Link to Discovery Responses: https://www.pge.com/en/outages-and-safety/safety/community-wildfire-safety-program.h																			
Count	Party Name	Data Set	Data Request	Question No.	Supp/Rev	Question ID	Question Text	Responses	Requestor	Date Rec'd	Final Due Date	Date Sent	Links	Number of Atchs	NDA Required	2025 WMP Section	Category	Subcategory
1	TURN	002	TURN_002	1	No	TURN_002_Q1	Section 5.2.1, page 57 states, "starting in January 2023, PG&E incorporated additional customers who could be impacted into the PSPS consequence model and classified them as Potentially-Impacted Customers (PIC)." a. How were the PIC selected? b. How were they initially identified? c. What types of consequences do they have that were not included in the 13-year customer lookback? d. Please explain the basis for PG&E's belief that "not every customer who could experience a PSPS event is captured in the historical backcast." e. Regarding the statement on page 57 that "this enables the calculation of roughly double the potentially-affected customers …", please provide the specific data on which this statement is based.	[illegible] in its PSPS consequence model due to the low incremental risk values associated with customers that were not included in our lookback. Thus, the statement on page 57 of the 2026-2028 WMP is historical in nature. a. The selection criteria for PICs were created by using our distribution planning models under the scenario of "what if" every distribution line in HFTD/HFRA is required to be de-energized. b. Potentially impacted customers (i.e. all customers who would impacted by the theoretical de-energization of every HFTD/HFRA distribution line) were identified through our distribution planning models. WMP-Discovery 2026-2028_DR_TURN_002-Q001 Page 2 c. The inclusion of PICs results in an increased risk associated with customers in locations where PSPS thresholds were not met in our historical lookback, but have exposure to PSPS risk based on HFTD/HFRA location and system configuration. This evaluation does not include the addition of new consequences. d. The meaning behind this statement is that this is a low probabilistic event, and the intent was to assign risk exposure to customers that are not accounted for in PG&E's traditional lookback. This is because our lookback is based on historical weather conditions that have met PSPS thresholds to initiate a PSPS event. This is not to say that locations in HFTD that have never met PSPS thresholds could not see an event in the future. e. This statement is based on the idea that all customers that would be impacted by the theoretical de-energization of every HFTD/HFRA distribution line, minus the unique	A Mirelle Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	5	Risk Methodology & Assessment	5.2.1
2	TURN	002	TURN_002	2	No	TURN_002_Q2	Section 5.2.2.1 page 63 provides the formula for PSPS likelihood. Please explain why 5 years was selected as the denominator?	PG&E's lookback is used to estimate PSPS consequence and includes 2018-2022 data (5 years). This is to align with the initiation and execution of PSPS events in 2018. PG&E's enterprise risk model also includes an additional 2 years of data (2023-2024) that was not included in the existing lookback due to meteorology polygons not being available at the time of the analysis. To address this data gap, PG&E used actual PSPS events but determined the customer impact by de-energizing the upstream device as would be specified using our most recent PSPS guidance and protocols	A Mirelle Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	5	Risk Methodology & Assessment	5.2.2.1
3	TURN	002	TURN_002	3	No	TURN_002_Q3	Section 6.1.2, page 118 states that, instead of undergrounding, "in certain circumstances we may choose to overhead harden a circuit segment or portion of a circuit segment because of feasibility constraints." Please identify and explain each and every criterion that PG&E would use to determine that feasibility constraints have reached the point that PG&E would choose overhead hardening over undergrounding and how PG&E would decide, based on those criteria, that overhead hardening is the best choice.	PG&E objects to this request as it is overbroad, vague, ambiguous, and unduly burdensome. It is not possible to identify every single criterion that PG&E could use in evaluating the feasibility of a project. Notwithstanding and without waiving this objection, PG&E responds as follows: The feasibility of installing underground infrastructure can vary significantly across PG&E's service area, and therefore, the specific circumstances and facts must be evaluated for each case. Certain conditions may necessitate overhead hardening instead of undergrounding due to feasibility constraints. These conditions may include, but are not limited to: • Culturally Restricted Areas: Locations where underground installation may not be permitted due to cultural or historical considerations. • Geographical Challenges: Situations such as large water crossings where bridge attachments are not possible or large canyon crossings where no reasonable underground path exists. • Legal and Land Use Constraints: Inability to acquire the necessary easements or rights to install underground infrastructure. WMP-Discovery 2026-2028_DR_TURN_002-Q003 Page 2 • Geological Conditions: Presence of hard rock or granite terrain, where excavation costs are prohibitively high. These feasibility constraints are reviewed during the scoping process, and the associated costs are included in mitigation scenario analyses, such as the Cost-Benefit Ratio (CBR). This evaluation may lead to choosing a hybrid solution in some cases. In other instances, feasibility constraints become apparent later in the project lifecycle. When this occurs, decisions regarding overhead hardening versus undergrounding are made based on financial implications, timing considerations, risk assessment, and constructability challenges. This ensures that the selected approach is the most feasible	A Mirelle Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.2
4	TURN	002	TURN_002	4	No	TURN_002_Q4	Section 6.1.3.1, page 129, states, "While undergrounding is PG&E's preferred solution for mitigating ignition risk in the highest risk areas, we recognize that undergrounding takes longer to execute than overhead hardening and is a more costly investment in the short term[,]" and "Covered conductor can generally be installed more quickly and costs less than undergrounding, but it does not protect against tree strike risk or fully address the reliability risk[,]" and concludes that "undergrounding, where feasible, is the best alternative where tree strike risk is high." This conclusion does not address the information provided in Table 6.1.3-1 on page 128. Please explain why the cost and timing of undergrounding, which the table provides has a 98-99% average effectiveness, is preferred to the combination of covered conductor, EPSS, and PSPS, which the table provides has a 97% average effectiveness.	We disagree that this conclusion is not addressed. On page 128, we noted that "[t]he combined use of covered conductor, EPSS, and PSPS introduces a high likelihood of system outage risk and is disruptive to our customers." As further and more fully described in Section 6.1.3.2 (pg. 134-135) and in PG&E's 2025 WMP Update, ACI 23-05 (pp. 58-57), PG&E recognizes that overhead hardening can be installed more quickly than an undergrounding solution; however, the initial risk reduction achieved from quicker installation of an overhead mitigation does not compensate for the greater total, more permanent risk reduction achieved over the lifetime of an underground solution. Undergrounding is preferred to the combination of covered conductor, EPSS, and PSPS because it nearly eliminates wildfire risk. We expect undergrounding to also reduce reliability risk and the need to operate and maintain overhead equipment and clearing vegetation around the overhead facilities. PG&E's intent is to significantly reduce reliability impacts of outage programs and to offer near permanent solutions to the highest risk areas.	A Mirelle Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.3.1
5	TURN	002	TURN_002	5	No	TURN_002_Q5	Regarding Table PG&E-6.1.3-1 on page 128, please provide the supporting data on which the "Blended Average Effectiveness" values for Rows 4, 5, and 6 are based.	Please refer to "WMP-Discovery\2026-2028_DR_TURN_002-Q005A05h01.xlsx The table below is a summary of references for the supporting data for each of the Blended Average Effectiveness values from Table PG&E-6.1.3-1 in the attached Excel sheet. Line No. System Hardening Mitigations Blended Average Effectiveness (a) Notes 2015-2024 1 Undergrounding All (b) 99% See "Effectiveness Analysis" tab for supporting data 2 Undergrounding Primary Distribution Lines (c) 98% See "Effectiveness Analysis" tab for supporting data 3 Line Removal with Remote Grid 98% See "Effectiveness Analysis" tab for supporting data 4 Covered Conductor + EPSS + PSPS (d) 97% Calculated value using formula outlined in footnote (d). See 4a. And 4b. for input Please see refer to file	A Mirelle Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	1	No	6	Wildfire Mitigation Strategy Development	6.1.3-1
