems identified in the QC process are: C-hooks, insulators, cotter pins, shoe issues, and structural issues." For each of the five problems listed above, please list any changes PG&E has made to its inspection process, procedures, or training to reduce the number of inspections with these problems.	The confidential attachment is being provided pursuant to the accompanying confidentiality declaration. Please note, the quote is in reference to CalAdvocates-PGE-2023WMP-10, question 15. For transmission inspections training, the top QC findings were shared with all returning and new inspectors as part of 2023 Onboarding and Refresher. Aerial Transmission Inspections 1) C-Hooks and hanger plates: PG&E created visual diagrams to help identify wear and corrosion on c-hooks and hanger plates. Please see Air+Handbook page 121-124 and job aid TD-1001M- JA-07. 2) Insulators: PG&E developed training and documentation for identifying issues from flashes/tracking/chalking/contamination/pin corrosion. Additionally, PG&E continue to share all	Holly Wehrman	4/27/2023	5/2/2023	5/2/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_021.zip	3	N/A	QDR	N/A	N/A

293	CalPA	Set WMP-21	CalPA_Set WMP-21	4	CalPA_Set WMP-21_Q4	Figure PG&E-8.1.8-2 on p. 465 of PG&E's WMP shows that PSPS will be considered under the following conditions: • Wind gusts 30-40+ mph • Relative humidity <30% • Dead Fuel Moisture <9-11% • FPI of R5+ Page 768 of PG&E's WMP states that the following thresholds are taken into consideration in PSPS decision-making: • Sustained wind speed above 19 miles per hour • Dead fuel moisture (DFM) 10 hour less than 9 percent • DFM 100-hour, 1,000 hours less than 11 percent • Relative Humidity (RH) below 30 percent	a) Figure PG&E-8.1.8-2 on p. 465 of PG&E's WMP is intended to be a simplified version of our criteria for general awareness. Whereas the thresholds on page 768 of PG&E's WMP are the minimum fire potential conditions with quantifiable factors used during PSPS. b) An FPI of R5+ is when there is an occurrence of high FPI (above 0.7) plus the presence of high ignition potential driven by wind. c) PG&E considers sustained wind speeds for PSPS decision making on the distribution system.	Holly Wehrman	4/27/2023	5/2/2023	5/2/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_021.zip	0	N/A	9.2.1	Public Safety Power Shutoff	Risk Thresholds (e.g., WS, FPI, etc.) and Decision-Making Process That Determine the Need for a PSPS.
294	MGRA	Data Request No. 4	MGRA_Data Request No. 4	1	MGRA_Data Request No. 4_Q1	Please provide a description of how the data was created, and from which version of WDRM. Please provide a description of how risk data was assigned to the 100 meter square polygons that make up the layer, specifically if it is an average over the risk scores of the components within the area.	Section 6.4.1.1 is provided in response to Energy Safety's 2023-2025 WMP guidelines which requested a geospatial risk map with risk levels presented in three layers as th top 5%, 5% to 20%, and bottom 80% within the HFRA. PG&E provided a more detailed presentation of risk layers than requested. For this reason, the numeric risk value is not provided as it was not requested. The data provided in Attachment 2023-03-27_PGE_2023_WMP_R1_Appendix C_Atch01\Section_6.gdb is from the Wildfire Distribution Risk Model v3. The risk values for each 100m x 100m pixel are the System Hardening composite value. As described in section 6.2.2.3, pages 171 and 172 in PG&E's 2023-2025 WMP, the pixel level risk value is the product of the cumulative probability of all risk drivers in that pixel and the wildfire consequence.	Joseph Mitchell	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_004.zip	1	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
295	MGRA	Data Request No. 4	MGRA_Data Request No. 4	2	MGRA_Data Request No. 4_Q2	Explain why the vast majority of the polygons show low risk (<25%), and why high risk polygons (>70%) are very rare.	PG&E objects to this question as vague. Subject to and without waiving this objection, PG&E responds as follows: High risk polygons are rarer than low risk polygons as the highest wildfire risk is concentrated. This distribution of risk can be seen in Figure 6.2.2-11.	Joseph Mitchell	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_004.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
296	MGRA	Data Request No. 4	MGRA_Data Request No. 4	3	MGRA_Data Request No. 4_Q3	Explain why the polygons do not cover all of the primary distribution lines in the HFTD. Example below:	Upon review, PG&E has confirmed that the original Attachment 2023-03-27_PGE_2023_WMP_R1_Appendix C_Atch01\Section_6.gdb file inadvertently dropped some risk pixels. Please see "WMP-Discovery2023_DR_MGRA_004-Q003Atch01.zip" for an updated GDB file. We will reach out to Energy Safety to provide this updated information pursuant to Energy Safety's guidelines.	Joseph Mitchell	4/28/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_004.zip	1	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
297	MGRA	Data Request No. 4	MGRA_Data Request No. 4	4	MGRA_Data Request No. 4_Q4	Please explain why isolated "hot polygons" appear in the data, as shown below, and whether these represent actual risk or an artifact.	It is difficult to determine the location of the provided example based on the information provided. Orphaned pixels, such as those shown in the example, may result from missing pixels due to incomplete data or processing of the data. At the pixel-by-pixel level, the model does exhibit some level of noise that can result in high-risk hot spots in an area of generally lower risk pixels . As seen in the example below, low risk and highrisk pixels can mix locally. For this reason, workplan development is generally guided by circuit segment level aggregations that provide an improved indication of risk level.	Joseph Mitchell	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_004.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
298	MGRA	Data Request No. 4	MGRA_Data Request No. 4	5	MGRA_Data Request No. 4_Q5	Please provide an alternative and more complete version of this data set in which: a. Raw numeric data is provided rather than a 5% binning. This will allow a rescaling of "low" and "high" risks to be more relative and show any gradients across the PG&E territory. b. Coverage extends to all circuits in the HFTD.	a. Please find the requested data in "WMP-Discovery2023_DR_MGRA_004-Q003Atch01.zip." Results from analysis at the pixel level will provide a different assessment of the spatial pattern of risk than at the aggregated level. b. Specific to this request, the attached file provides risk pixels and associated requested values for all locations in the HFTD and HFRA.	Joseph Mitchell	4/28/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_004.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
299	MGRA	Data Request No. 4	MGRA_Data Request No. 4	6	MGRA_Data Request No. 4_Q6	If the risk score for each polygon represents an average over the risk in the polygon, please provide an additional version in which the maximum numerical value in the polygon is provided instead.	As described in section 6.2.2.3, pages 171 and 172 in PG&E's 2023-2025 WMP, the pixel level risk value is the product of the cumulative probability of all risk drivers in that pixel and the wildfire consequence. As such, the value is not an average over the risk in a polygon.	Joseph Mitchell	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_004.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
300	MGRA	Data Request No. 4	MGRA_Data Request No. 4	7	MGRA_Data Request No. 4_Q7	If possible, provide two additional sets of GIS data in identical format to the original, one representing the POI component of the WDRM model and a separate set showing the consequence component of the WDRM score. Output should be in numerical format and not binned.	The file provided in "WMP-Discovery2023_DR_MGRA_004-Q003Atch01.zip" contains the additionally requested Risk, POI, and Wildfire Consequence data.	Joseph Mitchell	4/28/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_004.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
301	MGRA	Data Request No. 4	MGRA_Data Request No. 4	8	MGRA_Data Request No. 4_Q8	Please provide an excel spreadsheet giving the Distribution Outage ID for each outage occurring while EPSS was enabled in 2022.	Please see "WMP-Discovery2023_DR_MGRA_004-Q008Atch01.xlsx."	Joseph Mitchell	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_004.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
302	TURN	010	TURN_010	1	TURN_010_Q1	PG&E's WMP (R1) at page 3 states PG&E undergrounded 180 miles in 2022 and 73 miles in 2021. In each of these years, separately, please provide the number of overhead miles that were converted to underground related to these mileage figures.	We currently do not track the overhead miles removed and replaced through undergrounding. Our geospatial system of record only tracks assets currently in the field. Based on the average overhead to underground conversion factor of 1 overhead mile to 1.25 system hardening underground miles and the estimated conversion factor of 1 overhead mile to 1.57 community rebuild underground miles, the estimated overhead miles removed in 2022 and 2021 were approximately 134 and 53 miles, respectively. The below table represents the miles complete in 2021 and 2022, split by System Hardening and Community rebuild that calculate the estimated overhead miles removed based on each program. Program OH to UG	Tom Long	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_010.zip	0	N/A	8.1.2.2	Grid Design, Operations, and Maintenance	Undergrounding
303	TURN	010	TURN_010	2	TURN_010_Q2	PG&E's WMP (R1) at page 4 states "Between 2023 and 2026, 87 percent of PG&E's undergrounding work is planned for the top 20 percent of risk-ranked circuit segments, as identified by our risk models." a. Please provide workpapers and data in Excel that supports the 87 percent figure. b. Please explain what "top 20 percent of risk-ranked circuit segments" means, and reference the data and response in part (a) to show how this is calculated.	The confidential attachment is being provided pursuant to a signed Non-Disclosure Agreement with PG&E. a. Please see attachment "WMP-Discovery2023_DR_TURN_010-Q002Atch01CONF.xlsx" b. "Top 20% Risk-Ranked Circuit Segments" miles can come from either the WDRM V2 or V3 Risk Rank Models: The "V3 Top 20% Risk-Ranked Circuit Segments" are miles selected from the WDRM V3 risk model with a V3 Risk Rank greater than 720. Any miles with a V3 Risk Rank above 720 that are completed as part of the program would then be considered outside "the top 20 percent of risk-ranked circuit segments". The "V2 Top 20% Risk-Ranked Circuit Segments" are miles selected from the WDRM V2 risk model with a V2 Risk Rank of greater than 727. Any miles with a V2 Risk Rank above 727 that are completed as part of the program would then be considered outside "the top 20 percent of	Tom Long	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_010.zip	1	Yes	8.1.2.2	Grid Design, Operations, and Maintenance	Undergrounding
304	TURN	010	TURN_010	3	TURN_010_Q3	Following up on the response to TURN DR 7-4(c), in which TURN asked whether PG&E calculated circuit-segment level RSEs for the past and future work shown in Attachment 2023-04-06_PGE_2023_WMP_R2_Section 6.4.2_Atch01, an earlier version of which is referenced on page 195, fn. 77 of the WMP (R1): a. Whether or not OEIS required PG&E to present such circuit-segment level RSEs in the 2023-2025 WMP, has PG&E calculated them? If so, please provide the RSEs, preferably as additional columns in the workbook provided as Atch01 to TURN DR 7-2. Please provide all supporting workpapers, calculations, input data, and assumptions regarding these RSE calculations.	As described in more detail in response to TURN Data Request 09, PG&E's Wildfire Feasibility (WFE) scores incorporate the elements of RSE calculations with the feasibility element used to modify the spend factor to account for operational and executability factors. Please see attachment "WMP-Discovery2023_DR_TURN_010-Q003Atch01.xlsx" for a list of all circuit segments and their calculated WFE scores. Circuit segments without a WFE score are not in a HFTD and do not have a score calculated. • Circuit Segment (column A) • WFE Score (column B)	Tom Long	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_010.zip	1	N/A	6.4.2	Risk Methodology and Assessment	Top Risk-Contributing Circuits/Segments
305	TURN	010	TURN_010	4	TURN_010_Q4	Re Figure 22-34-1 on p. 969 (R1): a. Please provide this Figure in Excel with supporting data and calculations. b. Please explain what "line weighted risk per mile" means and how it is calculated. c. If not provided in part (a), in Excel please provide all circuit segments in PG&E's HFTD and HFRA and the corresponding WFE score and simplified WFRSE. Please provide supporting data and calculations in Excel. Please include as part of the response to part (a).	Please see "WMP-Discovery2023_DR_TURN_010-Q004Atch01.xlsx." Please note, the results and visual do not match identically due to the number of data points and size and scaling of the chart. This does not impact the Pearson coefficient results. b) Historically, PG&E has risk scored our circuit segments by "total risk" (the sum total of all risk pixels occupied by the circuit segment) or the "mean risk" (the sum total of all risk pixel occupied by the circuit segment, divided by the count of pixels in the sum). In this case, the "line weighted risk per mile" is the "total risk" in high fire areas, divided by the mileage of the circuit segment in high fire risk areas. c) Please see "WMP-Discovery2023_DR_TURN_010-Q004Atch01.xlsx", column E, with the underlying inputs of WFE/SWRSE as shown on column B and C. High Fire HFTD is the union of HFTD and HFRA miles on each circuit segment.	Tom Long	4/28/2023	5/10/2023	5/8/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_010.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-34 – Revise Process of Prioritizing Wildfire Mitigations

306	TURN	010	TURN_010	5	TURN_010_Q5	Please provide the number of miles of secondary overhead distribution lines versus primary overhead distribution lines in PG&E's HFTD, and separately for PG&E's self-identified HFRA.	Please see "WMP-Discovery2023_DR_TURN_010-Q005Atch01.xlsx".	Tom Long	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_010.zip	1	N/A	8.1.2.5	Grid Design and System Hardening	Traditional Overhead Hardening
307	TURN	010	TURN_010	6	TURN_010_Q6	PG&E's WMP (R1) at page 4 states "Recent data and analysis demonstrate that the Enhanced Vegetation Management (EVM) Program risk reduction is less than EPSS and additional Operational Mitigations such as Partial Voltage Detection capabilities." Please provide this recent data, including all supporting documents and quantitative analyses in Excel, that support this statement.	PG&E introduced the comparison of risk reduction and Risk Spend Efficiency (RSE) of EPSS vs EVM in the 2022 WMP and 2023 GRC Supplemental Filing in February 2022. This comparison is described in the 2023 GRC, Exhibit 3 Chapter 4 page 3-2 through 3-7. The updated wildfire mitigation strategy is summarized in Table 3-4 on page 3-39, as the risk reduction relative to spend between EVM and EPSS is substantially in EPSS's favor. Please reference the following workpapers: • 2022 WMP o 2022 WMP Data Table 12 - 'WMP-Discovery2023_DR_TURN_010-Q006Atch01.xlsx', initiative 7.3.5.15 and 7.3.6.8 o EVM RSE Workpaper - 'WMP-Discovery2023_DR_TURN_010-Q006Atch02.xlsx' o EPSS RSE Workpaper - 'WMP-Discovery2023_DR_TURN_010-Q006Atch03.xlsx'	Tom Long	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_010.zip	4	N/A	8.2.3	Vegetation Management and Inspections	Vegetation and Fuels Management
308	TURN	010	TURN_010	7	TURN_010_Q7	PG&E WMP (R1) at page 251 states "The type of mitigation tradeoff and effectiveness analysis we conduct informed PG&E's decision to transition away from the Enhanced Vegetation Management (EVM) program." a. Please provide all documentation and internal communications regarding the transition away from the EVM program. b. Please provide the "effectiveness analysis" conducted by PG&E that informed its decision to discontinue the EVM program. c. Please provide annual total spending on the EVM program from 2018-2022.	a. Please see "WMP-Discovery2023_DR_TURN_010-Q007Atch03CONF.pdf" sent by VM Program Communications on October 20, 2022 referencing end of EVM at the end of 2022. In an All-Hands Call held on October 20, 2022, PG&E informed staff that due to the end of the Enhanced Vegetation Management (EVM) Program by year's end, PG&E has eliminated the EVM program's mandatory trainings and evaluations. b. Please see "WMP-Discovery2023_DR_TURN_010-Q007Atch01.pdf" and "WMP Discovery2023_DR_TURN_010-Q007Atch02.pdf" that were performed by PG&E which helped inform the decision to discontinue EVM. c. The EVM program began in 2019. Please see below for EVM Actual Totals for 2019-2022. EVM Actual 2019 $ 470.4M 2020 $ 451.4M	Tom Long	4/28/2023	5/3/2023	5/3/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_010.zip	3	Yes	8.2.3	Vegetation Management and Inspections	Vegetation and Fuels Management
309	TURN	011	TURN_011	1	TURN_011_Q1	1. PG&E's WMP (R1) at page 4 references WDRM v3. a. Please explain and quantify the difference in risk ranking results between WDRM v2 and WDRM v3. Please provide all supporting data and analysis in Excel with working formulas. b. Please provide all results of WDRM v3 in Excel at the circuit segment, circuit protection zone, or most granular level available. This should include, at minimum, the following information in separate columns for all overhead HFTD and self-identified HFRA miles that have been evaluated: i. A unique circuit segment identifier that can be used to cross-reference with PG&E's undergrounding workplan, provided in workpaper "2023-04-06_PGE_2023_WMP_R1_Appendix D ACI PG&E-22-16_Atch01." Please add this	a) A explanation and quantification of the differences between the top 20% risk ranked circuit segments between WDRM v2 and WDRM v3 models is provided in the response to ACI 22-09 on pages 885-892 of the 2023 PG&E WMP. The worksheet supporting this work is provided in attachment "WMP Discovery2023_DR_TURN_011-Q001Atch01.xlsx." Within the worksheet the Readme tab directs the reader through the analysis supporting ACI 22-09 and specifically the waterfall chart and circuit segment counts provide on page 889 of the 2023 PG&E WMP. b) Please see attachment "WMP-Discovery2023_DR_TURN_011-Q001Atch02.xlsx," workbook SH_composite_cs_summary. i. See Column A	Tom Long	5/1/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_011.zip	2	N/A	6.2	Risk Methodology and Assessment	Risk Analysis Framework
310	TURN	011	TURN_011	2	TURN_011_Q2	2. Re PG&E's undergrounding workplan, "2023-04-06_PGE_2023_WMP_R1_Appendix D ACI PG&E-22-16_Atch01." a. Please add a column that provides the unique circuit segment identifier requested in 1(b)(i) above. b. Please add a column to this spreadsheet that provides the total wildfire risk of each circuit segment as calculated by WDRMv3. c. Please add a column to this spreadsheet that provides the total wildfire risk of each circuit segment as calculated by WDRMv2. d. Please add a column that provides the total overhead circuit miles of each circuit segment. e. Please explain why PG&E ranks circuit segments by "mean risk" rather than total	The confidential attachment is being provided pursuant to a signed NDA with PG&E. For subparts A-D, please see attachment "WMP-Discovery2023_DR_TURN_011-Q002Atch01CONF.xlsx". a. See column N for WDRM v2 circuit segment identifiers. See column Q for WDRM v3 circuit segment identifiers. b. See column AB. c. See column AC. d. See column AD. e. The Risk Rank order is described in Section 6.4.2 of the 2023 WMP. PG&E ranked circuit segments from highest to lowest mean wildfire/ignition risk. By	Tom Long	5/1/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_011.zip	3	Yes	Appendix D	Areas for Continued Improvement	ACI PG&E-22-16 – Progress and Updates on Undergrounding and Risk Prioritization
311	TURN	011	TURN_011	3	TURN_011_Q3	3. Regarding DR response TURN-7, attachment, "WMP-Discovery2023_DR_TURN_007-Q001Atch01CONF.xlsx": a. Please add a column to this spreadsheet, for tab "PG&E UG Workplan 2023-26_Conf," with the unique identifier for each circuit segment provided in 1(b)(i) and 2(a) above. b. Please provide the supporting data and calculations for tab "PG&E UG Workplan 2023-26_Conf" column AC "HF_WFE Score." The formula looks up a value in a confidential data request sent to Cal PA. Please provide in Excel with formulas intact and with internal references to calculations, not external workbooks. c. Please provide "WMP_Discovery2023_DR_CalAdvocates_009-Q016Atch01CONF" in Excel if not provided in response to part (b) of this question.	a. The circuit segment identifier is the name of the circuit segments as previously shared in our workplan. In attachment "WMPDiscovery2023_DR_TURN_007-Q001Atch01CONF.xlsx", see column O for WDRM v2 circuit segment identifiers, and column R for WDRM v3 circuit segment identifiers. b. Please see attachment "WMPDiscovery2023_DR_TURN_010-Q004Atch01.xlsx". Note, the calculation to determine High Fire WFE score is as follows: High Fire WFE score (column E, "HF WFE score") = Line Weighted Risk per Mile (column B, "v3_line_weighted_risk_per_hf_mile") / High Fire Feasibility Cost Multiplier (column C, "hf_feasibility_score"). c. Please see "WMP_Discovery2023_DR_CalAdvocates_009-Q016Atch01CONF.xlsx"	Tom Long	5/1/2023	5/8/2023	5/8/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_011.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
312	TURN	011	TURN_011	4	TURN_011_Q4	4. Regarding Attachment 2023-04-06_PGE_2023_WMP_R2_Section 6.4.2_Atch01, an earlier version of which is referenced on page 195, fn. 77 of the WMP (R1): a. Please add a column to this spreadsheet and provide the unique circuit segment identifier requested in 1(b)(i) above and 2(a) and 3 above. b. In Excel, please provide all supporting data and properly link cells in this spreadsheet to support the "mitigated risk" calculations in tab "Data_RR" (columns L, O, R, and U for undergrounding). Many of them link to documents on PG&E's internal server/workbooks. c. Please define and explain the following column headings on the "Data_RR" tab: i. "weighted_composite_for_system_hardening_wildfire_risk_mean;"	a) Please see sheet "Model Data", Column B, in attachment "WMP Discovery2023_DR_TURN_011-Q004Atch01.xlsx". b) Please see attachment "WMP-Discovery2023_DR_TURN_011-Q004Atch01.xlsx". Data_RR links to Model Data sheet in this attachment. The "Model Data" tab summarizes the calculation of risk reduction per circuit segment based on the workplans in sheet "Workplan". To prevent overcounting the risk reduction, the UG workplan needs to be adjusted for the overhead to underground conversion rate of 1.25 as well as the workplan miles exceeding the workplan target. As an example, below is a sample calculation: An individual CPZ has 10 miles of UG planned work in 2023, with 20 miles of	Tom Long	5/1/2023	5/8/2023	5/8/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_011.zip	1	N/A	6.4.2	Risk Methodology and Assessment	Top Risk-Contributing Circuits/Segments
313	CalPA	Set WMP-22	CalPA_Set WMP-22	1	CalPA_Set WMP-22_Q1	During the panel discussion portion of the Grid Operation, Design, and Maintenance session of the WMP workshop held on April 27, 2023, PG&E estimated that, during wildfire season (May through November) in 2022, EPSS was enabled on approximately 40-60% of circuit days. a) Is the above estimate correct? If not, please provide an estimate of the percentage of circuit days that EPSS was enabled during fire season in 2022. b) Does PG&E have a forecast of the percentage of circuit days on which EPSS will be enabled during fire season in 2023? If so, please provide it. c) Please define "circuit days."	a) Yes, we calculated the number of High Fire Risk Area (HFRA) circuits that were protected by EPSS between May and November in 2022, which was 59.8% of circuit-days. Note that we did not include EPSS buffer circuits, which are only enabled during Fire Weather Watch , Red Flag Warning, or minimum Fire Potential Conditions. Including those circuits would reduce that percentage significantly (those circuits - or portions of circuits - are only enabled a few days per year, if at all). b) A forecast for 2023 would require forecasting weather and Fire Potential Index (FPI) at the circuit level for the full year, which is not possible. However, given that 2022 saw 31% more days than the 2018-20 3-year average in R3 FPI or greater conditions, it is reasonable to assume that 60% is on the higher end of the estimate, and that a reduction of a third would be approximately 40% of circuit mile days.	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	0	N/A	8.1.8.1.1	Grid Design and System Hardening	Protective Equipment and Device Settings
314	CalPA	Set WMP-22	CalPA_Set WMP-22	2	CalPA_Set WMP-22_Q2	During the Q&A portion of the Grid Operation, Design, and Maintenance session of the WMP workshop held on April 27, 2023, a caller raised concerns about the feasibility of undergrounding in rocky and steep terrain and in wetlands. In response, PG&E stated that it was evaluating tools and techniques to perform undergrounding in those areas. Regarding undergrounding in areas with steep and rocky terrain: a) Please list and describe the current difficulties or obstacles to undergrounding in rocky and steep terrain. b) What tools and techniques is PG&E evaluating to improve the feasibility of undergrounding in rocky and steep terrain? c) What is PG&E's estimate of the current unit cost of undergrounding in rocky and	a) Yes, we calculated the number of High Fire Risk Area (HFRA) circuits that were protected by EPSS between May and November in 2022, which was 59.8% of circuit-days. Note that we did not include EPSS buffer circuits, which are only enabled during Fire Weather Watch , Red Flag Warning, or minimum Fire Potential Conditions. Including those circuits would reduce that percentage significantly (those circuits - or portions of circuits - are only enabled a few days per year, if at all). b) A forecast for 2023 would require forecasting weather and Fire Potential Index (FPI) at the circuit level for the full year, which is not possible. However, given that 2022 saw 31% more days than the 2018-20 3-year average in R3 FPI or greater conditions, it is reasonable to assume that 60% is on the higher end of the estimate, and that a reduction of a third would be approximately 40% of circuit mile days.	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
315	CalPA	Set WMP-22	CalPA_Set WMP-22	3	CalPA_Set WMP-22_Q3	During the Q&A portion of the Grid Operation, Design, and Maintenance session of the WMP workshop held on April 27, 2023, a caller raised concerns about the feasibility of undergrounding in rocky and steep terrain and in wetlands. In response, PG&E stated that it was evaluating tools and techniques to perform undergrounding in those areas. Regarding undergrounding in wetland areas: a) Please list and describe the current difficulties or obstacles to undergrounding in wetlands. b) What tools and techniques is PG&E evaluating to improve the feasibility of undergrounding in wetlands? c) What is PG&E's estimate of the current unit cost of undergrounding in wetlands?	a) To the greatest extent possible, PG&E avoids construction in federal or state jurisdictional wetlands and we have generally found relatively few locations where it is unavoidable to underground in a "wetland" area. PG&E will first seek to relocate our distribution circuits to a less sensitive environmental location. However, undergrounding across water crossings – streams, rivers, etc. is not uncommon due to the linear nature of electric distribution circuits and the linear nature of streams and rivers. When needing to underground across a water crossing (or a wetland, if it were to be necessary), the significant obstacles are not disrupting the waterway and avoiding water intrusion into our trench / conduit path. Because of this, PG&E generally uses existing boring technology (also referred to as Horizontal Directional Drilling (HDD)) to drill significantly below ground (and under the waterway) to avoid impacts to the waterway (or wetland). In these cases where HDD is used, we have an environmental inspector and/or a	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
316	CalPA	Set WMP-22	CalPA_Set WMP-22	4	CalPA_Set WMP-22_Q4	Table PG&E-22-11-3 on page 503 of PG&E's WMP states that the cost per circuit mile of covered conductor was $825,698 in 2022. PG&E's response to data request CalAdvocates-PGE-2023WMP-19, question 10 confirms that "There are no additional costs associated with overhead hardening that were excluded from Table 22-11-3." In response to data request CalAdvocates-PGE-2023WMP-06, question 10, PG&E stated that its actual 2022 expenditures related to covered conductor were $285,544,000 and that PG&E installed 335 miles. This results in $851,860 per circuit mile of covered conductor in 2022. In response to data request CalAdvocates-PGE-2023WMP-09, question 14, PG&E provided a unit cost forecast of $1.678 million per mile for overhead hardening in	a) The primary driver for this discrepancy is that in Table PG&E-22-11-3 of the WMP, the unit cost is calculated on 2022 projects using the cost-since-inception methodology to derive the true unit cost. Meaning, the costs for those projects include the whole lifecycle of costs from prior to 2022. The inferred unit cost calculation in this data request using data from CalAdvocates-PGE-2023WMP-06, question 10, does not give you the true unit cost since there are costs in 2022 that are specific to 2022 miles achieved—primarily close-out costs for 2021 completed projects—and readiness costs (Estimating/Design, Permitting, Materials, etc.) for 2023 and beyond projects. PG&E recommends avoiding calculating unit cost by using financials and units from the same year. b) With the reduction in overhead hardening mileage over the WMP period (as compared to prior	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	0	N/A	8.1.2.1	Grid Design and System Hardening	Covered Conductor Installation – Distribution
317	CalPA	Set WMP-22	CalPA_Set WMP-22	5	CalPA_Set WMP-22_Q5	In response to data request CalAdvocates-PGE-2023WMP-19, question 3, PG&E stated: In addition, our GIS system does not include an attribute to distinguish between covered and bare conductor. As a result, we are only able to provide the total overhead distribution line circuit-miles, not the breakdown between covered and bare conductor. a) Is PG&E unable to determine the number of circuit miles of covered conductor in its system? Please explain your answer. b) Does PG&E plan to modify its GIS system to include an attribute that distinguishes between covered and bare conductor? c) How does PG&E currently validate its estimates of the effectiveness of covered	PG&E is amending CalAdvocates-PGE-2023WMP-19, Question 3, subparts b, d and f of our original response. Although there is not a specific attribute in GIS to distinguish covered and bare conductors, we were able to utilize the conductor type codes to differentiate between covered and bare conductors. a) Please reference PG&E's revision to CalAdvocates-PGE-2023WMP-19, Question 3, where PG&E has provided the volume of circuit-miles of distribution covered conductor lines from January 2022. b) No, PG&E currently does not plan to add a specific attribute to GIS because we are able to utilize the conductor type codes to differentiate between covered and bare conductors. c) As most distribution outages typically involve a fault condition, PG&E assumes that	Holly Wehrman	5/2/2023	5/10/2023	5/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	0	N/A	8.1.2.1	Grid Design and System Hardening	Covered Conductor Installation – Distribution
318	CalPA	Set WMP-22	CalPA_Set WMP-22	6	CalPA_Set WMP-22_Q6	a) Given the best information now available to PG&E, is the expected useful life of newly installed covered conductor identical to that of newly installed bare overhead conductor? b) Does PG&E expect that the asset management and maintenance needs for covered overhead conductor are identical to those of bare overhead conductor? c) Does PG&E intend, either now or at any point in the future, to apply different PSPS criteria (such as wind speed thresholds) for circuit-segments that are hardened with covered conductor, relative to those with bare overhead conductor? d) If the answer to the previous part is yes, how will PG&E determine which PSPS criteria to apply without having accurate information about where on its system it has installed covered conductor?	a) The expected life of newly installed Covered Conductor (CC) is not identical to the newly installed Bare Conductor (BC) because the failure modes are different between the two conductor types. At this time, PG&E does not have a set useful life expectancy for covered conductor due to ongoing evaluation of UV exposure and the possibility of accelerated corrosion from water intrusion to the protective jacket. These failure modes were documented in PG&E's Covered Conductor Testing. The Joint IOU effort is continuing to evaluate PG&E's testing results and the impacts of the expected useful life of newly installed covered conductor.. b) PG&E uses the same inspection methods for CC and BC. As noted in the 2023 WMP Joint IOU CC Report, most inspection practices of BC also apply to CC. In addition, in 2023, PG&E updated the Detailed Ground Inspection Checklist to include prompts for identifying failure modes that are unique to CC, such as CC wire jacket cut into and internal conductor exposed, CC	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	0	N/A	8.1.2.1	Grid Design and System Hardening	Covered Conductor Installation – Distribution

319	CalPA	Set WMP-22	CalPA_Set WMP-22	7	CalPA_Set WMP-22_Q7	Table 8-7-2 on page 446 of PG&E's WMP uses the term "Critical pass rate." Please define this term.	The attachment to this response is confidential as described in the confidentiality declaration of Richard Knoeber, dated May 5, 2023.Please see attachment "WMP-Discovery2023_DR_CalAdvocates_022-Q007Atch01CONF.pdf" for the requested information. Specifically, on pages 1-2 of the document, we identify three calculations that comprise the Quality Pass Rate: (1) the QV Distribution Pass Rate; (2) the QV Transmission Pass Rate; and (3) the Routine Vegetation Management Pass Rate. The Critical Pass Rate is comprised of two of these three calculations: (1) the QV Distribution Pass Rate; and (2) the QV Transmission Pass Rate.	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	1	N/A	8.1.6.2	Grid Design and System Hardening	Quality Control
320	CalPA	Set WMP-22	CalPA_Set WMP-22	8	CalPA_Set WMP-22_Q8	In response to data request CalAdvocates-PGE-2023WMP-05, question 3, PG&E provided the number of distribution inspections that failed QC review. Out of 52,894 inspections that underwent desktop quality control, 4,978 (9.4%) failed. Out of 4,096 inspections that underwent field quality control, 602 (14.7%) failed. The above numbers generate a pass rate of 90.6% for desktop quality control and 85.3% for field quality control. Table 8-7-2 on page 446 of PG&E's WMP lists a "critical pass rate" of 85.5% for distribution desktop audits, and 79.3% for distribution field audits. a) If any of the figures in the table above are inaccurate, please provide corrected figures. b) Please explain the apparent discrepancy between the failed inspection numbers	a) All numbers in the table above have been verified and are accurate per our 2022 data and dashboards. b) Critical pass rate is a subset of the overall pass rate, looking at specific, Critical priority ranked attributes. o Pass rate, in this example, is defined as "The number of inspections that failed QC review was derived from the count of inspections with a Cause Code Description, compelling abnormal condition missed during inspection, or a maintenance notification was not created." o Critical pass rate for this specific subset of work, which included only distribution, is defined as:	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	0	N/A	8.1.6.2	Grid Design and System Hardening	Quality Control
321	CalPA	Set WMP-22	CalPA_Set WMP-22	9	CalPA_Set WMP-22_Q9	In response to data request CalAdvocates-PGE-2023WMP-06, question 6, PG&E provided a list of incidents in 2022 where the actions of a VM contractor posed a safety risk to workers or the public. Please fill out the spreadsheet "CalAdvocates-PGE-2023WMP-23_Atch01.xlsx" with the number of miles worked by each VM contractor in 2022 for each VM program/initiative. Note: the lists of contractors and programs come from columns L and G, respectively, of the attachment to PG&E's response to CalAdvocates-PGE-2023WMP-06, question 6. Please make any additions that are necessary for completeness and accuracy.	PG&E does not track the number of miles worked by each VM contractor. PG&E tracks the number of trees worked by vendor, or poles worked by vendor depending on the program in question. Please see " WMP-Discovery2023_DR_CalAdvocates_022-Q009Atch01.xlsx" spreadsheet for the number of trees worked by vendor for Routine/CEMA, EVM, Pole Work, and Wildfire Rebuild. The Systems Inspections program does not work with VM contractors.	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	1	N/A	8.2	Vegetation Management and Inspections	various
322	CalPA	Set WMP-22	CalPA_Set WMP-22	10	CalPA_Set WMP-22_Q10	In response to data request CalAdvocates-PGE-2023WMP-02, question 1, PG&E provided its 2022 Quality Verification Distribution Audit report (WMP-Discovery2023_DR_CalAdvocates_002-Q001Atch02CONF.pdf). a) For each of the 15 "zero tolerance & high-risk findings" identified on page 4 of the above report, what actions has PG&E taken to mitigate these nonconformances in the future? b) For each of the 15 "zero tolerance & high-risk findings" identified on page 4 of the above report, describe when and how PG&E addressed the nonconformances to mitigate wildfire risk. c) For each category of the "Top three Critical attribute findings" identified on page 4 of the above report, what actions has PG&E taken to mitigate these	The CONFIDENTIAL attachments are being provided pursuant to the accompanying confidentialty declaration. a) The zero tolerance and high-risk findings were (page 4 of the report): 1. (5) Zero Tolerance – Work Not Done (WND): (4) Missed Inspections; (1) Unsafe conductor dead-end (10) High-Risk – (5) Exposed/damaged conductors (potential fire hazard); (3) Wrong pole inspected; (2) PCB transformers leaking oil To mitigate the non-conformances in the future, below are some of the actions taken by PG&E for the zero-tolerance findings: • Missed Inspections – PG&E performs quality reviews and dispatches any missed assets for urgent inspections. PG&E provides annual reporting to the CPUC on any and all late or missed GO165 Inspections. • Unsafe Conductor dead-end – Based on page 15 of	Holly Wehrman	5/2/2023	5/12/2023	5/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	2	N/A	8.1.6.1	Grid Design and System Hardening	Quality Assurance and Quality Control
323	CalPA	Set WMP-22	CalPA_Set WMP-22	11	CalPA_Set WMP-22_Q11	Table PG&E-8.1.2-3 on page 349 of PG&E's WMP lists the number of undergrounding miles to be performed in "Top 20 percent Risk-Ranked Circuit Segments" in 2023, 2024, 2025, and 2026. The table notes, "The 2023 risk rank for segments is based on the 2021 WDRM v2. The 2024-2026 risk rank for segments is based on the 2022 WDRM v3." a) Please define "Top 20 percent Risk-Ranked Circuit Segments" for each year from 2023-2026. b) How many circuit miles are contained within the "Top 20 percent Risk-Ranked Circuit Segments" for each year from 2023-2026? c) How many circuit segments are contained with the "Top 20 percent Risk-Ranked Circuit Segments" for each year from 2023-2026?	a) As indicated in Table PG&E-8.1.2-3, the "Top 20% Risk-Ranked Circuit Segments" miles can come from either the WDRM V2 or V3 Risk Rank Models. The 2023 risk rank for segments is based on the 2021 WDRM v2. The 2024-2026 risk rank for segments is based on the 2022 WDRM v3. The "V3 Top 20% Risk-Ranked Circuit Segments" are miles selected from the WDRM V3 risk model with a V3 Risk Rank between 1 and 720. Any miles with a V3 Risk Rank above 720 that are completed as part of the program would then be considered outside "the top 20 percent of risk-ranked circuit segments". The "V2 Top 20% Risk-Ranked Circuit Segments" are miles selected from the WDRM V2 risk model with a V2 Risk Rank between 1 and 727. Any miles with a V2 Risk Rank above 727 that are completed as part of the program would then be considered outside "the top 20 percent of	Holly Wehrman	5/2/2023	5/5/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_022.zip	0	N/A	8.1.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
324	CalPA	Set WMP-23	CalPA_Set WMP-23	1	CalPA_Set WMP-23_Q1	PG&E states in its WMP p. 751, "Based on our updated 2021 PSPS Protocols, some of the circuits below would not have been de-energized three or more times in any calendar year from 2019 to 2022. These circuits are noted below as 'mitigated with PSPS Protocols'." Please explain in detail how circuit ID 152481106 (circuit name Brunswick 1106) would have been mitigated by PSPS Protocols.	See response to WMP-Discovery2023_DR_CalAdvocates_012-Q004Supp01, subparts b, c, and d. Additionally, see WMP-Discovery2023_DR_CalAdvocates_012-Q001Supp01Atch01 full list of circuits mitigated by PSPS Protocols and the Distribution customer-events that would have been mitigated.	Holly Wehrman	5/3/2023	5/8/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_023.zip	0	N/A	9.2	Public Safety Power Shutoff	Protocols on PSPS
325	CalPA	Set WMP-23	CalPA_Set WMP-23	2	CalPA_Set WMP-23_Q2	Regarding PG&E's October 26-29, 2019, Post-PSPS Event Report4, Please explain in detail how PG&E's 2021 PSPS Protocols, as mentioned in Question 1, would have mitigated customers served by each of the affected circuits during this PSPS de-energization event.	See response to question 1 in this data request set for explanation on how the current PSPS Protocols would mitigate customers.	Holly Wehrman	5/3/2023	5/8/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_023.zip	0	N/A	9.2	Public Safety Power Shutoff	Protocols on PSPS
326	CalPA	Set WMP-23	CalPA_Set WMP-23	3	CalPA_Set WMP-23_Q3	Regarding PG&E's AFN Plan5, Appendix C "Program/Assistance Participation by Census Tract", p. A-9, please provide the demographics (especially racial/ethnic breakdown and income distribution), if known, for each census tract that received benefits of the following programs: a) Self-Generation Incentive Program b) Portable Battery Program c) Generator and Battery Rebate Program (GBRP).	PG&E does not collect demographic data, such as racial/ethnic breakdown of income distribution, from its customers. The only proxy that PG&E is aware of is participation in the California Alternate Rates for Energy (CARE) program, which qualifies customers based on income. PG&E provides three tables – one for each of the Self-Generation Incentive Program, Portable Battery Program, and Generator and Battery Rebate Program – that provides the number of CARE participants within the total number of Service Point IDs (SPIDs) for each census tract. See: • WMP-Discovery2023_DR_CalAdvocates_023-Q003Atch01.csv for the Self-Generation Incentive Program • WMP-Discovery2023_DR_CalAdvocates_023-Q003Atch02.csv for the Portable Battery	Holly Wehrman	5/3/2023	5/8/2023	5/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_023.zip	3	N/A	8.5.3	Community Outreach and Engagement	Engagement with Access and Functional Needs Population
327	OEIS	004	OEIS_004	1	OEIS_004_Q1	Regarding Ignition Probability Weather Model In PG&E's WMP, it states its "IPW framework analyzes positive and negative changes in grid performance and reliability year-over year and applies a timeweighted approach to weigh more recent years of learned performance more heavily in the final model output." (p. 769). a. What metrics are used to analyze the year-over-year changes in grid performance and reliability? b. Provide a description (i.e. changes in event, ignition, and outage numbers) and locations of changes PG&E has observed in grid performance based on implementing system hardening mitigations, including the amount of time it took to observe any statistical changes that would account for changes in PSPS decision-	a. The IPW model learns changes in performance through the hourly relationship between outage occurrence and the weather conditions present. We use evaluation metrics like the AUROC values as published in our WMP to assess model skill for model deployment. b. To date, system hardening is not an explicit feature, or input, of the IPW model. Any changes in the current model due to system hardening would come from the outage occurrence to weather relation changing rather than from an engineering, subject matter expertise or presumed change. We are currently exploring new features for future IPW models such as the age of the assets. For example, when a line with old poles is replaced with new poles, as occurs under the system hardening program, changes in the outage to weather relation due to age would be reflected in the model for this line. c. The IPW model is trained with hourly weather data from each POMMS 2x2 km grid cell and	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	0	N/A	9.2.1	Public Safety Power Shutoff	Risk Thresholds (e.g., WS, FPI, etc.) and Decision-Making Process That Determine the Need for a PSPS.
328	OEIS	004	OEIS_004	2	OEIS_004_Q2	Regarding EPSS in IPW Model PG&E discusses its Ignition Probably Weather (IPW) Model on p. 769 of its WMP. a. How does the IPW Model analyze and consider outages from EPSS (i.e. differentiating analysis completed)? b. How does the IPW Model account for EPSS-enabled circuits?	a. The OPW-IPW model does not differentiate between circuits that had or have EPSS enabled currently.The EPSS program is not expected to create additional outages; outage activity over the past 5 years on these circuits during the May to November time frame has been essentially flat, including in 2022 when EPSS was fully rolled out. The outages that do occur tend to impact more customers since the protection scheme over-reaches fuses by design; faults that cause an EPSS enabled device to operate typically would have caused either a sustained or momentary outage without EPSS enabled. The OPW-IPW model is trained on all sustained and momentary outage activity historically, thus we do not differentiate between when EPSS is enabled or not. b. Please see response to A.	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	0	N/A	9.2.1	Public Safety Power Shutoff	Risk Thresholds (e.g., WS, FPI, etc.) and Decision-Making Process That Determine the Need for a PSPS.