6	TURN	002	TURN_002	6	No	TURN_002_Q6	Section 6.1.3.2, page 134, states: "Overhead system hardening combined with operations mitigations EPSS and PSPS has a high-risk reduction benefit that is roughly comparable to that of undergrounding without these operational mitigations. PG&E continues to prefer undergrounding on high-risk circuits where feasible for several reasons. Undergrounding is permanent risk reduction that does not have the negative reliability impacts from PSPS and EPSS. Underground facilities are less likely to be damaged during winter storms by high winds and vegetation falling into lines damaging the facilities or other contact with the lines from third parties. Over time, undergrounding also has lower operations and maintenance expenses." a. Please provide any studies or reports in PG&E's possession that compare the long-term or life cycle costs of undergrounding with the costs of overhead hardening combined with EPSS and PSPS. b. Please provide any studies or reports in PG&E's possession that compare the long-term or life cycle costs of undergrounding with the costs of overhead hardening combined with EPSS, PSPS, and remote grids to reduce the reliability impacts of EPSS and PSPS. c. Please provide any studies or reports in PG&E's possession that compare the operations and maintenance expenses of undergrounding with overhead hardening. d. Please provide any studies or reports in PG&E's possession that compare the operations and maintenance expenses of undergrounding with overhead hardening, combined with EPSS and PSPS. e. Please provide any studies or reports in PG&E's possession that compare the reliability (e.g., SAIDI, SAIFI, CAIDI, etc.) of undergrounded vs. overhead hardened facilities. f. Please provide any studies or reports in PG&E's possession that compare the reliability (e.g., SAIDI, SAIFI, CAIDI, etc.) of undergrounded vs. overhead hardened facilities – not including the reliability impacts of PSPS and EPSS.	Please see refer to file below. 1,2,3 PG&E has performed and will continue to perform a reasonably diligent search for any relevant studies or reports and will supplement this response if any are identified. a. As described in the 2023-2025 WMP (Revision Notice PG&E-23-05), PG&E is developing a tool that we anticipate using in future regulatory filings. The tool, referred to as the Wildfire Benefit Cost Analysis (WBCA) tool, will compare the long-term costs of undergrounding to the long-term costs for other mitigations including overhead hardening combined with EPSS and PSPS and line removal with remote grid. The tool will consider capital installation costs and several categories of O&M costs such as patrols and inspections, emergency response, and vegetation management. The output from the tool will be a comparison of the long-term costs and benefits for different mitigation alternatives. b. As described in the 2023-2025 WMP (Revision Notice PG&E-23-05), PG&E is developing a tool that we anticipate using in future regulatory filings. The tool, referred to as the Wildfire Benefit Cost Analysis (WBCA) tool, will compare the long-term costs of undergrounding to the long-term costs for other mitigations including overhead hardening combined with EPSS and PSPS and line removal with remote grid. The tool will consider capital installation costs and several categories of O&M costs such as patrols and inspections, emergency response, and vegetation management. The output from the tool will be a comparison of the long-term costs and benefits for different mitigation alternatives. 1 PG&E is aware of various studies produced by academic institutions and third-parties that compare the costs and benefits of undergrounding to other mitigations. See, for example, Dynamic Grid Management Technologies Reduce Wildfire Adaptation Costs in the Electric Power Sector. PG&E has not reviewed and does not necessarily support the information or conclusions in these third-party and academic studies. 2 Note, in the 2023 GRC PG&E prepared data response GRC-2023-Phl_DR_TURN_154_Q01Supp01 that included an analysis of long-term operations and maintenance costs associated with its 2023 GRC undergrounding proposal. The system hardening milage assumptions and cost assumptions used in this analysis were based on information from the 2023 GRC and in many cases are no longer relevant. PG&E is identifying this study in order to be responsive to this data request but notes that the	A Mirelle Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.3.2

6	TURN	002	TURN_002	6(s)	Yes	TURN_002_Q6(s)	Section 6.1.3.2, page 134, states: "Overhead system hardening combinec with operations mitigations EPSS and PSPS has a high-risk reduction benefit that is roughly comparable to that of undergrounding without these operational mitigations. PG&E continues to prefer undergrounding on high-risk circuits where feasible for several reasons. Undergrounding is permanent risk reduction that does not have the negative reliability impacts from PSPS and EPSS. Underground facilities are less likely to be damaged during winter storms by high winds and vegetation falling into lines damaging the facilities or other contact with the lines from third parties. Over time, undergrounding also has lower operations and maintenance expenses." a. Please provide any studies or reports in PG&E's possession that compare the long-term or life cycle costs of undergrounding with the costs of overhead hardening combined with EPSS and PSPS. b. Please provide any studies or reports in PG&E's possession that compare the long-term or life cycle costs of undergrounding with the costs of overhead hardening