329	OEIS	004	OEIS_004	3	OEIS_004_Q3	Regarding After Action Reports for Emergency Preparedness Provide the most recent After Action Report from emergency training exercises for the following exercises: a. Table 8-39 Personnel Training • EP&R Emergency Preparedness Training Program • PSPS Restoration Process • PSPS Execution for Distribution Control Center (DCC) Operators b. Table PG&E 8-40 External Contractor Training • TD-1464S c. Table 8-41 Internal Drill, Simulation, And Tabletop Exercise Program • Operations Based Wildfire FE	The confidential attachments are being provided pursuant to the accompanying confidentiality declaration. a. After Action Reports are not created for Personnel Training, including the items identified in Table 8-39. b. After Action Reports are not created for External Contractor Training, including the item in Table PG&E 8-40. c. Please see attachments "WMP-Discovery2023_DR_OEIS_004-Q003Atch01CONF.pdf" and "WMP-Discovery2023_DR_OEIS_004-Q003Atch02CONF.pdf" for the PSPS/Wildfire Full Scale Exercise After Action Report and the PSPS Tabletop Exercise After Action Report. Internal drills and external drills are not separate, components of the exercises include both internal and external entities.	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	2	N/A	8.4.2.2.2	Emergency Preparedness	Personnel Training
330	OEIS	004	OEIS_004	4	OEIS_004_Q4	Regarding Customer Group in PSPS Objective PS-05 In PSPS objective PS-05, PG&E states that it will focus on a group of customers "not limited to AFN, MBL and self-identified vulnerable populations." a. How does PG&E define this group of customers it is focusing on? b. What is the size of this group of customers that PG&E is focusing on?	a. In addition to access and function needs (AFN), medical baseline (MBL), and self identified vulnerable (SIV) populations, PG&E intends to focus on customers more frequently impacted by PSPS and/or EPSS. Additionally, since permanent batteries are more costly to implement than portable batteries, PG&E intends to additionally focus on lower-income customers (i.e. CARE and FERA participants)1 and other customers who may lack the financial means to acquire backup power. Currently, PG&E is planning to support permanent batteries for customers who have experienced the greatest number of EPSS outages in recent years. Greater levels of financial support would be provided to CARE, FERA, MBL, and SIV customers. While these characteristics may be adjusted over the ten-year outlook, PG&E envisions continuing to focus on the groups more frequently impacted by outages and who lack the means to acquire backup power.	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	0	N/A	8.5.3	Community Outreach and Engagement	Engagement With Access and Functional Needs Populations
331	OEIS	004	OEIS_004	5	OEIS_004_Q5	Regarding Areas of Concern and Focused Tree Inspections (FTI) a. How will PG&E address risk from green hazard trees (those not obviously dead, dying, or declining) in non-Areas of Concern? b. P-WMP_2023-PG&E-003, Question 7, PG&E indicated that ISA TRAQ form is not digitized and will be used as a guide for FTI. During FTI, what information is inputted into OneVM? Provide a copy of the form(s) within OneVM inspectors are required to populate during FTI. c. During FTI, are all overstrike trees within the AOC inspected? a. If so, are inspectors required to perform both a level 1 and level 2 inspection on each overstrike tree? b. If not, what overstrike trees are inspected and how is the level of inspection	The confidential attachment is being provided pursuant to the accompanying confidentiality declaration. a. As outlined in PG&E's Vegetation Management Distribution Inspection Procedure, provided as "WMP-Discovery2023_DR_OEIS_004-Q005Atch01CONF.pdf," if a VMI identifies a hazard tree during a Level 1 inspection, a Level 2 inspection will be performed to determine if tree work is required to maintain compliance. b. At this time, PG&E does not have a finalized inspection procedure for FTI. Once that is available, we can provide the fields that will be entered into OneVM. c. No. ii. Level 1 inspections are performed on all trees within the AOC. If a Level 1 assessment cannot sufficiently determine the severity of conditions or defects, a Level 2 inspection is performed.	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	1	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections

332	OEIS	004	OEIS_004	6	OEIS_004_Q6	Regarding Enhanced Vegetation Management a. Populate the following table with information regarding EVM: Year HFTD Miles Completed Inspected Strike Potential Trees Trees Worked Average Trees Per Miles % of Miles in Top 20% of Risk 2019 2020 2021	Year HFTD Miles Completed Inspected Strike Potential Trees Trees Worked Average Trees Per Miles % of Miles in	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	1	N/A	8.2.2.2.6	Vegetation Management and Inspections	Discontinued Programs
332	OEIS	004	OEIS_004	6REV	OEIS_004_Q6REV	Regarding Enhanced Vegetation Management a. Populate the following table with information regarding EVM: Year HFTD Miles Completed Inspected Strike Potential Trees Trees Worked Average Trees Per Miles % of Miles in Top 20% of Risk 2019 2020 2021	We would like to amend our response to "WMP-Discovery2023_DR_OEIS_004Q006.pdf," submitted to the Office of Energy Infrastructure Safety on May 9, 2023. In our response, we miscalculated the number of "Trees Worked" and the "Average Trees Per Miles" in 2022. Please see revised chart below with the updated numbers highlighted. Year HFTD Miles Completed Inspected Strike Potential Trees Trees Worked	Colin Lang	5/4/2023	5/15/2023	5/15/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	0	N/A	8.2.2.2.6	Vegetation Management and Inspections	Discontinued Programs
333	OEIS	004	OEIS_004	7	OEIS_004_Q7	Q7: Regarding Vegetation-Caused Outages a. Populate the following table of vegetation-caused outages by mode of failure in the HFTD between 2015 and 2022, broken out by year. PG&E may add additional rows (i.e., mode of failure) if needed. VEGETATION CAUSED OUTAGE MODE OF FAILURE 2015 2016 2017 2018 2019 2020	PG&E does not capture the HFTD tier in outage reports therefore the data being provided cannot be filtered to only include outages in HFTD areas. Please see attachment "WMP-Discovery2023_DR_OEIS_004-Q007Atch01.xlsx" for the system wide vegetation-caused outage by mode of failure from 2015-2022 as recorded by PG&E	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-28 – Progression of Effectiveness of Enhanced Clearances Joint Study
334	OEIS	004	OEIS_004	8	OEIS_004_Q8	Regarding Vegetation Hazards Mitigated by PSPS a. Does PG&E have data on vegetation hazards mitigated by PSPS? If so, populate the following table of vegetation hazards mitigated by mode of failure in the HFTD between 2015 and 2022, broken out by year. PG&E may add additional rows (i.e., mode of failure) if needed. MODE OF FAILURE FOR VEGETATION HAZARDS MITIGATED BY PSPS 2015 2016 2017 2018 2019	PG&E interprets this question as identifying vegetation related damages and hazards after patrolling and inspecting circuits impacted by PSPS. PG&E started implementing PSPS in 2018, therefore, did not collect data prior from 2015-2018. While PG&E records whether or not a PSPS damage or hazard is vegetation-related, because the powerlines are de-energized to prevent potential ignitions from vegetation contact, PSPS patrollers do not assess vegetation failure modes. PSPS is designed to prevent and mitigate against potential fire ignitions from any vegetation related damages or hazards regardless of failure mode. PG&E does include PSPS vegetation-related damages or hazards when submitting 10-Day Post-Event Reports to the CPUC and on the Quarterly Data Standard Filing to OEIS.	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	0	N/A	9.2.2	Public Safety Power Shutoff	Method Used to Compare and Evaluate the Relative Consequences of PSPS and Wildfires
335	OEIS	004	OEIS_004	9	OEIS_004_Q9	Regarding Coordination with Other Utilities on PSPS Wind Thresholds In its response to ACI PG&E-22-31, PG&E states: "In collaboration with the joint IOU team, PG&E has performed effectiveness studies to evaluate how covered conductors can reduce ignition risk compared to bare conductor." a. Is the collaboration referenced the Covered Conductor Effectiveness Study (Table 8-63, Line 1)? i. List PG&E's other, if any, collaboration efforts with the investor-owned utilities at evaluating the effect of covered conductor on PSPS risk. b. Has PG&E specifically discussed raising of PSPS wind thresholds in any of its covered conductor collaboration efforts? i. List the collaboration efforts, if any, where adjusting PSPS wind thresholds for	a. The Joint IOU Covered Conductor Working Group Report was provided in the original submission as part of attachment "Attachment 2023-03-27_PGE_2023_WMP_R0_Appendix D ACI PG&E-22-11_Atch01.pdf". i. PG&E did not collaborate with the investor-owned utilities to evaluate the effectiveness of covered conductors related to PSPS. b. As stated in response to ACI PG&E-22-31 in the 2023-2025 WMP, due to our PSPS modeling approach, we would not adjust our final PSPS risk thresholds to account for covered conductor. Our Catastrophic Fire Probability model (discussed in Section 9) is a risk-based assessment of the probability of ignition given an outage multiplied by the probability of catastrophic fires (Fire Potential Index). Thus, we would not adjust the threshold at which PSPS is executed (each area is scoped for PSPS at the same risk threshold) based on covered conductor.	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-31 – PSPS Wind Threshold Change Evaluations
336	OEIS	004	OEIS_004	10	OEIS_004_Q10	Regarding Tree Fall-In and PSPS In its response to ACI PG&E-22-31, PG&E states "based on collaboration with the joint IOU team, one of the biggest hazards during PSPS event is the potential for tree fall into line" (p. 956). a. Explain "one of the biggest hazards during PSPS event" in terms of risk (e.g., likelihood, consequence).	Based on PG&E's review of potential ignition events during a PSPS event, vegetation related hazards pose the highest risk for ignitions. Please reference Table 5 and Table 6 of the Quarterly Data Report PG&E submits to the OEIS, where all of the ignitions are listed, including those that pose the highest risk for ignition. PG&E has incorporated tree strike potential and vegetation tags into its PSPS guidance (Catastrophic Fire Probability (CFP)). Please see WMP Section 9.2.1 "Risk Thresholds and Decision-Making Process that Determine the Need for a PSPS" for additional information regarding PG&E's CFP.	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-31 – PSPS Wind Threshold Change Evaluations
337	OEIS	004	OEIS_004	11	OEIS_004_Q11	Regarding RSE (Risk Buy-down) information required by the WMP Guidelines The 2023-2025 WMP Guidelines make specific requests for RSE, optimization of risk reduction and cost, and prioritization decisions: 7.1.4.1 Identifying and Evaluating Mitigation Initiatives (a) The procedures for identifying and evaluating mitigation initiatives (comparable to 2018 S-MAP Settlement Agreement, row 26), including the use of risk buy-down estimates (e.g., risk-spend efficiency) and evaluating the benefits and drawbacks of mitigations. 7.1.4.2 Mitigation Initiative Prioritization (b) Explain how the electrical corporation is optimizing its resources to maximize risk reduction. Describe how the proposed initiatives are an efficient use of	a. PG&E met with Energy Safety to discuss this data request on May 11, 2023. During that meeting, PG&E confirmed that "RSE" and "risk buydown" are distinct terms with different meanings. In its request, Energy Safety used the term "RSE" to describe the calculation of the total risk reduced divided by the cost of the mitigation in a given year. PG&E discussed how this version of RSE considers risk reduced for one year, but it does not take into account the length of each mitigation's benefit life. PG&E agreed to provide RSEs using Energy Safety's definition by aggregating the risk reduction from the work completed from 2023-2025 and dividing by the total cost from 2023-2025. These RSEs are incorporated into the chart below. PG&E notes that the definition of RSE used for purposes of this request is not the same as the regulatory definition of RSE from the S-MAP Settlement Agreement. "Risk buydown" refers to the total risk reduction from investment in a particular mitigation.	Colin Lang	5/4/2023	5/19/2023	5/19/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	1	N/A	7.1.4	Wildfire Mitigation Strategy Development	Identifying and Evaluating Mitigation Initiatives
338	OEIS	004	OEIS_004	12	OEIS_004_Q12	Regarding the PG&E framework for PSPS risk The sections that relate to models PSPS-L, PSPS-C, PSPS-V and PSPS-R do not sufficiently describe the calculations that ultimately result in a PSPS Risk Score. The Guidelines for section 6.2 Risk Analysis Framework require detailed discussion of likelihood, consequence, exposure potential and vulnerability for Public Safety Power Shutoffs (PSPS) Risk: 6.1.1 Overview The electrical corporation must provide a brief narrative describing its methodology for quantifying its overall utility risk of wildfires and Public Safety Power Shutoff (PSPS). 6.2.2.1 Likelihood The electrical corporation must discuss how it calculates the likelihood that its equipment (through normal operations or failure) will result in a	a. (i) The details on the inputs to the PSPS-L model are shown in Appendix B figures PG&E-B-3 and PG&E-B-4 and full documentation provided as part of "WMP-Discovery2023_DR_OEIS_001-Q007Atch03CONF.pdf," submitted to the Office of Energy Infrastructure and Safety on April 10, 2023. The LoRE framework used to calculate likelihood of a PSPS event is conceptually similar to WMP Figure 6-2-1 as shown below. While they are conceptually similar, the inputs into the LoRE calculation for PSPS (shown in the figure below) are different from the inputs into the wildfire LoRE calculation. (ii)(a) During an operational event, if the conditions forecasted in the FPI and IPW models exceed the threshold conditions to consider PSPS, based on the established PSPS protocols, the preparation for a PSPS event begins. These	Colin Lang	5/4/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	0	N/A	6.2	Risk Methodology and Assessment	Risk Analysis Framework
339	OEIS	004	OEIS_004	13	OEIS_004_Q13	Regarding PG&E's Asset Tracking Database While PG&E provided information in the 2023-25 WMP's Appendix F on its overall progress in Asset Inventory Data Gaps, it is not clear what PG&E's progress is on the high-risk electric distribution assets, such as primary conductors and poles, that are not in the Asset Registry and therefore not included in the WMP's initiatives. In regards to PG&E's plans and progress on the Asset Registry Data Quality Program (ARDQ), please provide the following, including via Excel file as applicable: a. Greater detail on plans for identifying and correcting missing electric distribution asset types in High Fire Risk Districts (HFRD). b. Greater details regarding plans and timelines on the known gaps on the twelve T&D risk prioritized asset types (Footnote 217, pg. 966) in the HFRD. The content	In responding to this request, PG&E is unfamiliar with the term "High Fire Risk Districts" and assumes this is a reference to "High Fire Risk Areas" (HFRA). a. As stated in response to Subpart (d) of "WMP-Discovery2023_DR_OEIS_003-Q010.pdf", PG&E is not presently able to quantify the number of assets missing from the asset inventory. However, when missing assets are identified, the assets are added to the inventory. PG&E's asset registry program identifies and addresses asset inventory completeness (missing asset) improvements in the following ways: • Timely processing of as-built documents associated with completed construction work into the asset registry; • Asset data inventory corrections (Map Corrections) provided by field	Colin Lang	5/4/2023	5/23/2023	5/23/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-33 – Progress on Filling Asset Inventory Data Gaps
340	OEIS	004	OEIS_004	14	OEIS_004_Q14	Regarding PG&E's Use of Downed Conductor Detection (DCD) and Partial Voltage Detection (PVD) a. Provide any analysis completed on reliability impacts due to DCD, including: i. The number of outages that occurred due to DCD in 2022 and 2023 ii. The number of outages broken down by cause (based on ignition drivers listed in Table 6 of the QDR) that occurred due to DCD in 2022 and 2023 iii. Criteria used for DCD enablement (if applicable) iv. The number of total customer minutes interrupted from DCD outages v. Any mitigations PG&E is using to reduce reliability impacts from DCD implementation, including lessons learned from any piloting b. Provide any analysis completed on reliability impacts due to PVD, including:	a. Data as of May 4th, 2023 for 2022-2023 DCD Outages: i. 17 outages have occurred with DCD settings enabled. ii. The table below matches outage causes to the Ignition Drivers used in Table 6 of the 2022 Q4 Quarterly Data Report. iii. DCD is an additional protection element as part of EPSS. PG&E will enable DCD on capable devices when EPSS is enabled to help detect lower current fault conditions. iv. 4,732,936 Minutes. v. DCD outages and circuits are already considered in our existing EPSS Reliability program. Specific to DCD, PG&E is adding more DCD capable devices on circuits to, where feasible, increase sectionalization of DCD	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	0	N/A	8.1.2.10.1	Grid Design and System Hardening	Downed Conductor Detection Devices
341	OEIS	004	OEIS_004	15	OEIS_004_Q15	Regarding Feasibility Constraints PG&E must provide an explanation of how, if at all, feasibility constraints impact the decision making of its Wildfire Governance Steering Committee in selecting a portfolio of mitigation measures that deviates from the risk informed prioritization. This should include: a. A flowchart or explanation of decision-making as processed by the Wildfire Governance Steering Committee, including where feasibility constraints are accounted for b. The correlation between raw V3 risk outputs and WFE c. The correlation between WFE and feasibility d. Any associated shifts in prioritization due to implementing feasibility constraints	PG&E respectfully objects to this request to the extent the request incorrectly implies PG&E does not use a "risk-informed prioritization" when selecting wildfire mitigations. As described throughout the 2023-2025 WMP, and specifically in Section 7.1.4.2, we begin developing our list of proposed mitigations by analyzing risk events, risk drivers, and consequences. Subject to and without waiving these objections, PG&E responds as follows: a. Please see attachment "WMP-Discovery2023_DR_OEIS_004-Q015Atch01.pdf." This decision tree reflects the process we followed to further analyze our highest risk undergrounding circuits included in the WMP. The process, as shown on the decision tree attachment and described below, is split into four key phases. 1. Circuit Segment Risk Ranking (purple box): First prioritize circuit segments	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-34 – Revise Process of Prioritizing Wildfire Mitigations
342	OEIS	004	OEIS_004	16	OEIS_004_Q16	Regarding Effectiveness of EPSS a. Provide the formulas and calculations used by PG&E to determine the effectiveness of EPSS. b. Provide analysis demonstrating adequate overlap between EPSS risk and wildfire risk to ensure PG&E's mitigations are directly addressing wildfire risk opposed to reliability. c. Provide PG&E's workplan for resourcing EPSS-directed mitigation measures, including ratios and work hours shifted around from wildfire risk mitigations. This should also include asset management related mitigations.	a. The 2022 EPSS Ignition Reduction is calculated using the formula below. 1 − 2022 (2018 − 2020) Ignitions avg Ignitions Where the applicable ignitions are CPUC HFTD Reportable Fire Ignitions in High Fire Threat Districts (HFTD) on primary conductor with EPSS enabled, or for 2018-2020, during the weather-conditions when EPSS would have been enabled (i.e., the ignition reduction calculation is weather-normalized). b. We understand "EPSS Risk" to be the aggregated risk of unplanned outages resulting from EPSS enablement. EPSS is a wildfire mitigation that is targeted only in PG&E's high fire-risk areas (HFRA) as well as select HFRA-adjacent areas	Colin Lang	5/4/2023	5/9/2023	5/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	2	N/A	8.1.8.1.1	Grid Design, Operations, and Maintenance	Protective Equipment and Device Settings
343	OEIS	004	OEIS_004	17	OEIS_004_Q17	Regarding PG&E's Undergrounding Program a. Provide the cumulative V2 and V3 risk scores of the 2022 WMP vs. 2023 WMP undergrounding scope for 2023-2026. This should not include nor account for feasibility. b. Provide the analysis on the remaining risk of the miles no longer scoped for undergrounding, including: i. Interim mitigations being put into place if scoped for undergrounding in the future ii. The number of miles scoped for the future (past 2026) iii. Alternative mitigations being used if no longer scoped for undergrounding	a. PG&E interprets cumulative risk score as total risk score of each circuit segment based on the 2021 WDRM v2 and the 2022 WDRM v3. Please note, for the 2022 WMP and 2023 WMP workplans, the total risk scores are provided at the CPZ-level, however, the entire CPZ may not be scoped in the workplan. For the 2023 WMP, please reference "WMP-Discovery2023_DR_OEIS_004-Q017Atch01CONF.xlsx" for the project workplan of the undergrounding scope for 2023-2026 with total risk scores from v2 (column AC) and v3 (column AB) provided. Applicable Risk Model (column M), indicates if the project was selected based on WDRM v2 or WDRM v3. For the 2022 WMP, please reference attachment "WMP Discovery2023_DR_OEIS_004-Q017Atch02CONF.xlsx." Please reference column J	Colin Lang	5/4/2023	5/9/2023	5/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_004.zip	2	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution

344	TURN	012	TURN_012	1	TURN_012_Q1	1. Please confirm that the Simplified Wildfire Risk Spend Efficiency (SWRSE) and Wildfire Feasibility Expenditure (WFE) measures discussed on page 968 of PG&E's WMP: a. Are only calculated by PG&E for undergrounding projects; and b. Cannot be used to compare the cost-effectiveness of undergrounding projects with any other projects. c. If PG&E does not unequivocally agree with "a" and "b" above, please explain why it does not.	a) Yes. b) Correct, the intent of calculating SWRSE and WFE was to support the selection process for targeted undergrounding projects only. c) We agree with a and b as stated above, with additional clarification about how WFE may result in the deployment of other mitigation approaches. The WFE score is used to prioritize and select highest risk-cost effectiveness circuit segments with the expectation that the circuits will be placed underground. During the detailed project scoping performed by PG&E's engineering team, portions of circuit segments may be identified as infeasible to be placed underground for various environmental, operational, or technical reasons. In those cases, portions of the circuit segments selected using WFE may be hardened through line removal and/or overhead	Tom Long	5/5/2023	5/11/2023	5/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_012.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-34 – Revise Process of Prioritizing Wildfire Mitigations
345	TURN	012	TURN_012	2	TURN_012_Q2	2. Comparing the wildfire mitigation work proposed in PG&E's WMP with the wildfire mitigation work proposed in PG&E's test year 2023 GRC (A.21-06-021): a. Please describe any differences in wildfire mitigation programs proposed or volume of wildfire mitigation work proposed between the WMP and GRC for the years 2023-2025; and b. For any differences (as described in subpart "a"), please provide a table that shows, on a program by program basis, the WMP proposal, the GRC proposal, and a description of the difference(s) between the two, including without limitation differences in volume or units of work. The table should include any wildfire mitigation programs that are proposed in one of the proceedings but not in the other.	The table below lists the wildfire mitigation programs proposed in the WMP and the GRC for the years 2023-2025 and describes differences between the two. The information provided below consists of summaries of longer discussions provided in either the WMP or the GRC. The population of wildfire mitigation programs includes: • The WMP Comprehensive Monitoring and Data Collection Mitigations (2023-2025 WMP, R1, pages 265-268); • The WMP Operational Mitigations (2023-2025 WMP, R1, pages 268 -271); • The WMP System Resilience Mitigations (2023-2025 WMP, R1, pages 271 - 274); and • Wildfire mitigations included in PG&E's Test Year (TY) 2023 GRC but not	Tom Long	5/5/2023	5/12/2023	5/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_012.zip	0	N/A	7.2.1	Wildfire Mitigation Strategy Development	Overview of Mitigation Initiatives and Activities
346	CPUC - SPD (Safety Policy Division)	004	CPUC - SPD (Safety Policy Division)_004	1	CPUC - SPD (Safety Policy Division)_004_Q1	Provide updated CPUC-reportable ignition data. SPD's current data set is attached for 2014-2021. The current data is an aggregated data set based on the data found here, under Fire Ignition Data. WSPS is requesting an updated data set to resolve four potential issues: 1.WSPS generally understands that some ignitions may have been excluded at the time the data was submitted if the cause of the fire was unclear. 2.Data may have been corrected once additional information was acquired. 3.Data may have been entered inconsistently between years which makes it difficult to perform analysis. 4.Update the data to the actual number of acres burned rather than a range of	Please find the requested information attached as "WMP-Discovery2023_DR_SPD_004-Q001Atch01.xlsx." Please Note: For column E (FPI), the Fire Potential Index (FPI) rating is only assigned to locations in a Fire Index Area (FIA), which are polygons that typically (but not always) align with HFTDs. The ignitions that have blanks in column E did not occur on a circuit segment located in a FIA polygon and therefore do not have associated Fire Potential Index ratings. For column L (Acreage), this field is used to capture acreage for wildfires (i.e. fires greater than 10 acres). It will not typically be populated if the fire is less than 10 acres unless the acreage is listed in a report from a fire suppressing agency.	Henry Sweat	5/5/2023	5/19/2023	5/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_004.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-06 – Addressing Increase in Risk Events
347	CPUC - SPD (Safety Policy Division)	004	CPUC - SPD (Safety Policy Division)_004	2	CPUC - SPD (Safety Policy Division)_004_Q2	In addition to the data requested above, please add the following data columns for each ignition: 1."HFTD" – Classify each ignition as whether it was located in a "Zone 1," "Tier 2" or "Tier 3", or "Non-HFTD" 2."Fire Potential Index" – Provide the Fire Potential Index for the location on the day of each ignition.	Please find the requested information attached as "WMP-Discovery2023_DR_SPD_004-Q001Atch01.xlsx." a. The requested information is identified in column H. b. The requested information is identified in column E. Please Note: For column E (FPI), the Fire Potential Index (FPI) rating is only assigned to locations in a Fire Index Area (FIA), which are polygons that typically (but not always) align with HFTDs. The ignitions that have blanks in column E did not occur on a circuit segment located in a FIA polygon and therefore do not have associated Fire Potential Index ratings. For column L (Acreage), this field is used to capture acreage for wildfires (i.e. fires	Henry Sweat	5/5/2023	5/19/2023	5/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_004.zip	0	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-06 – Addressing Increase in Risk Events
348	CPUC - SPD (Safety Policy Division)	004	CPUC - SPD (Safety Policy Division)_004	3	CPUC - SPD (Safety Policy Division)_004_Q3	Provide the total number of circuit mile-days for each Fire Potential Index rating per year starting in 2014.	Please find the requested information below. This analysis was completed by first counting the number of days each Fire Index Area (FIA) was forecast at a certain rating per year. Those day counts were then multiplied by the number of OH line miles in each FIA to provide the circuit mile-days. Please note that between 2014 and 2016 we did not record FIA ratings below R4, and between 2014 and 2017 we did not record FIA ratings R5+ in our databases. Also, 2023 contains data only through the first few weeks of May. FPI Rating Circuit Mile Days: Total OH lines Year R0-1 R2 R3 R4 R5 R5+ 2014 NA NA NA 577211 128930 NA 2015 NA NA NA 559593 70280 NA	Henry Sweat	5/5/2023	5/19/2023	5/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_004.zip	0	N/A	8.3.6	Situational Awareness and Forecasting	Fire Potential Index
349	CPUC - SPD (Safety Policy Division)	004	CPUC - SPD (Safety Policy Division)_004	4	CPUC - SPD (Safety Policy Division)_004_Q4	Provide the total number of days per year for each Fire Potential Index rating for each Fire Index Area starting in 2014.	Please find the requested information below. This analysis was completed by counting the number of days each Fire Index Area (FIA) was forecast at a certain rating per year. Please note that between 2014 and 2016 we did not record FIA ratings below R4, and between 2014 and 2017 we did not record FIA ratings R5+ in our databases. Also, 2023 contains data only through the first few weeks of May. year R0-1 R2 R3 R4 R5 R5+ 2014 NA NA NA 2916 857 NA 2015 NA NA NA 2432 349 NA 2016 NA NA NA 3651 725 NA 2017 10698 7907 2604 4094 2141 NA	Henry Sweat	5/5/2023	5/19/2023	5/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_004.zip	0	N/A	8.3.6	Situational Awareness and Forecasting	Fire Potential Index
350	CPUC - SPD (Safety Policy Division)	004	CPUC - SPD (Safety Policy Division)_004	5	CPUC - SPD (Safety Policy Division)_004_Q5	Provide the total number of circuit mile-days for each Fire Potential Index rating in the HFTD per year starting in 2014.	Please find the requested information below. This analysis was completed by first counting the number of days each Fire Index Area (FIA) was forecast at a certain rating per year. Those day counts were then multiplied by the number of OH line miles in each FIA and the HFTD to provide the circuit miledays. This is a slight variation of question 3 that includes all circuit miles in each FIA, as this analysis only counts OH circuit miles in a FIA and HFTD area and excludes HFRA. Please note that between 2014 and 2016 we did not record FIA ratings below R4, and between 2014 and 2017 we did not record FIA ratings R5+ in our databases. Also, 2023 contains data only through the first few weeks of May. FPI Rating Circuit Mile Days: OH lines in HFTD Year R0-1 R2 R3 R4 R5 R5+	Henry Sweat	5/5/2023	5/19/2023	5/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_004.zip	0	N/A	8.3.6	Situational Awareness and Forecasting	Fire Potential Index
351	CPUC - SPD (Safety Policy Division)	004	CPUC - SPD (Safety Policy Division)_004	6	CPUC - SPD (Safety Policy Division)_004_Q6	Explain how the utility is normalizing for the effect of weather and fuel conditions when understanding its performance each year on ignitions relative to changing weather and fuel conditions year over year.	In general, we have been evaluating our performance metrics against indicators of elevated FPI days (e.g., R3 and above) for the last several years as well as red flag warning days. To provide a more specific example, we are normalizing for weather in the EPSS effectiveness/performance in the following ways: • For 2022, EPSS effectiveness was calculated by comparing the number of current-year ignitions that occurred while EPSS was enabled, divided by the average number of ignitions that occurred each year from 2018-2020 that would have met EPSS criteria using an FPI back cast. • In order to normalize for variances in fire potential conditions (as quantified by the Fire Potential Index), ignition counts for each year are divided by the total	Henry Sweat	5/5/2023	5/19/2023	5/17/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_004.zip	0	N/A	8.3.6	Situational Awareness and Forecasting	Fire Potential Index
352	CalPA	Set WMP-24	CalPA_Set WMP-24	1	CalPA_Set WMP-24_Q1	In reference to your response to Question 11 of DR CalAdvocates-PGE-2023WMP-16, on the excel spreadsheet WMP-Discovery 2023_DR_016-Q011Atch01, a) On tabs (a) through (e), please identify the circuits with OH to UG conversion projects that have no adjacent circuit ties. b) On tabs (f) and (g), please identify the adjacent circuits that tie to the circuits with OH to UG conversion projects in Tabs (a) through (e).	In the referenced attachment, columns (f) and (g) are the average loading for individual circuits that are adjacent to circuits in (d) and (e) respectively. For example, Anderson 1101 is adjacent to a circuit being undergrounded. The average loading is provided for Anderson 1101 in (f), but Anderson 1101 is not listed in (a) through (e) because Anderson 1101 is not being undergrounded in those years. a) Please reference "WMP-Discovery2023_DR_CalAdvocates_024-Q001Atch01.xlsx" which includes a new column on tabs (a) through (e) of the referenced attachment identifying if the circuits with OH to UG conversion projects have an adjacent circuit. b) Please reference "WMP-Discovery2023_DR_CalAdvocates_024-Q001Atch02.xlsx" for a list of all circuit pairs for circuits in (a) through (e). All circuits in (a) through (e) are listed as Circuit 1, and their corresponding circuit pair is in Circuit 2.	Holly Wehrman	5/9/2023	5/12/2023	5/11/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_024.zip	2	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment
353	MGRA	Data Request No. 5	MGRA_Data Request No. 5	1	MGRA_Data Request No. 5_Q1	Is the sole source of this POI data the machine learning algorithm described in WDRM documentation? If not what other inputs go into the POI?	Yes, the POI data shown is the result of the process and data described in section 6.2.1 and shown in Table PG&E 6.2.1-1.	Joseph Mitchell	5/10/2023	5/15/2023	5/15/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_005.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
354	MGRA	Data Request No. 5	MGRA_Data Request No. 5	2	MGRA_Data Request No. 5_Q2	Is the fine-grained POI distribution a result of the localization of specific historical outages, characteristics of assets or environment, or both?	The fine-grained features (sharp contrasts in values between neighboring pixels) in PG&E's risk model outputs are a product of finely varying predictive covariates, including asset characteristics and environmental attributes. Please see PG&E's response to Question 4 of this Data Request for an explanation of how historical outages may influence fine-grained localization. As mentioned in the response to MGRA 004 Q004, "At the pixel-by-pixel level, the model does exhibit some level of noise that can result in high-risk hot spots in an area of generally lower risk pixels. For this reason, workplan development is generally guided by circuit segment level aggregations that provide an improved indication of risk level."	Joseph Mitchell	5/10/2023	5/15/2023	5/15/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_005.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
355	MGRA	Data Request No. 5	MGRA_Data Request No. 5	3	MGRA_Data Request No. 5_Q3	Which of the following characteristics is known or suspected to contribute to the fine-grained localization of POI shown above, and to what degree: a. Vegetation b. Tree density and height c. Asset health d. Asset age e. Asset type f. Hardening/Mitigation history	The data representing the items listed in parts a through e all contribute, in varying degrees depending on location and geography, to the fine-grained localization seen in PG&E's risk modeling outputs, including the spatial view provided by MGRA. Fine grained localization may result where locations of significant covariate variability exist in PG&E's service territory (e.g. a heavily forested area next to a non-forested area). The causal effects of part f, hardening/mitigation history, were not directly estimated for the WDRM V3. To the extent an asset is replaced as part of a wildfire mitigation project, the asset health, age, and type would be reflected in WDRM v3 and may contribute to fine grained localization.	Joseph Mitchell	5/10/2023	5/15/2023	5/15/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_005.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
356	MGRA	Data Request No. 5	MGRA_Data Request No. 5	4	MGRA_Data Request No. 5_Q4	As an example of "localized outage" effects, if a vehicle were to collide with a utility pole and cause an outage in the boundary of the image above, and if the POI were to be recalculated, would the area where the outage occurred show an elevated POI? Or would conversely the incremental increase risk of vehicle collision outage be generally distributed over the entire landscape, or a portion of the landscape?	This type of outage would be classified into the Contact From Object "third party vehicle" subset as listed in Table PG&E-6.2.1-1. In reality, a single accident does not have very much sway over the third-party vehicle model one way or another because there are hundreds of historical events already contributing to the result. However, we can say that the additional data point would enhance the POI in locations that share the same covariate characteristics as the accident location. So, the resulting adjustments would not be localized to the accident location, but they would not be spread evenly across all locations either.	Joseph Mitchell	5/10/2023	5/15/2023	5/15/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_005.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD

357	MGRA	Data Request No. 5	MGRA_Data Request No. 5	5	MGRA_Data Request No. 5_Q5	Are fire weather winds included in the WDRM v3 POI model in any other manner than that described in WDRM v2 discussion, in which aggregated yearly variables such as annual maximum or annual days over peak are used as explanatory variables?	Yes. In WDRM v3, day-of-event wind speed and fuel conditions are significant covariates in the probability of ignition given an outage model, which is trained on the conditions at the locations and on the day of each outage. Wind and other contributors to "fire weather" conditions are also prominent in the consequence calculations in WDRM v3.	Joseph Mitchell	5/10/2023	5/15/2023	5/15/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_005.zip	0	N/A	Appendix C / 6.4.1.1, 6.4.1.2	Risk Methodology and Assessment	Geospatial Maps of Top Risk Areas Within the HFRA Proposed Updates to HFTD
358	CalPA	Set WMP-25	CalPA_Set WMP-25	1	CalPA_Set WMP-25_Q1	With reference to Question 10 of data request CalAdvocates-PGE-2023WMP-10, please augment your response by including partial outages as well as circuit outages (see definitions above). Specifically: please provide an Excel sheet listing each circuit that had outages (including both circuit outages and partial outages) that occurred from 2020 to 2022 in any HFTD area. The sheet should list each outage as a row. Please provide the following additional information (in columns): a) ID number of the circuit affected b) Name of the circuit c) The date of the outage d) Whether the outage was a circuit outage or a partial outage e) Cause of outage f) For all equipment failure outages, please state the specific type of failure (i.e., OH	Please see "WMP-Discovery2023_DR_CalAdvocates_025-Q001Atch01.xlsx" for information responsive to items (k)-(q).	Holly Wehrman	5/11/2023	5/18/2023	5/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_025.zip	1	N/A	QDR	N/A	N/A
359	OEIS	005	OEIS_005	1	OEIS_005_Q1	Regarding Maturity Survey response to Sec 6.1.2 Question #8 Regarding the Maturity Survey response to Section 6.1.2. Question #8, PG&E answered "yes". What sections of its Company Emergency Response Plan (CERP) does PG&E provide a discussion of gaps, limitations, and improvement areas with remedial or corrective action plans as it relates to wildfire and PSPS? If its discussion is contained in other documents, provide those and clarify what sections the discussion is contained in.	The CONFIDENTIAL attachments are being provided pursuant to the accompanying confidentiality declaration. Please reference Section Six "After Action Reports" in the 2022 CERP Wildfire Annex (published April 1, 2022), included as attachment "WMP:Discovery2023_DR_OEIS_005-Q001Atch01CONF.pdf." Additionally, please reference the 2022 version of PG&E's PSPS Annex, included as attachment "WMP-Discovery2023_DR_OEIS_005-Q001Atch02CONF.pdf." Please see section 8.1.2, the After Action Report, which highlights gaps and limitations. Lastly, please also reference the After Action Report Standard, included as attachment "WMP-Discovery2023_DR_OEIS_005-Q001Atch03CONF.pdf" for a further discussion of gaps, limitations, and improvement areas.	Colin Lang	5/11/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_005.zip	3	N/A	Maturity Survey	Maturity Survey	Maturity Survey
360	OEIS	005	OEIS_005	2	OEIS_005_Q2	Regarding Maturity Survey response to Sec 6.1.4 Question #2 Regarding the Maturity Survey response to Section 6.1.4 Question #2, PG&E answered "yes" that an external third party evaluation is conducted every five years. Please provide a copy of the most recent third party evaluation.	PG&E conducts biannual public meetings with public safety partners, elected officials, and other interested parties, to solicit feedback related to the company's emergency response plan (CERP). Although feedback has been solicited no formal evaluations have been received. Please reference Section 1.9 of the CERP, located on PG&E's website at the following link: www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural□disaster/wildfires/wildfire-mitigation-plan/supporting-documents/emer-3001m-2023- cerp.pdf for additional information regarding the CERP review.	Colin Lang	5/11/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_005.zip	0	N/A	Maturity Survey	Maturity Survey	Maturity Survey
361	OEIS	005	OEIS_005	3	OEIS_005_Q3	Regarding Maturity Survey response to Sec 6.1.4 Question #7 Regarding the Maturity Survey response to Section 6.1.4 Question #7, PG&E answered "yes" that Subject Matter Expert (SME) partners review and evaluate its plan every five years. Please provide a copy of the most recent SME evaluation(s).	PG&E conducts annual reviews with Subject Matter Experts to evaluate the CERP and its associated functional and hazard specific annexes. The process for this annual review is documented in "WMP-Discovery2023_DR_OEIS_005-Q003Atch01CONF.pdf" Please note, these review sessions are considered working meetings and do not result in a formal evaluation or report.	Colin Lang	5/11/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_005.zip	1	N/A	Maturity Survey	Maturity Survey	Maturity Survey
362	TURN	013	TURN_013	1	TURN_013_Q1	1. Following up on TURN DR 10-2(b) and PG&E's response: a. Please explain how PG&E determined that a risk rank per the V3 risk model above 720 constitutes the top 20% of risk ranked segments? Why does 720 represent the 20% threshold? Please explain. Please provide workpapers, calculations, and data in Excel that support your response. b. Please explain how PG&E determined that a risk rank per the V2 risk model above 727 constitutes the top 20% of risk ranked segments? Why does 727 represent the 20% threshold? Please explain. Please provide workpapers, calculations and data in Excel that support your response.	a. The top 20 percent of risk ranked circuit segments is dependent on the number of circuit segments analyzed in each WDRM model. For WDRM v3, the model includes all circuit segments across PG&E's entire overhead distribution system, which is 11,172 circuit segments (see WMP-Discovery2023_DR_TURN_011-Q001Atch01, tab: SH_composite_cs_summary). To determine a comparable methodology as shown in WDRM v2 (described in part (b) below), PG&E identified the number of HFTD and HFRA circuit segments which equaled 3,583 at the time of the analysis. The top 20 percent of risk ranked circuit segments in this instance is 717 which PG&E rounded up to 720. PG&E's response to WMP-2023_DR_TURN-010-Q004Atch01 lists the 3,583 circuit segments in HFTD and HFRA. b. Similar to the response to subpart a, the top 20 percent of risk ranked segments is dependent on the number of circuit segments in each WDRM model. Unlike WDRM v3 that included both HFTD and HFRA (and non-HFTD-fire segments as well), WDRM v2 only included HFTD circuit	Tom Long	5/11/2023	5/16/2023	5/15/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/TURN_013.zip	0	N/A	8.1.2.2	Grid Design, Operations, and Maintenance	Undergrounding of Electric Lines and/or Equipment
363	Green Power Institute (GPI)	002	Green Power Institute (GPI)_002	1	Green Power Institute (GPI)_002_Q1	Please provide: - The number of trees removed in each year from 2019-2022 and the program under which the removals occurred. - The number of planned tree removals for 2023, 2024, and 2025, and the program under which the removals will occur. - The number of remaining trees in PG&Es tree inventory that are listed for removal.	Routine Second Patrol EVM 2019 187,357 45,600 116,491 2020 191,728 65,402 120,030	Zoe Harrold	5/11/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/GPI_002.zip	0	N/A	8.2.2.2.4	Vegetation Management and Inspections	Tree Removal Inventory
364	Green Power Institute (GPI)	002	Green Power Institute (GPI)_002	2	Green Power Institute (GPI)_002_Q2	Please provide the number of distribution line miles PG&E will perform trimming on to achieve enhanced clearances (> 12').	There are approximately 40,000 HFTD and HFRA miles in PG&E service territory. PG&E performs inspection on all line miles within HFRA and HFTD areas. While PG&E does not have a program dedicated to enhanced clearances, we are following the prescription in General Order 95, Rule 35 and our Distribution Standards which recommends a minimum 12-feet of clearance at time of trim in High Fire-Threat District (HFTD). PG&E also extends this minimum clearance recommendation to tree work within HFRA.	Zoe Harrold	5/11/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/GPI_002.zip	0	N/A	8.2.3.3	Vegetation Management and Inspections	Clearance
365	Green Power Institute (GPI)	002	Green Power Institute (GPI)_002	3	Green Power Institute (GPI)_002_Q3	Please provide any existing quantitative metrics (e.g. kg, truckloads, etc.) on the total amount of vegetation management "waste" (or residues) produced each year from 2020 – 2022, and the annual amounts that are disposed of at recycling facilities, landfills, biomass facilities, or other facilities.	PG&E does not track vegetation management "waste" data for all VM programs. Vegetation management "waste" data is available for PG&E contracted wood yards, which include wood debris from various programs, and the Wildfire Wood Management program. This data is not available prior to 2021. The following is the existing data on tonnage of waste wood that came through PG&E's contracted wood yards: • 2022: 152,321 tons • 2021: 151,033 tons Specific to Wildfire Wood Management, we estimate the following volumes of waste wood have been managed based on the conversion rate of 1.6 tons per unit: • 2022: 39,067 tons • 2021: 25,800 tons	Zoe Harrold	5/11/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/GPI_002.zip	0	N/A	8.2.3.2	Vegetation Management and Inspections	Wood and Slash Management
366	Green Power Institute (GPI)	002	Green Power Institute (GPI)_002	4	Green Power Institute (GPI)_002_Q4	Please provide the number of customer requests to retain woody biomass resulting from vegetation management activities on private property, state property, and federal property.	We do not track customer requests to retain woody biomass resulting from Vegetation Management activities.	Zoe Harrold	5/11/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/GPI_002.zip	0	N/A	8.2.3.2	Vegetation Management and Inspections	Wood and Slash Management
367	Green Power Institute (GPI)	002	Green Power Institute (GPI)_002	5	Green Power Institute (GPI)_002_Q5	Please describe current agreements and any recent (2021-Present) communications with state and federal agencies regarding fuels and slash management practices on state and federal lands, respectively.	The U.S. Forest Service (USFS), Bureau of Land Management (BLM), National Park Service (NPS), and California State Parks (CASP) have the authority to require specific wood and debris management (e.g., wood or log removal, decking, chipping up to a certain diameter, piling) be incorporated into proposals for Vegetation Management work on their lands. Several public agencies, including USFS, have provided PG&E with their expectations for wood and debris management, which are included in our Land Management Agreements. In addition to written specifications, some agencies have provided GIS files showing locations where all debris must be removed. We communicate regularly with our agency partners to address any immediate questions, requests or concerns. We also hold comprehensive annual coordination meetings to ensure continuous improvement.	Zoe Harrold	5/11/2023	5/16/2023	5/16/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/GPI_002.zip	0	N/A	8.2.3.2	Vegetation Management and Inspections	Wood and Slash Management
368	MGRA	Data Request No. 6	MGRA_Data Request No. 6	1	MGRA_Data Request No. 6_Q1	PG&E was requested to provide an Excel spreadsheet containing outage IDs. These were delivered with an OutageID totally unrelated to the DOutageID that it lists in its outage data provided as a result of DR1. Please provide the file sent in reponse to DR4-08 as soon as possible.	"WMP-Discovery2023_DR_MGRA_006-Q001Atch01.xlsx" contains a new column called "DOutageID" that will align with the same outage identifier (ID) from DR1.	Joseph Mitchell	5/15/2023	5/18/2023	5/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_006.zip	1	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
369	MGRA	Data Request No. 6	MGRA_Data Request No. 6	2	MGRA_Data Request No. 6_Q2	Please add (or re-add) a simple "cause" attribute to this outage file.	"WMP-Discovery2023_DR_MGRA_006-Q001Atch01.xlsx" contains a new column called "basic_cause" as requested.	Joseph Mitchell	5/15/2023	5/18/2023	5/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_006.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings

370	MGRA	Data Request No. 6	MGRA_Data Request No. 6	3	MGRA_Data Request No. 6_Q3	Likewise, please add a 'cause' attribute to the outage data in the GIS files issued in response to MGRA DR1. Alternatively, provide an Excel file in which cause is cross-referenced to DoutageID.	"WMP-Discovery2023_DR_MGRA_006-Q001Atch01.xlsx" includes both "basic_cause" and "DOutageID" for cross-referencing.	Joseph Mitchell	5/15/2023	5/18/2023	5/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_006.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
371	MGRA	Data Request No. 6	MGRA_Data Request No. 6	4	MGRA_Data Request No. 6_Q4	If there are refusals or delays to the above please provide the EPSS data in a kmz format similar to that provided in response to MGRA DR2-Question 8.	Not applicable.	Joseph Mitchell	5/15/2023	5/18/2023	5/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/MGRA_006.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
372	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	1	CPUC - SPD (Safety Policy Division)_005_Q1	1.Regarding costs inherent in PG&E's undergrounding grid hardening mitigation initiative projects, used in calculating cost efficiency and project feasibility as described in the 2023-2025 WMP (p. 340 and p. 968), to date and looking forward: a.What was the average cost per circuit mile for undergrounding in 2022, 2021, and 2020, in the HFTD, non-HFTD, and territory-wide? b.What is the average cost per circuit mile expected in 2023, 2024, and 2025, in the HFTD, non-HFTD, and territory-wide? c.For sub-parts a. and b., explain expected, average year-over-year cost changes.	a. Please see the following table for average cost per circuit mile for undergrounding, split between base System Hardening undergrounding work and fire rebuild work. All completed undergrounding circuit miles in 2022, 2021, and 2020 are in HFTDs. Year Completed Base UG Total Unit Cost (Average in $M) Fire Rebuild UG Total Unit Cost (Average in $M) Combined UG Total Unit Cost (Average in	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	1	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