combined with EPSS, PSPS, and remote grids to reduce the reliability impacts of EPSS and PSPS. c. Please provide any studies or reports in PG&E's possession that compare the operations and maintenance expenses of undergrounding with overhead hardening. d. Please provide any studies or reports in PG&E's possession that compare the operations and maintenance expenses of undergrounding with overhead hardening, combined with EPSS and PSPS. e. Please provide any studies or reports in PG&E's possession that compare the reliability (e.g., SAIDI, SAIFI, CAIDI, etc.) of undergrounded vs. overhead hardened facilities. f. Please provide any studies or reports in PG&E's possession that compare the reliability (e.g., SAIDI, SAIFI, CAIDI, etc.) of undergrounded vs. overhead hardened facilities – not including th	e. PG&E analyzed the reliability performance on sections of circuits where we performed undergrounding work in 2022 and 2023 to quantify overall improvements to service reliability and showed approximately a 90% reduction in faults that resulted in sustained outages after undergrounding work was completed. Please see Section 8.2.2 of our 2026-2028 WMP. Please note that this analysis did not compare undergrounding to overhead hardening. Please refer to Section 6.2.1.2 for PG&E's explanation of risk impacts of mitigation activities including covered conductor and undergrounding. PG&E is not currently aware of any studies or reports in PG&E's possession that compare the reliability of undergrounded and overhead hardened facilities. Ultimately, we expect undergrounded lines to be less susceptible to outage-causing conditions associated with exposed overhead lines such as damage and/or vegetation contact from severe winds, animal contact, line slap or wire down. f. PG&E analyzed the reliability performance on sections of circuits where we performed undergrounding work in 2022 and 2023 to quantify overall improvements to service reliability and showed approximately a 90% reduction in faults that resulted in sustained outages after undergrounding work was completed. Please see Section 8.2.2 of our 2026-2028 WMP. Please note that this analysis did not compare undergrounding to overhead hardening. We are not aware of any studies or reports that are in our possession that compare the reliability of undergrounded vs. overhead hardened facilities—not including the reliability impacts of PSPS and EPSS; however, we expect undergrounded lines to be less susceptible to outage-causing conditions associated with exposed overhead lines such as damage and/or vegetation contact from severe winds, animal contact, line slap or wire down.	A Mireille Fall-Fry	4/7/2025	4/14/2025	4/14/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.3.2
7	TURN	002	TURN_002	7	No	TURN_002_Q7	The microgrids discussed in 8.2.7 are said to not impact reliability because they are not dependent on upstream lines. Do they increase reliability in areas where they have been installed and can they be deployed in conjunction with other hardening mitigations to minimize reliability concerns?	Section 8.2.7 addresses three microgrid related initiatives. Remote Grids Remote grids are not connected to the distribution system, as they place generation assets right at the customer locations and the upstream distribution line to that location is removed. Therefore, any reliability concerns due to outages from the upstream distribution system are eliminated in the Remote Grid system architecture. Temporary Distribution Microgrids These microgrids are not set to 'automatically' energize upon an outage condition; they are manually operated to isolate and energize the microgrid footprint once the PSPS event has de-energized the area, in a pre-planned, pre-staged, pre-resourced manner due to its inherent design. While it is possible that they could be utilized during unplanned or planned outages, it would be highly dependent upon whether the temporary generators are pre-staged at the location, whether the location is safe to actually energize in that outage, and whether the actual process of energizing the microgrid (and subsequently restoring back to source), is actually beneficial from an outage duration standpoint versus simply patrolling, repairing, and restoring the outage condition. Since these temporary distribution microgrids utilize reciprocating engine generating assets, the ability to 'automatically' energize these locations is not available. Community Microgrid Enablement Program and Microgrid Incentive Program WMP-Discovery 2026-2028_DR_TURN_002-Q007 Page 2 These microgrids are community driven and could increase reliability in areas where they are installed, but are dependent upon the condition and nature of the outages and the grid design of the microgrid footprint that determine its conditions for safe operations. Each microgrid being requested to be designed by these communities through these funds are unique and therefore their impact on reliability is dependent	A Mireille Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.7