373	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	2	CPUC - SPD (Safety Policy Division)_005_Q2	2.Provide the utility's cost estimate breakdown for undergrounding per mile. Provide the cost estimate in a commonly used cost-estimating format (e.g., Uniformat). If the utility uses a different format, provide internal documentation on that format so SPD can understand the cost estimate.	Please see the following table for each cost component's estimated contribution to the total unit cost. These estimates are based on actual costs for completed undergrounding work in 2023 to date. This year's completed projects are PG&E's best currently available representation of the cost estimating breakdown and is expected to be similar in future years. Cost Component Est. Contribution to Total Cost Labor (internal) 10% Materials 16% Contractor 61% Overhead 10% Other 2% Financing 1%	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
374	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	3	CPUC - SPD (Safety Policy Division)_005_Q3	3.How is PG&E incorporating subsurface variability (e.g., encountering hard rock, slope, or other conditions presenting significant, physical obstacles) into undergrounding cost calculations? Provide an example.	PG&E recognizes that subsurface variability contributes to undergrounding cost, but does not incorporate a specific subsurface variability factor into its portfolio cost forecasts. For completed work, costs associated with subsurface variability are captured at the individual project level, which is incorporated into the average cost per mile of the portfolio. PG&E describes construction issues related to subsurface variability and how those issues can impact projects costs in PG&E Wildfire Mitigation Plan - WMP Discovery2023_DR_CalAdvocates_022-Q002	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
375	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	4	CPUC - SPD (Safety Policy Division)_005_Q4	4.PG&E has stated that CalTrans trench depth requirements exceeded PG&E trench depth requirements. How has this impacted costs and planning? For planning purposes, what percentage of anticipated underground circuit miles will be impacted by the CalTrans trench depth requirements for 2023-2025?	PG&E has not made changes to our per mile cost forecasts related to CalTrans trench depth requirements. Planning for CalTrans trench requirements is incorporated into individual project design packages. Of the approximately 2,700 circuit miles planned in the 2023-2026 Undergrounding Workplan (filed with the 2023-2025 WMP), 204 circuit miles are on projects where PG&E has determined that the CalTrans trench depth requirements are likely to apply. Currently, this makes up less than 8% of the underground circuit miles planned in our WMP. Engineers incorporate CalTrans trench depth requirements into the individual projects during the project design phase. The cost and planning impacts of the CalTrans requirements to each of these projects is subject to final design of alignment.	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
376	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	5	CPUC - SPD (Safety Policy Division)_005_Q5	5.How does service life impact cost calculation?	PG&E's undergrounding cost forecasts represent the capital costs to construct projects. Service life is not considered in these calculations, but is expected to be longer than overhead lines. PG&E also expects that by undergrounding distribution lines, PG&E's long-term costs for operations and maintenance, vegetation management, and other activities will decrease.	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
377	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	6	CPUC - SPD (Safety Policy Division)_005_Q6	6.What is the estimated multiplier for conversion from overhead (OH) line to underground (UG) line (e.g., 1.25 Mile OH converts to 1.00 Mile UG)? a.How was this conversion rate derived? b.How was it established as the accepted/operating average for project planning purposes?	a. The original estimated conversion of overhead to underground mileage (1.25) was based on subject matter expertise. In April 2023, PG&E completed a manual review of 19 projects completed in 2022 to validate this estimate. In these 19 projects, we removed approximately 12.7 overhead miles and replaced them with 16.3 underground miles Based on this subset of data, which is generally consistent with the estimated conversion rate for our overall portfolio, the conversion factor from overhead to underground was 1.3. Please also see response to 2023 WMP Discovery TURN 001-001, subpart (d). b. See response to part (a).	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
378	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	7	CPUC - SPD (Safety Policy Division)_005_Q7	7.On pilot projects completed to date: a.What is the total all-in cost per mile? b.What is the breakdown of project costs per mile? SPD expects to see the following components inside of the costs, although SPD understands they may not be broken down in this exact format: i.Scoping (e.g., primary line, secondary line, service drop) ii.Design (e.g., fees for both internal and external designers) iii.Design Estimating (e.g., labor, materials, other costs) iv.Dependencies (e.g., permits, contracts, long-lead materials) v.Construction (e.g., civil construction, electric construction) vi.Other? (e.g., direct payments to homeowners so homeowners may complete work such as landscaping or road repair)	a. In 2019, PG&E completed two pilot projects to convert overhead primary conductor to underground primary conductor. The total all-in cost per mile for each pilot project is noted in the below table: Project Order # 35052718 35089880 Total Unit Cost Per Mile (in $M) $2.11 $4.18 b. PG&E breaks down actual costs slightly differently than the format suggested by SPD in this question. For undergrounding at the project level PG&E uses a format agreed on in partnership with other IOUs. The following components contribute to the total: • Labor (internal) • Materials	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
379	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	8	CPUC - SPD (Safety Policy Division)_005_Q8	8.Please provide WMP-Discovery2023_DR_TURN_007-Q001Atch01CONF.xlsx, used to address TURN Data Request 7, Question 1, discussing RSE calculation for system hardening.	Please see "WMP-Discovery2023_DR_TURN_007-Q001Atch01CONF.xlsx."	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	1	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
380	CPUC - SPD (Safety Policy Division)	005	CPUC - SPD (Safety Policy Division)_005	9	CPUC - SPD (Safety Policy Division)_005_Q9	9.On page 151 of the 2023-2025 WMP, PG&E states that the WDRM v3 ignition source is "PG&E's Historical Ignitions Data, 2015-2021 (approximately 2,500 CPUC-reportable ignitions and approximately 1,900 non-reportable ignitions)." a.Describe how PG&E is using the ~1,900 non-CPUC-reportable ignitions in its risk modeling. b.Provide this ~1,900 non-CPUC-reportable ignition data as a spreadsheet in format similar to the existing CPUC-reportable ignitions data (as in DR SPD_PG&E_2023_004 and at Wildfire and Wildfire Safety (ca.gov), under Fire Ignition Data).	a. The PG&E Historical Ignitions Data described on page 151 of PG&E's WMP is used as the training data for the probability of ignition model portion of the WDRM v3. For modeling, the date and time of the reported outage is used when available. b. The approximately 1900 non-CPUC reportable ignitions used in the development of the WDRM v3 is provided in "WMP-Discovery2023_DR_SPD_005-Q009Atch01.xlsx." This information has been aligned with the format used for the CPUC reportable ignitions. In some cases, not all data is available for these additional non-reportable ignitions.	Kevin Miller	5/15/2023	6/12/2023	6/12/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_005.zip	0	N/A	6.2.1	Risk Methodology and Assessment	Risk and Risk Component Identification
381	CPUC - SPD (Safety Policy Division)	006	CPUC - SPD (Safety Policy Division)_006	1	CPUC - SPD (Safety Policy Division)_006_Q1	1.After it was pointed out by SPD that there appeared to be a discrepancy in the methodologies used to calculate the risk mitigation effectiveness of EPSS, Undergrounding and Covered Conductor (CC), PG&E stated that CC is probably the most "mature" mitigation effectiveness as the effectiveness based on empirical data and cross utility collaboration, EPSS is the second most as it is based on empirical data, and that UG is the least mature mitigation effectiveness as its based purely on SME judgement. PG&E agreed to update its undergrounding mitigation effectiveness percentage calculation to account for secondary/service drop ignitions. a.Provide this analysis or provide an update on when this analysis will be finished and submit the analysis when it is finished.	PG&E notes that the calculation of risk mitigation effectiveness can be computed in various ways, and taking different approaches to calculate effectiveness for different mitigations does not necessarily constitute a discrepancy. The mitigation effectiveness calculation for covered conductor was articulated as being the most "mature" because the joint IOUs agreed upon a common methodology of using a combination of estimated effectiveness based on SME input against historical data and recorded effectiveness based on analysis of overhead hardened locations across multiple years of installation. At this time, the mitigation effectiveness estimate for undergrounding is considered the least "mature" because there is not a common approach employed by the joint IOUs, and none of the utilities have yet deployed undergrounding as a wildfire mitigation measure on a large scale. As a result, PG&E's wildfire risk effectiveness assessment for undergrounding is predominantly SME-informed and was validated when reviewing the	Kevin Miller	5/17/2023	5/22/2023	5/22/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_006.zip	0	N/A	8.1.8.1.1	Grid Design, Operations, and Maintenance	Protective Equipment and Device Settings
382	CPUC - SPD (Safety Policy Division)	006	CPUC - SPD (Safety Policy Division)_006	2	CPUC - SPD (Safety Policy Division)_006_Q2	2.PG&E asserted that PG&E is addressing the risk from secondary lines and service drops in part via replacing the secondary with covered aerial conductor and breakaway connectors at service drops [see PG&E's response to Question 4.b of SPD_PG&E_2024_003 for additional description]. PG&E also stated that there may need to be a messaging update because the 99% mitigation effectiveness is only meant to apply to primary lines not their entire wildfire risk. a.How does PG&E foresee clarifying this information in its messaging? b.To whom?	a. As discussed during a staff meeting with SPD on May 3, 2023, PG&E currently states in talking points, the PG&E website, and in customer materials that "Placing overhead powerlines underground reduces ignition risk by approximately 99% in that location." PG&E intended the phrase "in that location" to articulate that the 99% risk mitigation applied to the areas, or the circuit segments, actually being undergrounded, and not to other areas beyond where the undergrounding takes place. This would not apply to lateral secondary lines and service drops because they are not being undergrounded. PG&E has considered providing more specificity to this talking point, such as "undergrounding is 99% effective in mitigating wildfire risk on the electric distribution primary lines being undergrounded." However, PG&E routinely receives feedback from customers, advocacy groups, regulators, and others to keep customer-facing language simple	Kevin Miller	5/17/2023	5/22/2023	5/22/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_006.zip	0	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution

383	CPUC - SPD (Safety Policy Division)	007	CPUC - SPD (Safety Policy Division)_007	1	CPUC - SPD (Safety Policy Division)_007_Q1	1.What types of covered conductor (size of conductor, material of conductor, voltage rating of conductor – if PG&E can point to product data from a manufacturer, this would be preferred) does PG&E use and does PG&E choose different types of covered conductor types near coastal areas?	The CONFIDENTIAL attachments are being provided pursuant to the accompanying confidentiality declaration. Please refer to Table 18 – Primary Aluminum ACSR and Copper XLPE Tree Wire (page 10 of 12) in PG&E standard 059626, "Conductors for Overhead Lines" (WMP-Discovery2023_DR_SPD_007-Q001Atch01CONF.pdf) for the types of covered conductor we use in the primary voltage system. We use #2 HD CU in moderate and severe corrosion areas in place of 1/0 ACSR. The larger conductor sizes (397.5 and 715.5) are all aluminum and approved for use in both corrosive and non-corrosive environments. The PG&E primary covered tree wires are designed for nominal 21kV line-to-line and 12 kV line-to-ground operating voltage. Please refer to PG&E EMS 83, "Specification for [illegible]	Henry Sweat	5/17/2023	5/18/2023	5/18/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_007.zip	3	N/A	8.1.2.1	Grid Design and System Hardening	Covered Conductor Installation – Distribution
384	OEIS	006	OEIS_006	1	OEIS_006_Q1	Regarding PG&E's response to OEIS DR 2 Question 10, Attachment 1: a. Explain the difference between a Field Safety Reassessment and a Planned Field Safety Reassessment. b. In what instances would PG&E extend a work order due date through a Field Safety Reassessment? Provide all supporting documentation and criteria, including any procedures and inspection protocols demonstrating decision-making. c. In what instances would a Standards Change lead to extending a work order due date? Provide all supporting documentation and criteria, including any procedures and inspection protocols demonstrating decision-making. Additionally, provide examples in which this has occurred, including any sweeping changes. d. Include any criteria that would fall under "Other reassessment" as seen in Column	[illegible] confidentiality declaration. a. There is no difference between the terms "Field Safety Reassessment" and "Planned Field Safety Reassessment." The transmission team used the term "Planned Field Safety Reassessment" in their QDR reporting while the distribution team used the term "Field Safety Reassessment." We will align our terminology for future reporting by using the term "Field Safety Reassessment." b. Due to the current tag backlog, PG&E's execution of some notifications may not meet GO 95, Rule 18 compliance 100% of the time. As a result, we have focused our efforts on risk ranking the outstanding tags and working the riskiest tags first. FSRs are an internal containment activity we perform to mitigate potential safety	Dakota Smith	5/18/2023	5/23/2023	5/25/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_006.zip	8	N/A	8.1.7	Open Work Orders	N/A
385	OEIS	006	OEIS_006	2	OEIS_006_Q2	Regarding PG&E's Other Data Requests: a. Provide the following confidential attachments from CalAdvocates Data Requests: i. Attachment 1 in response to Data Request 19 Question 13. ii. Attachment 1 in response to Data Request 21 Question 3. iii. Attachment 1 in response to Data Request 22 Question 7. b. Provide the following confidential attachments from TURN Data Requests: i. Attachment 1 in response to Data Request 4 Question 1. ii. Attachment 1 in response to Data Request 7 Question 1. iii. Attachment 1 in response to Data Request 7 Question 3. iv. Attachment 1 in response to Data Request 10 Question 2. v. Attachment 1 in response to Data Request 10 Question 7.	The CONFIDENTIAL attachments are being provided pursuant to the accompanying confidentiality declaration. a. Please see "WMP-Discovery_DR_OEIS_006-Q002Atch01CONF.zip" for the requested confidential attachments previously provided to Cal Advocates. b. Please see "WMP-Discovery_DR_OEIS_006-Q002Atch02CONF.zip" for the requested confidential attachments previously provided to TURN.	Dakota Smith	5/18/2023	5/23/2023	5/23/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_006.zip	2	N/A	N/A	N/A	N/A
386	OEIS	006	OEIS_006	3	OEIS_006_Q3	Regarding PG&E's response to TURN's Data Request 7, Question 3: a. For each of the circuit segments listed in part (b), provide the following via Excel: i. WFE score ii. SWRSE iii. Feasibility scores iv. V3 risk score v. V3 risk ranking vi. V2 risk score vii. V2 risk ranking viii. PG&E's plans to mitigate risk, including mitigation type(s) ix. Year(s) of mitigation implementation, as applicable.	Please see attachment "WMP-Discovery2023_DR_OEIS_006-Q003Atch01.xlsx" for the requested circuit segment detail. Please note the following: • There are differences between the WDRM v2 and the WDRM v3 and, as a result, there are five circuit segments that have a V3 risk score but do not have a V2 risk score. • The SWRSE and the WFE Score are the same as described on page 968 of the WMP. • In the previous TURN response, CAMP EVERS 2101BL2101 was referenced incorrectly and has been corrected to CAMP EVERS 2105BL2101. • Data values were rounded to three decimal places for consistency. Values that display 0.000 may have additional digits past the three decimal points and can be	Dakota Smith	5/18/2023	5/23/2023	5/23/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_006.zip	1	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
387	OEIS	007	OEIS_007	1	OEIS_007_Q1	Q1. Regarding Services provided to customers due to PSPS and wildfire emergencies In Section 8.4.6, the full extent of services PG&E provides to customers due to PSPS and wildfire emergencies is unclear. Describe PG&E's full scope of services for each service listed (a, b, c, etc.) below as it relates to PSPS and wildfire emergencies and the segment of customers served for that service. In its discussion of each service, address the questions under each listed service. If a service is provided due to a regulation, reference the governing rule. Where applicable, reference the customer class (residential, business, etc.) to which the service is offered. a. Support for Low Income Customers	a. i. The CPUC issued (D.) 19-07-015, adopting an emergency disaster relief program for utility customers. The trigger to implement the program is an emergency declaration by the governor of California or president of the United States. We Red-Tag customers when the "…disaster has resulted in the destruction or damage of a structure, such that utility service is disrupted voluntarily or involuntarily due to safety concerns or reconstruction activities to address damages…". Customers who experience service disruptions or degradations but are not red-tagged also have their California Alternate Rates for Energy Program (CARE) / Family Electric Rate Assistance Program (FERA) Post Enrollment	Alan Solomon	5/24/2023	5/30/2023	5/30/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_007.zip	0	N/A	8.4.6	Emergency Preparedness	Customer Support in Wildfire and PSPS Emergencies
388	OEIS	008	OEIS_008	1	OEIS_008_Q1	Regarding Vegetation Management Objectives In Table 8-12 of PG&E's 2023-2025 WMP, it states that one of its objectives is to "Determine value of a multi-year historical tree data set." a. Expand on what is meant by "a multi-year historical tree data set." b. How might the data for this set be gathered? (e.g., inspection reports, remote sensing, etc.) c. Would this data set be like SCE and SDG&E's tree inventories?	a. A multi-year historical tree data set in this context is a data set compiled from all relevant year-over year tree data available over a period of time. This would be intended to inform decision makers at various steps of the vegetation management cycle, for trees that remain unmitigated through removal. The tree data can inform risk analyses, planning, and forecasting. This information can inform inspectors on tree response to previous pruning activities. It can provide insight on various factors such as (but not limited to) growth rates of specific individual trees based on historical inspection. The tree specific data can also improve remote sensing data or outage trend or more broadly, observed failure patterns at the species level. b. This data initially would be gathered by utilizing inspection records and coordinates. This data will get updated with each tree's next inspection(s). Tree-specific data	Dakota Smith	5/25/2023	5/31/2023	5/31/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_008.zip	0	N/A	8.2.2.2.5	Vegetation Management and Inspections	Focused Tree Inspections
389	OEIS	008	OEIS_008	2	OEIS_008_Q2	Regarding Undergrounding Workplan Targets a. Explain why PG&E has reduced undergrounding targets provided within its workplan when comparing PG&E's 2022 WMP to the 2023-2025 WMP. b. Provide two versions of an updated Table PG&E-8.1.2-3 from PG&E's 2023-2025 WMP in which the Top 20% is based on risk model output scores from V2 and V3 respectively, opposed to WFE. Both mileage and % of Portfolio columns should be updated for each respective year and total.	a. In the 2022 WMP, PG&E introduced its plan to underground 10,000 distribution circuit miles in and near high wildfire risk areas which included an initial goal of undergrounding 3,400 miles from 2023-2026. PG&E submitted a workplan that included 3,716 miles for that time period. (2022 WMP Table RN-PG&E-22-03-02). In the 2023-2025 WMP, PG&E has reiterated its commitment to underground 10,000 circuit miles in and near high wildfire risk areas. In the 2023-2025 WMP, PG&E has targeted undergrounding 2,100 miles from 2023-2026. The plan it submitted contains 2,687 miles to ensure it can meet its targets. (2023-2025 WMP, Table PG&E-8.1.2-3). Along with the 2022 WMP and 2023 WMP, PG&E also presented its 10,000 mile undergrounding plan in its Test Year 2023 General Rate Case (TY 2023 GRC, A.	Dakota Smith	5/25/2023	5/31/2023	5/31/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_008.zip	1	N/A	8.1.2.3	Grid Design and System Hardening	Distribution Pole Replacements and Reinforcements
390	OEIS	008	OEIS_008	3	OEIS_008_Q3	Regarding Inspection Find Rates a. Provide PG&E's work order find rate for distribution detailed and patrol inspections respectively, broken down by quarter from 2018 to 2022.	Please find PG&E's find rate for distribution overhead (OH) detailed and patrol inspections in the tables below. Please note that inspections are not evenly distributed by quarter, so PG&E has also provided the annual find rate for each inspection type. PG&E provides a few notes about the data below: • Find rates are counted by unique notifications, so in some cases more than one notification is present for a single structure. • Find rates for 2019 include only findings from PG&E's WSIP inspections, not GO 165 inspections. • Find rates for 2020-2022 for overhead inspections utilize a slightly different set of filters compared to PG&E's QDR reporting. These find rates exclude findings that were made through PG&E's Inspect app but were not part of the inspections	Dakota Smith	5/25/2023	6/5/2023	6/5/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_008.zip	0	N/A	8.1.3.2	Asset Inspections	Distribution Asset Inspections
391	OEIS	008	OEIS_008	4	OEIS_008_Q4	Regarding PG&E's response to TURN DR 10 Question 4 a. Provide Attachment 1 with the following additional columns: i. Length of line (mi) ii. V3 Risk Score iii. V3 Risk Rank b. If not included above, provide the V3 risk rank for the following CPZs, and explain why they are not included in the above: i. BRUNSWICK 111063100 ii. GREEN VALLEY 210111054 iii. GREEN VALLEY 210112106 iv. GREEN VALLEY 210136820	a. Please see attachment "WMP-Discovery2023_DR_OEIS_008-Q004Atch01.xlsx" for the requested updates. Length of line (mi), V3 Mean Risk Score, V3 Total Risk Score, and V3 Risk Rank can be found in Columns F-I, respectively. Length of line (mi) is represented by the field unhardened overhead high fire (HFTD + HFRA) miles, as the original data request requested for HFTD and HFRA circuit segments. b. Information was included for all the requested CPZs listed in the question, with the exception of the three CPZs listed below. The following three CPZs were not included in the file "WMP-Discovery2023_DR_TURN_010-Q004Atch01.xlsx" because these specific circuit segments have no miles associated in HFTD and HFRA; TURN DR 10. Question 004 specifically asked for HFTD and HFRA circuit segments:	Dakota Smith	5/25/2023	5/31/2023	5/31/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_008.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-34 – Revise Process of Prioritizing Wildfire Mitigations
392	CPUC - SPD (Safety Policy Division)	008	CPUC - SPD (Safety Policy Division)_008	1REV	D (Safety Policy Division)_(	SPD appreciates the timely response and provision of ignition data as requested, via "WMP-Discovery2023_DR_SPD_004-Q001Atch01." However, it appears the data in Columns U ("Outage Date") and V ("Outage Time") were provided in an incorrect format for rows beyond row 469. PG&E needs to resubmit the data with correct outage date and time information. Please provide a corrected data file with rows beyond row 469 in the correct formats (U as date format; V as time format). Rows 1-469 of the spreadsheet are in the correct format. Provide corrections in the spreadsheet and resubmit.	Please see "WMP-Discovery2023_DR_SPD_008-Q001Atch01.xlsx" for the updated spreadsheet with the requested corrections to columns U and V.	Kevin Miller	5/26/2023	5/31/2023	5/31/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_008.zip	1	N/A	Appendix D	Areas for Continued Improvement	ACI PG&E-22-06 – Addressing Increase in Risk Events
393	OEIS	009	OEIS_009	1	OEIS_009_Q1	Q01. Regarding PG&E's Secondary and Service Lines a. What percentage of PG&E's scoped 2023-2026 undergrounding projects have associated secondary or service lines? What is the mileage of such lines? b. What is the ratio of undergrounding mileage to secondary or service lines for PG&E's scoped 2023-2026 undergrounding projects? (I.e. for every mile of line undergrounded, how many miles of secondary or service lines remain)	a. Most, if not all, of PG&E's undergrounding projects have associated secondary and service lines because our customers are served through those facilities. PG&E's GIS system does not accurately represent all secondary and service conductors in such a way that we could calculate the mileage of secondary and service conductor adjacent to scoped underground projects. It would be very difficult and of limited value to calculate secondary and service conductor mileage in GIS. b. Please see the response to subpart (a) above. Currently, PG&E is planning to only underground secondary and service where it is adjacent to the existing primary trench and depending on where the new pad-mounted transformer is installed. Remaining secondary and service wire is hardened by replacing open-wire secondary, gray services, tree connects, and installing breakaway connectors with	Dakota Smith	6/1/2023	6/6/2023	6/6/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/OEIS_009.zip	0	N/A	8.1.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
394	CPUC - SPD (Safety Policy Division)	009	CPUC - SPD (Safety Policy Division)_009	1	CPUC - SPD (Safety Polic	1)On pages 346-347 of the 2023 WMP PG&E discusses its risk reduction from undergrounding work and states "this plan will allow PG&E to target risk reduction in the highest wildfire risk areas to eliminate approximately 18 percent of existing wildfire risk by the end of 2026." Please elaborate and show how PG&E calculated 18 percent in wildfire risk reduction from undergrounding work. a.Which year baseline of risk did PG&E use? b.How much risk reduction was assumed for each year? c.Which version(s) of the WDRM was used? d.Was one version used for some years' risk reduction and another version used for other year(s)'? e.Was any other model used to calculate risk reduction and if so, how?	PG&E calculates the 18 percent risk reduction using the same process as outlined in Section 7.2.2 of the 2023-2025 WMP and as provided in attachment WMP-Discovery2023_DR_SPD_009-Q001Atch01.xlsx. The attachment incorporates the 2023-2026 Undergrounding Workplan (filed with the 2023-2025 WMP R1 as attachment 2023-03-27_PGE_2023_WMP _R1_Appendix D ACI PG&E-22-16_Atch01_CONF.xlsx) adjusted to the WMP targets and computes the risk reduction based on WDRM v3. This attachment augments workpaper '2023-03-27_PGE_2023_WMP_R2_Section 6.4.2_Atch01.xls' (provided with PG&E's April 26, 2023 errata submission) with the 2026 risk reduction impacts seen on Tab 'Data_RR' Column EV:EX and the resulting 18% can be seen on cell FD10. Note, this data response relates specifically to wildfire risk, and not to the total overall	Kevin Miller	6/2/2023	6/8/2023	6/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_009.zip	1	N/A	8.1.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
395	CPUC - SPD (Safety Policy Division)	009	CPUC - SPD (Safety Policy Division)_009	2	CPUC - SPD (Safety Polic	2)On page 645 of its 2023 WMP PG&E states there has been a "Reduced size and duration of PSPS events" and claims "This is an indicator of increased operational maturity, flexibility, and system resilience." a.Is that claim directed toward PSPS? b.If yes, is it not at least in part or perhaps implied, that PG&E's increased operational maturity, flexibility, and resilience is also relying on other processes such as EPSS (fast trip)?	a. Yes, the statement is directed towards PSPS. b. No, EPSS operates independently of PSPS and is based on different criteria and thresholds designed to mitigate hazards and threats that can lead to risk of ignitions and fires under non-PSPS conditions. See PG&E's 2023 WMP, Section 8.1.8 PSPS indicators of operational maturity, flexibility, and system resilience is based on but not limited to: Operational Maturity • Developed procedures in the PSPS decision making process by reviewing information provided by our SMEs and determining when there is an imminent and significant risk of strong winds impacting PG&E assets and a significant risk of large, destructive wildfires should ignition occur (see section 9.2.3 of PG&E's	Kevin Miller	6/2/2023	6/8/2023	6/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_009.zip	0	N/A	9.1.2	Public Safety Power Shutoff	Identification of Frequently De-Energized Circuits

396	CPUC - SPD (Safety Policy Division)	009	CPUC - SPD (Safety Policy Division)_009	3	CPUC - SPD (Safety Polic	3)PG&E has less than the required number of personnel with required training for several categories in Table 8-39: PG&E's Personnel Training Programs for Wildfire and PSPS Events. Other tables related to staffing indicate if, for example, all staffing will complete training on time and reasons for not all being completed is the timing of table's required provision. Why are there less than required values of personnel not completing the training?	PG&E has a constant influx and outflow of new personnel in its Emergency Operations Center (EOC). As such, we are at various stages of training completion. In addition, different positions within the EOC require different levels of training. Some of the courses at the more advanced level are instructor led and offered quarterly. PG&E is increasing the number of instructors this year to be able to increase these offerings in 2024.	Kevin Miller	6/2/2023	6/8/2023	6/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_009.zip	0	N/A	8.1.8.3	Grid Operations and Procedures	Personnel Work Procedures and Training in Conditions of Elevated Fire Risk
397	CPUC - SPD (Safety Policy Division)	009	CPUC - SPD (Safety Policy Division)_009	4	CPUC - SPD (Safety Polic	4)PG&E provides means to verify message receipt in Table 8-49: PG&E's Protocols for Emergency Communication to Stakeholder Groups. How accurate is this receipt information with regard to verifying messages are reaching intended recipient/resident to aid in intended safety outcomes (e.g., including, but not limited to, messages not being sent to a new number or persons no longer in the household)?	PG&E is able to verify that a message was delivered to the phone number and/or email address on file for the customer of record associated with the premise identified as impacted by a potential PSPS, EPSS outage, and/or outage due to a wildfire. Phone number and/or email address are requested at the time an account is established and are verified when a customer logs into My Account at pge.com on an annual basis and/or if a customer speaks with a Contact Center Customer Service Representative (CSR) and has not verified contact information in the past 60 days via CSR. To ensure we have the most updated contact information for customers of record, wildfire safety-related outreach material includes a standard call to action to update contact information. In addition, Business Energy Solutions Account Reps engage with critical facilities and infrastructure, telecommunications and water providers and [illegible]	Kevin Miller	6/2/2023	6/8/2023	6/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_009.zip	0	N/A	8.4.4.1	Emergency Preparedness	Protocols for Emergency Communications
398	CPUC - SPD (Safety Policy Division)	009	CPUC - SPD (Safety Policy Division)_009	5	CPUC - SPD (Safety Polic	a.Does PG&E have a way to continuously/periodically verify that the contact information on file is current to help ensure such important notices are being received by the intended recipients?	postcard (if an email address is not provided by the customer) between March and August, to reinforce the importance of having up-to-date contact information on file and encourage them to provide an alternative means of contact for PSPS notifications. MBL and SIV information is updated automatically and in real-time when a customer logs into their PG&E account and updates their information or when it is provided to a PG&E representative. Requests to change contact information can be submitted via multiple channels, therefore, there is no dedicated staffing member or department that implements changes. For example, contact information can be changed by customers via our website, which updates our systems of record directly. To Quality Assure and Quality	Kevin Miller	6/2/2023	6/8/2023	6/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_009.zip	0	N/A	8.5.3	Community Outreach and Engagement	Engagement With Access and Functional Needs Populations
399	CPUC - SPD (Safety Policy Division)	009	CPUC - SPD (Safety Policy Division)_009	6	CPUC - SPD (Safety Polic	6)PG&E mentions pre-pandemic in-person engagement. Does PG&E have data comparing pre pandemic engagement to pandemic timeframe engagement efforts and among other things, attendance? For instance, are there metrics/data regarding non-AFN/MB and AFN/MB?	not have specifics on customer demographics in terms of who attends our Virtual webinars and town hall events. Registration is optional, and we find the majority of customers elect not to share their personal information (attendees show up as 'anonymous'). Prior to the pandemic (2019), all regional Safety Town Halls were conducted in person, except for all our All-Customer webinars. During and post pandemic (2020-2023), Regional Town Halls and Safety Webinars were conducted virtually. With that being said, we have seen good attendance throughout the first half of 2023 in our 15 already hosted Webinar events, up from 2021 & 2022. The table below summarizes the attendance of our events by year and the year-over-year percentage change:	Kevin Miller	6/2/2023	6/8/2023	6/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_009.zip	0	N/A	8.5.3	Community Outreach and Engagement	Engagement With Access and Functional Needs Populations
400	CPUC - SPD (Safety Policy Division)	009	CPUC - SPD (Safety Policy Division)_009	7	CPUC - SPD (Safety Polic	7)PG&E states that if an AFN customer does not answer the door, the notification is considered successful if a door hanger is left. What industry policy/practice is PG&E following that classifies a door hanger as a successful notification?	the same intervals as the general customer notifications. In addition, these customers receive repeat automated calls and texts at hourly intervals until the customer confirms receipt of the notifications by either answering the phone, responding to the text or opening the email. If confirmation is not received, a PG&E representative visits the customer's home to check on the customer in parallel to the continuation of hourly notification retries, referred to as the "doorbell ring process." If the customer does not answer, a door hanger is left at the home, when possible. PG&E's "doorbell ring" and "door hanger" process is above and beyond the guidelines set forth in CPUC's decisions under R. 18-12-005. While PG&E has not specifically benchmarked as an industry practice, the three joint California IOUs have aligned on this process. The door	Kevin Miller	6/2/2023	6/8/2023	6/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_009.zip	0	N/A	8.5.3	Community Outreach and Engagement	Engagement With Access and Functional Needs Populations
401	OEIS	010	OEIS_010	1	OEIS_010_Q1	Q01. Regarding Underground Equipment Failures a. Provide a spreadsheet with the following information for all underground equipment/facility failures or damages from 2015 to 2023: i. Equipment type involved in the incident ii. Whether the equipment is subsurface or not iii. Year of incident iv. Whether a fire or ignition occurred v. Whether the location of the incident was urban, rural, or highly rural vi. Whether the location of the incident was WUI or not vii. Whether the location of the incident was non-HFTD, Tier 2, or Tier 3 viii. Whether a root cause analysis or other form of cause analysis was performed		Dakota Smith	7/20/2023	8/3/2023				8.3.3.1	Situational Awareness and Forecasting	Existing Systems, Technologies, and Procedures
402	OEIS	010	OEIS_010	2	OEIS_010_Q2	Q02. Regarding Underground Facility Fire Incidents a. Provide a list of any incidents reported to the CPUC involving fires caused by underground equipment/facilities or at PG&E underground vaults from 2015 to 2023. b. Provide any reports completed by PG&E for fires caused by underground equipment/facilities or at PG&E underground vaults from 2015 to 2023.		Dakota Smith	7/20/2023	8/3/2023				8.3.3.1	Situational Awareness and Forecasting	Existing Systems, Technologies, and Procedures
403	OEIS	010	OEIS_010	3	OEIS_010_Q3	Q03. Regarding Undergrounding Effectiveness a. How is PG&E taking past underground ignitions and fires into consideration when determining the effectiveness of undergrounding as a mitigation for reducing wildfire risk?		Dakota Smith	7/20/2023	8/3/2023				8.3.3.1	Situational Awareness and Forecasting	Existing Systems, Technologies, and Procedures
404	OEIS	010	OEIS_010	4	OEIS_010_Q4	Q04. Regarding PG&E's Recent Underground Vault Fires in San Francisco a. Provide the expected cause for each recent underground vault fire that's occurred in San Francisco. b. In terms of the associated equipment in each of the vault fires, is PG&E planning on using such equipment as part of its planned undergrounding for wildfire risk? If so, how is PG&E monitoring and reducing any associated ignition risk?		Dakota Smith	7/20/2023	8/3/2023				8.3.3.1	Situational Awareness and Forecasting	Existing Systems, Technologies, and Procedures
405	CalPA	Set WMP-26	CalPA_Set WMP-26	1	CalPA_Set WMP-26_Q1	(a) Please describe your general process or strategy for developing load forecasts. (b) Do you have a written process or procedure for developing load forecasts? (c) If the answer to (b) is "yes", provide a copy. (d) If the answer to (b) is "no", explain why not.		Holly Wehrman	7/27/2023	8/10/2023				8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
406	CalPA	Set WMP-26	CalPA_Set WMP-26	2	CalPA_Set WMP-26_Q2	(a) Do you consider load growth projections when you determine which system hardening measures to deploy for wildfire mitigation purposes? (b) If the answer to (a) is "yes", explain how load growth projects influence your mitigation selection process. (c) If the answer to (a) is "no", explain why not.		Holly Wehrman	7/27/2023	8/10/2023				8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
407	CalPA	Set WMP-26	CalPA_Set WMP-26	3	CalPA_Set WMP-26_Q3	(a) When you plan system hardening projects for wildfire mitigation purposes, do you design projects to accommodate forecasted load growth? (b) If yes, what degree of load growth do you design for? (c) Describe your process for incorporating forecasted load growth into the design of system hardening projects (for instance, which scenarios of possible load growth are considered).		Holly Wehrman	7/27/2023	8/10/2023				8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
408	CalPA	Set WMP-26	CalPA_Set WMP-26	4	CalPA_Set WMP-26_Q4	(a) In a typical bare conductor to covered conductor conversion project, is the intention to maintain, increase, or decrease the load capacity at peak operating temperatures? (b) Explain the reasoning for your response to part (a).		Holly Wehrman	7/27/2023	8/10/2023				8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution

409	CalPA	Set WMP-26	CalPA_Set WMP-26	5	CalPA_Set WMP-26_Q5	(a) Are all new covered conductor installation projects designed to accommodate loads greater than current capacity for the same circuit? (b) If the answer to (a) is "yes", explain how. (c) If the answer to (a) is "no", explain why not.		Holly Wehrman	7/27/2023	8/10/2023					8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
410	CalPA	Set WMP-26	CalPA_Set WMP-26	6	CalPA_Set WMP-26_Q6	(a) Are all overhead to underground conductor conversion projects designed to accommodate loads greater than current capacity for the same circuit? (b) If the answer to (a) is "yes", explain how. (c) If the answer to (a) is "no", explain why not.		Holly Wehrman	7/27/2023	8/10/2023					8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
411	CalPA	Set WMP-26	CalPA_Set WMP-26	7	CalPA_Set WMP-26_Q7	Describe the challenges or advantages entailed in increasing load capacity on a circuit that has previously been hardened with covered conductor.		Holly Wehrman	7/27/2023	8/10/2023					8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
412	CalPA	Set WMP-26	CalPA_Set WMP-26	8	CalPA_Set WMP-26_Q8	Describe the challenges or advantages entailed in increasing load capacity on a circuit that has previously been hardened with underground conductor.		Holly Wehrman	7/27/2023	8/10/2023					8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
413	CalPA	Set WMP-26	CalPA_Set WMP-26	9	CalPA_Set WMP-26_Q9	Provide a list of all circuits in your system. For each circuit, provide: (a) Circuit ID Number (b) Peak load in Amperes observed since January 1, 2014. (c) Circuit Capacity in Amperes		Holly Wehrman	7/27/2023	8/10/2023					8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
414	CalPA	Set WMP-26	CalPA_Set WMP-26	10	CalPA_Set WMP-26_Q10	Provide updated GIS layers of primary distribution, secondary distribution, and transmission lines, with the following attributes: (a) Circuit ID Number (b) Peak load in Amperes observed since January 1, 2014. (c) Circuit Capacity in Amperes		Holly Wehrman	7/27/2023	8/10/2023					8.1.2.2.	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
Pre-Discovery 01	CalPA	Set WMP-01	CalPA_Set WMP-01	1	CalPA_Set WMP-01_Q1	Please provide a copy of each WMP-related document, submission, or report you submit to the Office of Energy Infrastructure Safety (Energy Safety) in 2023 that is related to your WMP. Provide the copy to Cal Advocates within one business day of the document's submittal to Energy Safety. (If you have submitted the document to Energy Safety in 2023 prior to this data request, please provide a copy as soon as possible and no later than 10 business days from the issuance of this data request.) This request is limited to materials or documents that (1) are related to work plans, initiative targets, risk models, risk spend efficiency (RSE) calculations, or WMP change orders; and (2) are provided to Energy Safety to provide additional details or context concerning information or statements in your WMP (and any subsequent revisions or change orders affecting your WMP).	GENERAL OBJECTIONS TO THIS SET OF DATA REQUESTS PG&E objects to the instructions or definitions in the set of data requests entitled CalAdvocates-PGE-2023WMP-01 that purport to impose any obligations greater than those provided by the applicable rules and decisions of the Commission or and any other statutes, orders, rules, or laws limiting the regulatory authority and jurisdiction of the Commission. In particular, PG&E objects to the instruction that purports to place a burden on the responding party to reach out to the requesting party to clarify any unclear questions, definitions, or instructions. The duty to prepare precise and well written instructions, definitions, and requests is on the party seeking the information and cannot be shifted to the responding party. Additionally, PG&E objects to the instruction that PG&E must "[p]rovide the name and title of the responding individual" as burdensome and not reasonably calculated to lead to the discovery of admissible evidence. Our	Holly Wehrman	2/7/2023	2/14/2023	2/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_001.zip	0	N/A	N/A	N/A	N/A
Pre-Discovery 02	CalPA	Set WMP-01	CalPA_Set WMP-01	2	CalPA_Set WMP-01_Q2	Please provide a copy of your WMP pre-submission within two business days of its submission to Energy Safety	Attachment "WMP-Discovery2023_DR_CalAdvocates_001-Q02Atch01CONF.pdf" is our WMP pre-submission to Energy Safety. Please note that this document is not our final WMP submission and may be subject to revision before the final WMP is submitted in March. Additionally, we have designated this entire submission as confidential to align with Energy Safety's pre-submission process and guidelines which stipulate that the pre□submission documents are not to be made public.	Holly Wehrman	2/7/2023	2/15/2023	2/15/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_001.zip	1	N/A	N/A	N/A	N/A
Pre-Discovery 03	CalPA	Set WMP-01	CalPA_Set WMP-01	3	CalPA_Set WMP-01_Q3	Provide a copy of all documents or files that are referenced in your WMP Quarterly Data Reports and submitted to Energy Safety (including but not limited to all PDFs, spatial data files, non-spatial data files, and confidential attachments) on the same business day that the document is sent to Energy Safety.	In addition to all general objections, PG&E specifically objects to this request on the grounds that it is unduly burdensome. PG&E further objects to this request as the information requested is vague, ambiguous, and overbroad. Lastly, PG&E objects to this request on the grounds that it seeks to impose a continuing response obligation on the responding party. Continuing discovery obligations are not permitted under California law. Biles v. Exxon Mobil Corp., 124 Cal.App.4th 1315, 1328 (2004); Code Civ. Proc. § 2030.060(g). Notwithstanding and without waiving these objections, PG&E responds as follows. We will do our best to provide the requested information within the requested timeframe, or as soon as possible thereafter. However, please note that due to the timing and voluminous nature of our submissions to Energy Safety, it may not always be possible	Holly Wehrman	2/7/2023	2/14/2023	2/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_001.zip	0	N/A	N/A	N/A	N/A
Pre-Discovery 04	CalPA	Set WMP-01	CalPA_Set WMP-01	4	CalPA_Set WMP-01_Q4	Provide a copy to Cal Advocates of all your confidential responses to WMP discovery requests, on the same business day that you send the documents to the issuer of the discovery request. This includes: a) Confidential responses to WMP discovery requests issued by Energy Safety. b) Confidential responses to WMP discovery requests issued by other entities.	In addition to all general objections, PG&E specifically objects to this request on the grounds that it is unduly burdensome. PG&E further objects to this request as the information requested is vague, ambiguous, and overbroad. Lastly, PG&E objects to this request on the grounds that it seeks to impose a continuing response obligation on the responding party. Continuing discovery obligations are not permitted under California law. Biles v. Exxon Mobil Corp., 124 Cal.App.4th 1315, 1328 (2004); Code Civ. Proc. § 2030.060(g). Notwithstanding and without waiving these objections, PG&E responds as follows. We will do our best to provide the requested information within the requested timeframe, or as soon as possible thereafter. However, please note that due to the timing and voluminous nature of our submissions to Energy Safety, it may not always be possible to provide the information	Holly Wehrman	2/7/2023	2/14/2023	2/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_001.zip	0	N/A	N/A	N/A	N/A
Pre-Discovery 05	CalPA	Set WMP-02	CalPA_Set WMP-02	1	CalPA_Set WMP-02_Q1	Please identify and provide a copy of all quality assurance or quality control (QA/QC) reports conducted by internal entities that were completed since January 1, 2022 and that examined any programs, initiatives, or strategies described in your 2022 WMP Update.	PG&E understands this question to refer to reports from our Internal Quality Control, Quality Assurance, and Quality Verification programs as set forth below. System Inspections Department Please see the attachment below for the System Inspections QC Department's daily and weekly dashboards communicating Key Performance Indicators (KPIs) and analysis. • "WMP-Discovery2023_DR_CalAdvocates_002-Q001Atch01CONF.pdf" Please note the above attachment contain confidential information. Electric Compliance Quality Management • GO 165 Inspections Please see attachment listed below for the Electric Compliance Quality Management Department's audits of GO 165 inspections. One Distribution and one Transmission system	Holly Wehrman	2/7/2023	3/7/2023	3/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_002.zip	6	N/A	N/A	N/A	N/A
Pre-Discovery 06	CalPA	Set WMP-02	CalPA_Set WMP-02	2	CalPA_Set WMP-02_Q2	Please identify and provide a copy of all quality assurance or quality control (QA/QC) reports conducted by external entities that were completed since January 1, 2022 and that examined any programs, initiatives, or strategies described in your 2022 WMP Update. External entities include, but are not limited to, consultants, contractors, auditors, court-appointed monitors, and Independent Evaluators.	The PG&E Independent Safety Monitor Status Update Report, dated October 4, 2022, discusses programs and initiatives described in our 2022 WMP. Please find the document here: https://www.cpuc.ca.gov/-/media/cpuc-website/industries and-topics/documents/pge/oversight-and-enforcement/ism-status-update-report-q3-2022.pdf.	Holly Wehrman	2/7/2023	3/7/2023	3/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_002.zip	1	N/A	N/A	N/A	N/A
Pre-Discovery 07	CalPA	Set WMP-02	CalPA_Set WMP-02	3	CalPA_Set WMP-02_Q3	Provide an Excel table of all defects in the year 2022 found by Energy Safety's Compliance Branch (as rows) that includes the following information in separate columns. a) Associated circuit name b) Defect type c) Description of defect d) WMP initiative (from your 2022 WMP update) associated with defect e) Date that the defect was identified f) Date that the defect was corrected g) If the defect has not yet been corrected as of the issuance date of this data request, a brief explanation h) Priority level of corresponding corrective tag	Please see attachment "WMP-Discovery2023_DR_CalAdvocates_002-Q03Atch01CONF.xlsx" for a list of all alleged defects identified in December 2021 by the Office of Energy Infrastructure Safety ("Energy Safety"). Please note these defects were issued as notification of defects in March 2022. Please note the following: • The data provided for "Defect type", "Description of defect," and "Date that the defect was identified" are all based on Energy Safety's inspection reports. • Not all corrective actions required Electric Corrective (EC) notifications (or "EC tags"). For example, while reviewing the alleged defects from Energy Safety, some work was addressed directly in the field (e.g., trimming of vegetation), and no EC tag was created. • This attachment contains confidential information	Holly Wehrman	2/7/2023	2/22/2023	2/22/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_002.zip	1	N/A	8.1.3	Asset Inspections	N/A

Pre-Discovery 08	CalPA	Set WMP-03	CalPA_Set WMP-03	1	CalPA_Set WMP-03_Q1	Provide an Excel table of all distribution circuits existing as of January 1, 2023 (as rows) that includes the following information in separate columns. a. Circuit name b. Circuit ID number c. Total circuit miles d. Circuit miles in Non-HFTD Areas e. Circuit miles in Other HFTD f. Circuit miles in HFTD Tier 2 g. Circuit miles in HFTD Tier 3 h. Circuit voltage i. Circuit SAIDI (System Average Interruption Duration Index) for 2021 j. Circuit SAIDI (System Average Interruption Duration Index) for 2022	PG&E is providing the requested distribution information at the circuit level in attachment "WMP-Discovery2023_DR_CalAdvocates_003-Q001Atch01.xlxs." 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	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	2	N/A	8.1.3	Asset Inspections	Distribution
Pre-Discovery 09	CalPA	Set WMP-03	CalPA_Set WMP-03	2	CalPA_Set WMP-03_Q2	Provide an Excel table of all transmission circuits existing as of January 1, 2023 (as rows) that includes the following information in separate columns. a. Circuit name b. Circuit ID number c. Total circuit miles d. Circuit miles in Non-HFTD Areas e. Circuit miles in Other HFTD f. Circuit miles in HFTD Tier 2 g. Circuit miles in HFTD Tier 3 h. Circuit voltage i. Total customer-minutes of de-energization on the circuit due to PSPS events in 2021 (sum of customer-minutes across all PSPS events)	PG&E is providing the requested transmission information at the circuit level in the attachment named "WMP-Discovery2023_DR_CalAdvocates_003-Q001Atch01.xlxs." 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.	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	0	N/A	8.1.3	Asset Inspections	Transmission
Pre-Discovery 10	CalPA	Set WMP-03	CalPA_Set WMP-03	3	CalPA_Set WMP-03_Q3	Provide an Excel table of all distribution circuits existing as of January 1, 2022 (as rows) that were removed or decommissioned in 2022, either partially or entirely. This includes permanent removal, removal of overhead lines that were moved underground, or overhead lines that were decommissioned but not physically removed. Include the following information in separate columns. a. Circuit name b. Circuit ID number c. Circuit miles removed or decommissioned in Non-HFTD Areas d. Circuit miles removed or decommissioned in Other HFTD e. Circuit miles removed or decommissioned in HFTD Tier 2 f. Circuit miles removed or decommissioned in HFTD Tier 3 g. Reason(s) for removal or decommissioning	Attached is "WMP-Discovery2023_DR_CalAdvocates_003-Q003Atch01.xlsx", which provides information regarding removals of primary distribution lines in HFTD in 2022, which is the subset of the requested information available at this time. PG&E does not track line removals when relocating overhead to underground, removing secondary services, or removing lines in non-HFTD. Further, our GIS cannot be used to obtain this information retroactively because when mapping removals, the electric assets are removed from GIS. Below we provide additional information to clarify the data provided in the attachment in response to the request. a. Circuit name: See column C. b. Circuit ID number: See column D. c. Circuit miles removed or decommissioned in Non-HFTD Areas: N/A. As noted above, PG&E does not track line removals when relocating overhead to underground, removing secondary	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	1	N/A	8.1.2	Grid Design and System Hardening	Work Performed in 2022
Pre-Discovery 11	CalPA	Set WMP-03	CalPA_Set WMP-03	4	CalPA_Set WMP-03_Q4	Provide an Excel table of all transmission circuits existing as of January 1, 2022 (as rows) that were removed or decommissioned in 2022, either partially or entirely. This includes permanent removal, removal of overhead lines that were moved underground, or overhead lines that were decommissioned but not physically removed. Includes the following information in separate columns. a. Circuit name b. Circuit ID number c. Circuit miles removed or decommissioned in Non-HFTD Areas d. Circuit miles removed or decommissioned in Other HFTD e. Circuit miles removed or decommissioned in HFTD Tier 2 f. Circuit miles removed or decommissioned in HFTD Tier 3 g. Reason(s) for removal or decommissioning	Please see "WMP-Discovery2023_DR_CalAdvocates_003-Q004Atch01.xlsx.	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	1	N/A	Grid Design and System Hardening	System Hardening	Work Performed in 2022
Pre-Discovery 12	CalPA	Set WMP-03	CalPA_Set WMP-03	5	CalPA_Set WMP-03_Q5	For each WMP initiative listed below, please state how the modeled Wildfire Risk Scores for each circuit or circuit-segment influenced where you performed work in 2022. a. EVM b. Covered conductor installation c. Undergrounding d. Distribution pole replacement e. Grid sectionalization f. Detailed inspections of distribution assets g. Detailed inspections of transmission assets h. Aerial inspections of distribution assets i. Aerial inspections of transmission assets	a. EVM work in 2022 was informed by a modification of the 2021 Wildfire Distribution Risk Model (WDRM). The refined output from the 2021 WDRM is referred to as the EVM Tree-Weighted Prioritization. The EVM Tree-Weighted Prioritization prioritized the high risk CPZs with the associated miles and estimated tree work to produce the 2022 EVM Scope of Work as described in the 2022 WMP Section 7.1.B. In 2022, the goals for the EVM program were: (1) to perform at least 80% of our 2022 EVM work on the highest 20% of the risk-ranked miles; and (2) to perform approximately 1,800 miles of EVM work by the end of the year. b. As described in the 2022 WMP Section 7.3.3.17.1 "System Hardening –Distribution," PG&E targeted the highest wildfire risk miles and applied various mitigations such as line removal, conversion from overhead to underground, application of remote grid alternatives, mitigation of exposure through relocation of overhead facilities, and in-place overhead system hardening (emphasis added)	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	0	N/A	2022 WMP Section 7.1	Wildfire Mitigation Strategy Development	N/A
Pre-Discovery 13	CalPA	Set WMP-03	CalPA_Set WMP-03	6	CalPA_Set WMP-03_Q6	For each WMP initiative listed below, please state how the modeled Wildfire Risk Scores for each circuit or circuit-segment influenced how work in 2022 was sequenced. a. EVM b. Covered conductor installation c. Undergrounding d. Distribution pole replacement e. Grid sectionalization f. Detailed inspections of distribution assets g. Detailed inspections of transmission assets h. Aerial inspections of distribution assets i. Aerial inspections of transmission assets	a. The 2022 EVM Scope of Work was based on the prioritization from the 2021 list of circuit protection zones informed by the EVM Tree Weighed Prioritization barring external factors and leveraging efficiency of bundling where possible. b. The circuit segments selected for the installation of covered conductor in the System Hardening program were based on the highest wildfire risk criteria described in response to Question 5(b). To then sequence projects, PG&E assesses the dependencies and readiness of each project based on the stage of the work (e.g., designing/estimating, permit acquisition, construction) to appropriately schedule each individual project, as the development time for each project can vary widely. Once projects are in the construction phase, schedules can continue to evolve based on various factors that impact project execution, including unanticipated weather, material availability, and customer preference of timing of re-connection. c. The circuit segments selected for the installation of underground lines in the System	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	0	N/A	2022 WMP Section 7.1	Wildfire Mitigation Strategy Development	N/A
Pre-Discovery 14	CalPA	Set WMP-03	CalPA_Set WMP-03	7	CalPA_Set WMP-03_Q7	For each WMP initiative listed below, please state how the modeled Wildfire Risk Scores for each circuit or circuit-segment influence where you plan to perform work in 2023. a. EVM b. Covered conductor installation c. Undergrounding d. Distribution pole replacement e. Grid sectionalization f. Detailed inspections of distribution assets g. Detailed inspections of transmission assets h. Aerial inspections of distribution assets i. Aerial inspections of transmission assets	a. PG&E is not conducting EVM in 2023. b. As described in the 2023 WMP Section 8.1.2.1 "Covered Conductor Installation –Distribution," PG&E's System Hardening program, which includes targeted CC installation, focuses on mitigating potential catastrophic wildfire risk caused by distribution overhead assets. The System Hardening Program applies various mitigations to circuit segments that have the highest wildfire risk. For 2023, the highest wildfire risk miles are identified using the following categories: 1. Top Risk Based on Wildfire Distribution Risk Models (WDRM): The primary approach for selecting system hardening miles used two risk prioritization methodologies: (1) top 20 percent circuit segments based on the 2021 WDRM v2 and (2) the Wildfire Feasibility Efficiency (WFE) ranked circuit segments based on the 2022 WDRM v3. Overhead hardening was selected where undergrounding was deemed infeasible for the WDRM v3 selection. 2. Fire Rebuilds: Rebuilding electric distribution lines within towns and communities in the	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	0	N/A	7.2	Wildfire Mitigation Strategy Development	Wildfire Mitigation Strategy
Pre-Discovery 15	CalPA	Set WMP-03	CalPA_Set WMP-03	8	CalPA_Set WMP-03_Q8	For each WMP initiative listed below, please state how the modeled Wildfire Risk Scores for each circuit or circuit-segment influence how work in 2023 will be sequenced. a. EVM b. Covered conductor installation c. Undergrounding d. Distribution pole replacement e. Grid sectionalization f. Detailed inspections of distribution assets g. Detailed inspections of transmission assets h. Aerial inspections of distribution assets i. Aerial inspections of transmission assets	a. PG&E is not conducting EVM in 2023. b. The circuit segments selected for the installation of covered conductor in the System Hardening program were based on the highest wildfire risk criteria described in response to Question 7(b). To then sequence projects, PG&E assesses the dependencies and readiness of each project based on the stage of the work (e.g., designing/estimating, permit acquisition, construction) to appropriately schedule each individual project, as the development time for each project can vary widely. Once projects are in the construction phase, schedules can continue to evolve based on various factors that impact project execution, including unanticipated weather, material availability, and customer preference of timing of re-connection. c. The circuit segments selected for the installation of underground lines in the System Hardening program were based on the highest wildfire risk criteria described in response to Question 7(c). To then sequence projects, PG&E assesses the dependencies and readiness of	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	0	N/A	7.2	Wildfire Mitigation Strategy Development	Wildfire Mitigation Strategy
Pre-Discovery 16	CalPA	Set WMP-03	CalPA_Set WMP-03	9	CalPA_Set WMP-03_Q9	For each WMP initiative listed below, please state how the modeled Wildfire Risk Scores for eachcircuit or circuit-segment influence where you plan to perform work in 2024. a. EVM b. Covered conductor installation c. Undergrounding d. Distribution pole replacement e. Grid sectionalization f. Detailed inspections of distribution assets g. Detailed inspections of transmission assets h. Aerial inspections of distribution assets i. Aerial inspections of transmission assets	a. PG&E is not conducting EVM in 2024. b. Please refer to the response to Question 7b, which also applies to 2024. c. Please refer to the response to Question 7c, which also applies to 2024. d. Please refer to the response to Question 7d, which also applies to 2024. e. For transmission line, there is no targeted work planned in 2024 for grid sectionalization. For distribution, there is no targeted work planned in 2024 for grid sectionalization as future work related to EPSS reliability will be incorporated into base reliability programs. f. In 2024, PG&E's detailed ground inspection plan will be informed by wildfire risk and wildfire consequence as described in 2023 WMP Section 8.1.3.2.1. PG&E developed a frequency recommendation for each level of wildfire consequence: extreme and severe consequence plat maps will be inspected annually; high consequence plat maps will be inspected every other year; and all other plat maps will be inspected once every three years. Structures that constitute the	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	0	N/A	7.2	Wildfire Mitigation Strategy Development	Wildfire Mitigation Strategy
Pre-Discovery 17	CalPA	Set WMP-03	CalPA_Set WMP-03	10	CalPA_Set WMP-03_Q10	For each WMP initiative listed below, please state how the modeled Wildfire Risk Scores for each circuit or circuit-segment influence how work in 2024 will be sequenced. a. EVM b. Covered conductor installation c. Undergrounding d. Distribution pole replacement e. Grid sectionalization f. Detailed inspections of distribution assets g. Detailed inspections of transmission assets h. Aerial inspections of distribution assets i. Aerial inspections of transmission assets	a. PG&E is not conducting EVM in 2024. b. Please refer to the response for Question 8b, which also applies to 2024. c. Please refer to the response for Question 8c, which also applies to 2024. d. Please refer to the response for Question 8d, which also applies to 2024. e. There is no targeted work planned in 2024 for grid sectionalization for both transmission or for distribution. f. In 2024, PG&E's sequencing for the ground inspection plan will be informed by wildfire consequence as described in 2023 WMP Section 8.1.3.2.1. Detailed inspection activities in HFTD and HFRA are scheduled such that extreme, severe, and high consequence plat maps will be completed by July 31. Medium consequence plat maps will be completed by October 1. Low consequence plat maps will be completed by December 31. Inspections are also sequenced based on field conditions including physical access, environmental restrictions, permitting	Holly Wehrman	2/7/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_003.zip	0	N/A	7.2	Wildfire Mitigation Strategy Development	Wildfire Mitigation Strategy
Pre-Discovery 18	CalPA	Set WMP-04	CalPA_Set WMP-04	1	CalPA_Set WMP-04_Q1	For each WMP initiative for which you forecast capital expenditures in 2023 to be at least two times actual capital expenditures in 2022, please provide: a) The name of the initiative as it is identified in your 2023-2025 WMP b) The WMP Initiative number in Table 11 of your 2023-2025 WMP c) The name of the initiative as it is identified in your 2022 WMP Update d) The WMP Initiative number in Table 12 of your 2022 WMP Update e) An explanation for the projected increase.	a) 2023 WMP financials are mapped per WMP Initiative Activities as laid out in Table 11 from Energy Safety. As the 2023 WMP is a new cycle with new mapping of financials by activities that align with the 2023 WMP narrative, there is not an apples-to-apples re-mapping of costs back to the 2022 WMP view. Thus, the comparison can only be made using the 2023 WMP view. Below are the 2023 WMP activities and section numbers where 2023 capital forecast is at least two times compared to the 2022 recorded costs. • Customer support in wildfire and PSPS emergencies – section 8.4.6 • Traditional Overhead Hardening Transmission – 8.1.2.5 b) See the response to part a). c) N/A. As explained in response to part a), there is not an apples-to-apples re-mapping of costs back to the 2022 WMP view. Thus, the comparison can only be made using the 2023 WMP view of 2023 recorded costs.	Holly Wehrman	2/7/2023	3/7/2023	3/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_004.zip	0	N/A	Section 4.3	Proposed Expenditures	N/A
Pre-Discovery 19	CalPA	Set WMP-04	CalPA_Set WMP-04	2	CalPA_Set WMP-04_Q2	For each WMP initiative for which you forecast capital expenditures in 2024 to be at least two times actual capital expenditures in 2022, please provide: a) The name of the initiative as it is identified in your 2023-2025 WMP b) The WMP Initiative number in Table 11 of your 2023-2025 WMP c) The name of the initiative as it is identified in your 2022 WMP Update d) The WMP Initiative number in Table 12 of your 2022 WMP Update e) An explanation for the projected increase.	a) 2023 WMP financials are mapped per WMP Initiative Activities as laid out in Table 11 from Energy Safety. As the 2023 WMP is a new cycle with new mapping of financials by activities that align with the 2023 WMP narrative, there is not an apples-to-apples re-mapping of costs back to the 2022 WMP view. Thus, the comparison can only be made using the 2023 WMP view. Below are the 2023 WMP activities and section number where the 2024 capital forecast is at least two times compared to the 2022 recorded costs. • Customer support in wildfire and PSPS emergencies – section 8.4.6 b) See the response to part a). c) N/A. As explained in part a) there is not an apples-to-apples re-mapping of costs back to the 2022 WMP view. Thus, the comparison can only be made using the 2023 WMP view of 2022 recorded costs. d) N/A, please refer to the response to part a).	Holly Wehrman	2/7/2023	3/7/2023	3/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_004.zip	0	N/A	Section 4.3	Proposed Expenditures	N/A
Pre-Discovery 20	CalPA	Set WMP-04	CalPA_Set WMP-04	3	CalPA_Set WMP-04_Q3	For each WMP initiative for which you forecast operating expenditures in 2023 to be at least two times actual operating expenditures in 2022, please provide: a) The name of the initiative as it is identified in your 2023-2025 WMP b) The WMP Initiative number in Table 11 of your 2023-2025 WMP c) The name of the initiative as it is identified in your 2022 WMP Update d) The WMP Initiative number in Table 12 of your 2022 WMP Update e) An explanation for the projected increase.	a) 2023 WMP financials are mapped per WMP Initiative Activities as laid out in Table 11 from Energy Safety. As the 2023 WMP is a new cycle with new mapping of financials by activities that align with the 2023 WMP narrative, there is not an apples-to-apples re-mapping of costs back to the 2022 WMP view. Thus, the comparison can only be made using the 2023 WMP view. Below are the 2023 WMP activities and section numbers where 2023 operating expense forecasts are at least two times compared to the 2022 recorded costs. • Other technologies and systems not listed above – section 8.1.2.12 • Environmental monitoring systems – 8.3.2 • Fall-in mitigation 8.2.3.4 b) See the response to part a). c) N/A. As explained in part a) there is not an apples-to-apples re-mapping of costs back to the 2022 WMP view. Thus, the comparison can only be made using the 2023 WMP view of 2022	Holly Wehrman	2/7/2023	3/7/2023	3/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_004.zip	0	N/A	Section 4.3	Proposed Expenditures	N/A

Pre-Discovery 21	CalPA	Set WMP-04	CalPA_Set WMP-04	4	CalPA_Set WMP-04_Q4	For each WMP initiative for which you forecast operating expenditures in 2024 to be at least two times actual operating expenditures in 2022, please provide: a) The name of the initiative as it is identified in your 2023-2025 WMP b) The WMP Initiative number in Table 11 of your 2023-2025 WMP c) The name of the initiative as it is identified in your 2022 WMP Update d) The WMP Initiative number in Table 12 of your 2022 WMP Update e) An explanation for the projected increase.	a) 2023 WMP financials are mapped per WMP Initiative Activities as laid out in Table 11 from Energy Safety. As the 2023 WMP is a new cycle with new mapping of financials by activities that align with the 2023 narrative, there is not an apples-to-apples re-mapping of costs back to the 2022 WMP view. Thus, the comparison can only be made using the 2023 WMP view. Below are the 2023 WMP activities and section numbers where 2024 operating expense forecasts are at least two times the 2022 recorded costs. • Other technologies and systems not listed above – section 8.1.2.12 • Microgrids – section 8.1.2.7 • Environmental monitoring systems – 8.3.2 • Fall-in mitigation 8.2.3.4 b) See the response to part a). c) N/A. As explained in part a), there is not an apples-to-apples re-mapping of costs back to the	Holly Wehrman	2/7/2023	3/7/2023	3/7/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_004.zip	0	N/A	Section 4.3	Proposed Expenditures	N/A
Pre-Discovery 22	CalPA	Set WMP-05	CalPA_Set WMP-05	1	CalPA_Set WMP-05_Q1	In response to Data Request CalAdvocates-PGE-2022WMP-31 on September 8, 2022, PG&E provided information regarding its Wildfire Distribution Risk Model version 3 (WDRM v3). Please provide an updated response to questions 1-7 of the above-referenced data request, including any new or changed information since PG&E's original response. If the response to a question has not changed, please so indicate.	No changes have been made to WDRM v3 since the September 8, 2022 response.	Holly Wehrman	2/10/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_005.zip	0	N/A	2022 WMP Section 4.5	Model Metrics and Calculation Methodologies	WDRM v3
Pre-Discovery 23	CalPA	Set WMP-05	CalPA_Set WMP-05	2	CalPA_Set WMP-05_Q2	a) Have you identified transportation corridors within your service territory where falling or failing lines or poles could currently limit egress and/or ingress during an emergency? b) If the answer to part (a) is yes, please describe how you identify such transportation corridors. c) If available, please provide a geospatial data file that contains all current identified transportation corridors with ingress and egress hazards.	a) The potential of falling or failing lines or poles near identified transportation corridors is not currently reflected in our risk modeling. PG&E Public Safety Specialists with experience as career wildland firefighters have reviewed general egress and/or ingress concerns when evaluating circuits or circuit segments for potential system hardening work. b) Not applicable c) Not applicable	Holly Wehrman	2/10/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_005.zip	0	N/A	8.1.3	Asset Inspections	N/A
Pre-Discovery 24	CalPA	Set WMP-05	CalPA_Set WMP-05	3	CalPA_Set WMP-05_Q3	Please fill out the attached spreadsheet, CalAdvocates-PGE-2023WMP-05 Attachment 1, requesting information regarding your asset inspections in 2022.	Please see attachment "WMP-Discovery2023_DR_CalAdvocates_005-Q003Atch01.xlsx" for the requested information	Holly Wehrman	2/10/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_005.zip	1	N/A	8.1.3	Asset Inspections	Inspections completed in 2022
Pre-Discovery 25	CalPA	Set WMP-05	CalPA_Set WMP-05	4	CalPA_Set WMP-05_Q4	Please augment Table 13 of the non-spatial data tables in your WMP Quarterly Data Report for Q4 of 2022, which reports asset-related corrective notifications on electric circuits that were open at the end of the quarter, as follows. a. Add the following information in separate columns: i. Name of the associated circuit ii. ID number of the associated circuit iii. Geographic latitude in decimal degrees, truncated to seven decimal places iv. Geographic longitude in decimal degrees, truncated to seven decimal places v. Priority of the original notification, using PG&E's internal priority level codes vi. Object/damage code or other internal description of defect b. Please complete column b ("Equipment type") of Table 13. c. Please complete or explain why each of the below columns is not applicable:	a-b. Please see attachments "WMP-Discovery2023_DR_CalAdvocates_005-Q004Atch01.xlsb" for the requested Distribution information and "WMP Discovery2023_DR_CalAdvocates_005-Q004Atch02.xlsx" for the requested Transmission information. c. Please note that columns i, j, k, and l will not be available for Distribution and Transmission circuits until the 2023 Q1 Quarterly Data Report (QDR) because the data is not ready, and due to recent changes to the standard that resulted in a substantial reassessment of our notification data.	Holly Wehrman	2/10/2023	3/10/2023	3/10/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_005.zip	2	N/A	2022 Q4 QDR	P	tags
Pre-Discovery 26	CalPA	Set WMP-06	CalPA_Set WMP-06	1	CalPA_Set WMP-06_Q1	Provide your workplan that describes where you will undertake EVM projects in 2023. This workplan should be in an Excel format, with circuit-segments as rows. Please include the following information in separate columns in the Excel spreadsheet at a minimum: a) Circuit name b) Circuit ID number c) Circuit-segment name d) Circuit-segment ID number e) EVM miles to be completed in 2023 f) Risk ranking(s) for the circuit segment.	The EVM program concluded at the end of 2022. There is no EVM workplan for 2023	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	2023-2025 WMP 8.2.3	Vegetation Management	EVM
Pre-Discovery 27	CalPA	Set WMP-06	CalPA_Set WMP-06	2	CalPA_Set WMP-06_Q2	Provide your workplan that describes where you will undertake EVM projects in 2024. This workplan should be in an Excel format, with circuit-segments as rows. Please include the following information in separate columns in the Excel spreadsheet at a minimum: a) Circuit name b) Circuit ID number c) Circuit-segment name d) Circuit-segment ID number e) EVM miles to be completed in 2024 f) Risk ranking(s) for the circuit segment.	The EVM program concluded at the end of 2022. There is no EVM workplan for 2024.	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	2023-2025 WMP 8.2.3	Vegetation Management	EVM
Pre-Discovery 28	CalPA	Set WMP-06	CalPA_Set WMP-06	3	CalPA_Set WMP-06_Q3	In response to Data Request CalAdvocates-PGE-2022WMP-11, Question 2, March 3, 2022, PG&E provided its 2022 EVM workplan. Please provide an updated version of this workplan that lists the actual EVM mileage performed in each circuit-segment in 2022 as a new column. Rows should be added as needed to cover all circuit-segments where you performed EVM work in 2022 (even if those circuit-segments were not included in the original workplan).	Please see "WMP-Discovery2023_DR_CalAdvocates_006-Q003Atch01.xlsx" for actual 2022 EVM mileage data broken down by circuit segment. Column G on tab '2022 EVM Miles Planned' contains the number of miles planned for EVM work in 2022. Column G on tab '2022 EVM Miles Completed' contains the number of miles that were completed and work verified in 2022.	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	1	N/A	2022 WMP 7.3.5.2	Vegetation Management and Inspections	Enhanced Vegetation Management
Pre-Discovery 29	CalPA	Set WMP-06	CalPA_Set WMP-06	4	CalPA_Set WMP-06_Q4	In response to Data Request CalAdvocates-PGE-2022WMP-16, Question 11, March 23, 2022, PG&E stated the following: "Through 2022, the EVM program includes strike trees evaluation and hazard trees mitigation, overhang clearing and radial clearance. Starting in 2023, Enhanced VM only includes overhang clearing." a) Is the statement above still accurate as of the date of this request? b) If the answer to part (a) is no, please update the above statement to reflect PG&E's vegetation management strategy for 2023. c) If the answer to part (a) is no, please update the above statement to reflect PG&E's vegetation management strategy for 2024.	a) To maximize reduction of wildfire risk effectively and efficiently, the Enhanced Vegetation Management (EVM) program concluded at the end of 2022. b) Three new VM programs will be incorporated into the 2023 workplan. These programs for VM are Focused Tree Inspections, VM for Operational Mitigations, and Tree Removal Inventory. • Focused Tree Inspections: We developed specific areas of focus (referred to as Areas of Concern (AOC)), primarily in the HFRA, where we will concentrate our efforts to inspect and address high-risk locations, such as those that have experienced higher volumes of vegetation damage during PSPS events, outages, and/or ignitions. • VM for Operational Mitigations: This program is intended to help reduce outages and potential ignitions using a risk informed, targeted plan to mitigate potential vegetation contacts based on historic vegetation caused outages on EPSS enabled circuits. We will initially focus on	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	2022 WMP 7.3.5	Vegetation Management and Inspections	Program Costs
Pre-Discovery 30	CalPA	Set WMP-06	CalPA_Set WMP-06	5	CalPA_Set WMP-06_Q5	In response to Data Request CalAdvocates-PGE-2022WMP-15, Question 16, March 18, 2022, PG&E provided the following table, which shows spending on vegetation management programs in thousands of dollars (actual figures for 2019-2021 and forecast figures for 2022-2023): Please update this table as follows: a) Update the 2022 column to state actual spending in 2022. b) Update the 2023 column to show PG&E's current forecasts for 2023. c) Add a column that shows PG&E's current forecasts for 2024. d) Please add rows as necessary, if any changes in PG&E's vegetation management strategy have created new initiatives or categories of spending.	Please see updated table below with 2022 Actuals, and our current forecasts for 2023 and 2024.	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	Vegetation Management	N/A	N/A
Pre-Discovery 31	CalPA	Set WMP-06	CalPA_Set WMP-06	6	CalPA_Set WMP-06_Q6	Please provide a list of any incidents in 2022 where the actions of a VM contractor posed a safety risk to workers and/or the public. "Safety risk" here is defined as any occurrence on a worksite where the contractor's actions created a safety hazard for either workers or the general public. For each instance, please provide: a) The date you were informed of the safety issue b) The date that the original work that created the safety issue was performed c) Whether the safety issue concerned a transmission or distribution circuit d) The vegetation management initiative involved in the original work e) A brief description of the safety issue involved.	Please refer to Attachment "WMP-Discovery2023_DR_CalAdvocates_006-Q006Atch01CONF.xlsx" for a list of all contractors involved safety incidents that took place in 2022. This data includes, but is not limited to: • Contractor Name/ParentCo: The contractor/parent company involved in the incident. • IncDate: The date of the incident. • Date EN: The date the incident was formally reported and logged. • Division: The division where the incident took place. • Inc Types: The incident type (ie line strike) • Incident Description: A brief description of the incident. • Program: Description on which initiative a contractor was working on, on the date of incident. • Corrective Action: A description of the action(s) PG&E took to prevent recurrence.	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	1	N/A	Vegetation Management	N/A	N/A
Pre-Discovery 32	CalPA	Set WMP-06	CalPA_Set WMP-06	7	CalPA_Set WMP-06_Q7	In response to Data Request CalAdvocates-PGE-2022WMP-14, Question 13, March 15, 2022, PG&E provided its 2022 system hardening workplan for the categories referred to in parts (a)-(d) below. Please provide an updated version of this workplan with additional columns to show the actual system hardening work performed in each circuit-segment in 2022 for each of these categories. Please add rows as needed to cover all circuit-segments where PG&E performed system hardening work in 2022 (even if those circuit-segments were not included in the original workplan). a) Installation of covered conductor b) Installation of underground conductor c) Removal of overhead conductor	Note, for CalAdvocates-PGE-2022WMP-14, Question 13, the projects listed in the 2022 columns were only for projects that overlapped with 2021 completed miles. It did not represent a comprehensive list of 2022 projects. Similarly, the 2020 columns were only for projects that overlapped with 2021 completed miles. It did not represent a comprehensive list of 2020 projects. See "WMP-Discovery2023_DR_CalAdvocates_006-Q007Atch01CONF.xlsx." This file includes the 2022 system hardening completed work in the below columns: a. Installation of covered conductor: See column O b. Installation of underground conductor: See column P c. Removal of overhead conductor: See column Q. Note, this removal work is not associated with the lines removed from overhead for installation of underground projects. It is strictly	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	1	N/A	2022 WMP Section 7.3.3.17	Grid Design and System Hardening	System Hardening
Pre-Discovery 33	CalPA	Set WMP-06	CalPA_Set WMP-06	8	CalPA_Set WMP-06_Q8	Provide your workplan that describes where and when you will perform system hardening on distribution circuits in 2023. For projects that you expect to partially complete in 2023 (i.e., projects that started before 2023 and are expected to continue in 2023, or projects that are expected to be completed after 2023), please include the project and report the work that you forecast will actually be performed in calendar year 2023. For each project, include the following information in separate columns, at a minimum: a) Order number b) MAT code c) Program	Please see attachment "WMP-Discovery2023_DR_CalAdvocates_006-Q008Atch01CONF.xlsx." a. See columns A (order number), and B (order description) b. See column C c. See column D d. See columns E e. See column F f. See columns G, I and K Column G shows the Applicable Risk Model that was used for selecting the project and putting it into scope. Risk Rank scores, shown in Columns I and K, are based on the Wildfire Distribution Risk Model (WDRM) for Version 2 and Version 3, respectively. The Risk ranking outcomes are	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	1	N/A	2023 WMP Section 8.1.2.5	System Hardening	N/A

Pre-Discovery 34	CalPA	Set WMP-06	CalPA_Set WMP-06	9	CalPA_Set WMP-06_Q9	Provide your workplan that describes where and when you will perform system hardening on distribution circuits in 2024. For projects that you expect to partially complete in 2024 (i.e., projects that are expected to start before 2024 and are expected to continue in 2024, or projects that are expected to be completed after 2024), please include the project and report the work that you forecast will actually be performed in calendar year 2024. For each project, include the following information in separate columns, at a minimum: a) Order number b) MAT code c) Program d) Circuit ID number	Please see "WMP-Discovery2023_DR_CalAdvocates_006-Q008Atch01CONF.xlsx. a. See columns A (order number), and B (order description) b. See column C c. See column D d. See columns E e. See column F f. See columns G, I and K Column G shows the Applicable Risk Model that was used for selecting the project and putting it into scope. Risk Rank scores, shown in Columns I and K, are based on the Wildfire Distribution Risk Model (WDRM) for Version 2 and Version 3, respectively. The Risk ranking outcomes are the results of the relevant risk model (e.g., WDRM v2, WDRM v3) where circuit segments are ranked on a 1 to N basis, where 1 is the highest risk circuit segment, and N is the lowest risk	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	2023 WMP Section 8.1.2.5	System Hardening	N/A
Pre-Discovery 35	CalPA	Set WMP-06	CalPA_Set WMP-06	10	CalPA_Set WMP-06_Q10	For each of your 2023-2025 WMP system hardening initiatives, please provide disaggregated information related to expenditures and circuit miles treated in the attached table, CalAdvocates PGE-2023WMP-06 Attachment 1. Add columns as needed.	Please see details on the cost and mileage breakouts in attached file "WMP Discovery2023_DR_CalAdvocates_006-Q010Atch01.xlsx.	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	1	N/A	2023 WMP Section 4.3	Proposed Expenditures	System Hardening
Pre-Discovery 36	CalPA	Set WMP-06	CalPA_Set WMP-06	11	CalPA_Set WMP-06_Q11	Please provide a spreadsheet listing (as rows) each undergrounding project completed during the period of January 1, 2022, through December 31, 2022. For each project, please provide the following information (as columns): a) Project ID number or other identifier b) Circuit ID c) ID of each circuit segment that was entirely undergrounded in the project d) ID of each circuit segment that was partially undergrounded in the project e) County or counties where undergrounding took place f) Project start date g) Project completion date h) Total circuit-miles undergrounded i) Total miles of trenching required	See "WMP-Discovery2023_DR_CalAdvocates_006-Q011Atch01CONF.xlsx. a) Project ID number or other identifier – See columns A (order Number) and B (Order Description) b) Circuit ID – See column C c) ID of each circuit segment that was entirely undergrounded in the project – Our undergrounding projects are split into multiple phases within a given circuit protection zone (CPZ) shown in Column E. The undergrounding of complete CPZs is a multi-year effort that cannot be captured in the data shown for a single year. d) ID of each circuit segment that was partially undergrounded in the project – Per response to (c), our undergrounding projects are split into multiple phases within a given circuit protection zone (CPZ). By reviewing data solely from a single year, it is not possible to determine completion of an entire CPZ	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	1	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
Pre-Discovery 37	CalPA	Set WMP-06	CalPA_Set WMP-06	12	CalPA_Set WMP-06_Q12	Please provide a geodatabase file with a polyline feature for each undergrounding project completed during the period of January 1, 2022 through December 31, 2022. In addition to the spatial location, please provide the following attributes for each project: a) Project ID number or other identifier, matching part (a) of the previous question b) Circuit ID c) Project completion date.	See attachment "WMP-Discovery2023_DR_CalAdvocates_006-Q012Atch01CONF.zip." Please note that the data reflected in this GIS geospatial file will not match the data set from Q11 due to the process time lag between construction completion and being fully mapped in GIS.	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	1	N/A	8.1.2.2	Grid Design and System Hardening	Undergrounding of Electric Lines and/or Equipment – Distribution
Pre-Discovery 38	CalPA	Set WMP-06	CalPA_Set WMP-06	13	CalPA_Set WMP-06_Q13	Identify any ignitions in 2022 associated with assets where you had an existing corrective notification at the time of the ignition. Please provide a spreadsheet listing each such ignition (as rows) with the following information in separate columns: a) Unique ignition ID b) Date of ignition c) Cause of ignition d) Type of asset associated with the ignition e) Acres burned f) Number of structures burned, if any g) Number of injuries associated with ignition, if any	Please see the table below identifying 2022 CPUC reportable ignitions where the asset involved in the ignition was associated with an existing open corrective maintenance notification at the time of the event. Ignition ID Date of Ignition Suspected Cause Equipment Type Associated With Ignition	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	2022 WMP Section 7.3.4	Asset Management and Inspections	N/A
Pre-Discovery 39	CalPA	Set WMP-06	CalPA_Set WMP-06	14	CalPA_Set WMP-06_Q14	a) Has PG&E's Asset Failure Analysis Team causally connected any ignitions that occurred in 2022 to assets with existing asset or vegetation corrective notifications at the time of ignition? b) If the answer to part (a) is yes, please provide the following information on each such ignition: i. Unique ignition ID (matching the previous question) ii. Date of ignition iii. Cause(s) identified by the Asset Failure Analysis Team iv. The type of corrective notification that was linked to the ignition (i.e., the priority level and whether it related to asset management or vegetation management). v. Copies of associated reports or investigations performed by the Asset Failure Analysis Team	a) Yes, please see below. b) Two ignitions have been identified that meet these criteria: Ignition ID Date of Ignition Cause Type of Corrective Notification Copies of Associated Reports 20221278 7/28/2022 The cause of this ignition is still being finalized. EC Notification 118429275 – Pole Replacement The report in question is still being finalized and can be provided upon completion. 20222013 11/16/2022 Broken crossarm EC Notification 123866774 – Crossarm replacement (later updated to pole replacement)	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	2022 WMP 7.3.7	Data Governance	Asset Failure Analysis
Pre-Discovery 40	CalPA	Set WMP-06	CalPA_Set WMP-06	15	CalPA_Set WMP-06_Q15	Per PG&E's response to Data Request CalAdvocates-PGE-2022WMP-17, Question 13, March 24, 2022, PG&E's inspection strategy in 2022 was to complete detailed inspections on all assets in HFTD Tier 3 and Zone 1, and approximately one-third of assets in HFTD Tier 2. a) Please describe any changes to the above strategy for PG&E's detailed distribution inspections in 2023. b) Please describe any changes to the above strategy for PG&E's detailed transmission inspections in 2023. c) Please describe any changes to the above strategy for PG&E's detailed distribution inspections in 2024. d) Please describe any changes to the above strategy for PG&E's detailed transmission inspections in 2024.	a) Beginning in 2023, PG&E's detailed inspections of distribution structures in high fire areas will be informed by wildfire consequence as provided PG&E's Wildfire Distribution Risk Model v3. PG&E will complete a detailed inspection on each structure every one to three years. For additional details on this strategy, please refer to Section 8.1.3.2 of our 2023 WMP. This differs from our 2022 strategy where we inspected all of Tier 3 and one-third of Tier 2. b) There are no major changes in our strategy compared to last year. Transmission detailed inspections in 2023 are informed by predictive models of asset health and wildfire consequence. HFTD (Tier 3, Tier 2, and Zone 1) and HFRA structures have a baseline inspection frequency of once every three years. In addition to this baseline frequency, structures may be added to the detailed inspection scope annually based on the following considerations: • Wildfire Risk, which is informed by the asset health Transmission Composite Model V1 (TCM)	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	2022 WMP 7.3.4.1 and 7.3.4.14	Asset Management and Inspections	N/A
Pre-Discovery 41	CalPA	Set WMP-06	CalPA_Set WMP-06	16	CalPA_Set WMP-06_Q16	Regarding your PSPS circuit modeling capabilities: a) Please describe your present circuit modeling capabilities with regard to PSPS decision making ("PSPS circuit modeling capabilities"), including with what level of granularity they are able to determine how circuit hardening efforts or other changes to a line segment will affect PSPS thresholds. b) Please describe any improvements to the present PSPS circuit modeling capabilities that you expect to implement in 2023. c) Please describe any improvements to the present PSPS circuit modeling capabilities that you expect to implement in 2024. d) Please describe the expected state of your PSPS circuit modeling capabilities at the	a) For all questions below, PG&E understands circuit modeling to mean the level of granularity at which a utility can model the configuration of its electrical assets and de-energize them as such. PG&E models and de-energizes circuits utilizing all switching devices on the system that do not pose ignition risks. The effects of hardening and other changes to lines will be accounted for by our IPW model which uses machine learning to quantify past outages and ignitions and uses those as a basis for ignition and outage potential going forward which feeds into our PSPS modeling. Thus, any improvements to the system or changes would be incorporated as their historical performance changes. b) As mentioned, PG&E models circuits at the most granular level for de-energization taking into account all devices on the system that do not pose an ignition risk. c) As mentioned, PG&E models circuits at the most granular level for de-energization taking into	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	0	N/A	PSPS	N/A	N/A
Pre-Discovery 42	CalPA	Set WMP-06	CalPA_Set WMP-06	17	CalPA_Set WMP-06_Q17	a) Have you developed Public Safety Power Shutoff (PSPS) risk scores at the circuit-segment level? b) Have you developed Enhanced Powerline Safety Settings (EPSS) risk scores at the circuit segment level? c) If the answer to either parts (a) or (b) is yes, please provide a geodatabase file containing, as line features, the most recent spatial data for all circuit segments for which you have modeled PSPS or EPSS risk scores. Include the following attributes for each circuit segment: i. Circuit Identification Number ii. Circuit Name iii. Circuit Segment Identification Number	a) Yes. This is cited in Section 6.2.1, figure 6.2.1-3. b) No. c) Please see "WMP-Discovery2023_DR_CalAdvocates_006-Q017Atch01CONF.zip" which is a geodatabase file containing the circuit segments along with PSPS risk values and Circuit Segment names. Due to the different circuit segment vintages approximately 400 of the circuit segments are not mapped. d) Yes, please see "WMP-Discovery2023_DR_CalAdvocates_006-Q017Atch02CONF.xlsx" which provides the circuit segment PSPS risk values. e) Not applicable. f) PG&E produces an annual reliability study of EPSS outage activity, which informs reliability mitigation actions. Furthermore, PG&E is exploring incorporating this data into an "EPSS	Holly Wehrman	2/10/2023	3/29/2023	3/29/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/CalAdvocates_006.zip	2	N/A	PSPS/EPSS	N/A	N/A
Pre-Discovery 43	CPUC - SPD (Safety Policy Division)	001	CPUC - SPD (Safety Policy Division)_001	1	CPUC - SPD (Safety Policy Division)_001_Q1	REFCL Inquiries: •REFCL Pilot at Calistoga Circuit Segment ID 1102131531 oDescribe various active settings profiles. oDescribe how staged fault testing is planned to be conducted. oExplain how REFCL rides through momentary faults & when REFCL deenergizes line for permanent faults. •Substation Configuration – Describe any substation and/or circuit configuration issues to deploy REFCL •Availability of REFCL – Describe any known barriers to increasing deployment in CA •Explain which risk drivers per Table PG&E-7.1.4-1 REFCL mitigates.	a. i. The REFCL equipment installed in the substation protects all the primary lines on both Calistoga circuits. Three settings profiles allow for changing fault sensitivity and tripping behavior on the fly based on field conditions/risk. Setting 1 is for low risk with a three second delay before switching the neutral to solid grounding for line protection to clear the fault. Setting 2 is for medium risk with a three second fault ride through before directly tripping the faulted feeder circuit breaker for a sustained fault. Setting 3 is for high risk with no time delay and greatest fault sensitivity and tripping the faulted feeder circuit breaker. ii. Staged fault testing was performed in 2022 with preliminary data collected. A mobile high voltage resistor bank is momentarily connected to stage a fault on the circuit. Normally the system rides through the neutral shift with no service outage from the test. Due to greater line to	Wendy Al-Mukdad	2/23/2023	3/9/2023	3/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_001.zip	0	N/A	8.1.8.1.3	Grid Operations and Procedures	Settings of Other Emerging Technologies (e.g., Rapid Earth Fault Current Limiters)
Pre-Discovery 44	CPUC - SPD (Safety Policy Division)	001	CPUC - SPD (Safety Policy Division)_001	2	CPUC - SPD (Safety Policy Division)_001_Q2	EPSS & Supporting Technologies (DCD & Partial Voltage Detection) Inquiries: •Explain all activities planned to mitigate EPSS reliability impacts. oAre customer support programs (e.g., battery backup) distinct from or linked to those in place for PSPS implementation? •Explain Sensitive Ground Fault settings for EPSS enabled circuit segments. •Explain Downed Conductor Detection (DCD) technology and how it isolates high impedance faults with EPSS. oExplain DCD 2023-2025 Targets (i.e. 500, 400 & 250 protective device controllers or relays) and whether they will cover all HFTD and buffer EPSS circuits. Explain why says To Be Updated. oExplain how many DCD are currently installed including on top 5% risk circuit segments	a. The following includes activities on-going and planned to mitigate EPSS reliability impacts: Enhanced Outage Review Team (ORT) process that includes additional review of circuit/Circuit Protection Zone (CPZ) performance that when multiple outages occur triggers a Multiple Outage Review (MORE) to drive additional actions if needed to reduce repeat outages going forward. • Continuing Proactive Vegetation Trimming on the Top 12 circuit segments that were identified last year based on number of outages experienced and a projected enablement of over 50% for the fire season. For 2023 we looked at CEMI (customers experiencing multiple outages) impacted customers and evaluated vegetation outages and identified 9 additional circuit protection zones to be added to this approach. • Continuing Extent of Condition assessment and trimming. When a vegetation related EPSS outage occurs the incident location and 5 spans in all directions is inspected by our vegetation	Wendy Al-Mukdad	2/23/2023	3/9/2023	3/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_001.zip	0	N/A	8.1.8.1.1	Grid Operations and Procedures	Protective Equipment and Device Settings
Pre-Discovery 45	CPUC - SPD (Safety Policy Division)	001	CPUC - SPD (Safety Policy Division)_001	3	CPUC - SPD (Safety Policy Division)_001_Q3	EPSS & REFCL Inquiries: •EPSS vs REFCL – Describe the major similarities and differences. oWhat are advantages and disadvantages? In terms of capability, sectionalization, safety, and reliability? •Phase-to-Ground Faults vs Complex (Multiphase) Faults – What is the risk profile of existing ignitions on PG&E's system and how does REFCL & EPSS mitigate these risks? •Combination of REFCL with EPSS & Other Mitigations – Explain how these could work together, and if PG&E has quantified combined risk-reduction benefits. •Explain the differences in fault energy for EPSS vs REFCL including for low and high impedance faults.	a. In concept, EPSS and REFCL are two very different approaches that share a common goal of attempting to reduce risk associated with ignitions on primary electric distribution systems. i. EPSS – advantages: • Can be implemented on mostly existing equipment and relays • Reduces incident fault energy across all types of faults (Three-phase, line-to line, line-to-ground, etc.) • Reduces incident fault energy through fault clearing time reduction • Helps to reduce backfeed issues associated with 3-wire distribution system by prioritizing gang trip behavior versus single phase fuse operation • Incorporates various technologies for high impedance fault detection (Sensitive Ground Fault (SGF), Downed Conductor Detection (DCD), etc.)	Wendy Al-Mukdad	2/23/2023	3/9/2023	3/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_001.zip	0	N/A	8.1.8.1	Grid Operations and Procedures	Equipment Settings to Reduce Wildfire Risk
Pre-Discovery 46	CPUC - SPD (Safety Policy Division)	001	CPUC - SPD (Safety Policy Division)_001	4	CPUC - SPD (Safety Policy Division)_001_Q4	General risk reduction inquiry: •What's PG&E's goal for long-term risk reduction, particularly reduction of likelihood of ignition and also reduction of consequences, for circuits in HFTDs that are not undergrounded?	PG&E's long term goal is to maximize risk reduction by undergrounding high wildfire risk locations. For locations that will not be undergrounded, we will continue to deploy our suite of Operational Mitigations and other System Resilience Mitigations. Operational Mitigations include programs such as EPSS, equipment maintenance and repair, vegetation management for operational mitigations, and PSPS. System Resilience Mitigations include programs such as covered conductor installation, transmission conductor replacement, line removal, and distribution and transmission HFTD and HFRA open tag reduction. We will also manage system risk through our Comprehensive Monitoring and Data Collection programs include detailed distribution and transmission asset inspection programs, vegetation inspection programs, and monitoring programs such as Distribution Fault Anticipation	Wendy Al-Mukdad	2/23/2023	3/9/2023	3/9/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/SPD_001.zip	0	N/A	7.2.1	Wildfire Mitigation Strategy Development	Overview of Mitigation Initiatives and Activities

Pre-Discovery 47	Green Power Institute (GPI)	001	Green Power Institute (GPI)_001	1	Green Power Institute (GPI)_001_Q1	Please provide PG&E's Pre-submission 2023-2025 WMP Base Plan filed on February 13, 2023, with the OEIS per the 2023 WMP Guidelines and Schedule document. Including all attachments and associated supporting documents required for the Pre-submission 2023-2025 WMP Base Plan filing.	PG&E has designated the entire pre-submission as confidential to align with Energy Safety's pre-submission process and guidelines which stipulate that the pre-submission documents are not to be made public. In addition, the pre-submission contains contact information for individuals that is considered confidential. As noted in our correspondences to you on March 8th and March 10th, we can provide you with a copy of the pre-submission documents that were submitted upon execution of a non-disclosure agreement. Alternatively, we will be submitting our final 2023-2025 Wildfire Mitigation Plan (WMP) for public review on March 27, 2023 if you would prefer to wait for a copy of the completed WMP following Energy Safety's completeness check. Please feel free to reach out to us to discuss how you would prefer to move forward with this request.	Zoe Harrold	3/1/2023	3/14/2023	3/14/2023	https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/reference-docs/2023/GPI_001.zip	0	N/A	All	All	All