8	TURN	002	TURN_002	8	No	TURN_002_Q8	Section 7, page 170, states that "during the July 2, 2024[,] PSPS event, we were able to reduce the event duration for some customers by temporarily re-energizing a line that serves a portion of the impacted customers[,]" and "[w]e may offer temporary re-energization during future PSPS events where conditions allow." What conditions are necessary to replicate partial or temporary re-energization during PSPS events?	As described Section 7, page 170 "PSPS Lessons Learned" and explained in PG&E's post de-energization report for the July 2, 2024 PSPS event, two severe wind events were forecasted to come in separate back to back waves. The first wind event meeting PSPS criteria occurred during overnight period of July 1-2 with a brief lull in the winds that occurred during the day of July 2. The second forecasted wave of critical fire weather conditions meeting our PSPS criteria was forecasted to occur later in the evening which allowed us to patrol and temporarily re-energize the portion of the customers who were impacted by the first wave to allow customers to cool their homes and charge their devices. On the evening of July 2, weather conditions deteriorated rapidly meeting our PSPS criteria and requiring us to de-energize a second time as a result of the second wave of severe weather conditions. Please see the following link for our July 2, 2024 post de-energization report: https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-andsupport/PGE_PSPS_Post-Event_Report_20240702-amended.pdf Generally, conditions that allow PG&E to temporarily re-energize during PSPS events are the lull in critical weather conditions. The lull period would need to have sufficient time for our crews to patrol following the weather all-clear. Weather "All-Clears" are called based on pre-defined, geographic areas and mapping of each weather station in each zone to that area. WMP-Discovery 2026-2028_DR_TURN_002-Q008 Page 2 Please note that the specific conditions that arose during the July 2, 2024 event allowed PG&E to temporarily re-energize a portion of the affected customers, but that such temporary re-energization is condition and event-specific and not a programmatic mitigation strategy to reduce PSPS duration.	A Mireille Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	7	Public Safety Power Shutoff	7
9	TURN	002	TURN_002	9	No	TURN_002_Q9	Please fill in the values in the following table (all units are miles):	Please see attachment "WMP-Discovery2026-2028_DR_TURN_002-Q009Atch01.xlsx". The following considerations and assumptions are applied to this response: • If a subproject spans multiple High Fire-Threat District (HFTD) tiers, the subproject is attributed to the higher tier (e.g., if a subproject falls under both Tier 2 and Tier 3, its mileage is attributed to Tier 3). • For data on overhead miles replaced by undergrounding: a. For subprojects that are 100% undergrounding with available overhead removal data, the reported figures reflect the overhead miles removed. b. For hybrid subprojects (partially underground and a combination of overhead hardening and/or line removal) or cases where overhead removal data is unavailable, miles are calculated using a conversion factor: 1 mile of overhead equals 1.25 miles of undergrounding. WMP-Discovery 2026-2028_DR_TURN_002-Q009 Page 2 • Since the template does not request miles completed outside HFTDs, this response excludes system hardening work under the Community Rebuild program. • The original table requested both 2023 actuals and planned miles. We updated our response to include actuals through 2024 and planned work for 2025.	A Mireille Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	1	No	8	Grid Design, Operations, and Maintenance	8.2.2
10	TURN	002	TURN_002	10	No	TURN_002_Q10	Please provide a narrative explanation of the decision tree shown in figure 8.2.1-2, including any criteria that PG&E intends to use to determine if conditions in the decision tree are met. a. Figure 8.2.1-2 appears to indicate that UG is preferred when CBR > 1 and within 50% of the OH + EPSS CBR and UG NB > OH NB. Please explain the basis for the figure of 50%. b. It appears that the decision tree begins with UG as the default option and only moves to alternatives when certain criteria are not met. Why doesn't PG&E begin with the more cost-effective hybrid approach and move to UG when absolutely necessary? c. Please explain the tree strike scores and how they are determined? Why is a score of 6+ significant? d. Please identify and explain and each and every criterion that is considered in determining "Are there Egress/Ingress concerns expressed by PSS team? Please provide a narrative explanation of the types of concerns and how they impact risk. e. Please provide a narrative explanation of the PSPS polygon and the effect on CPZ. f. At any point in the decision tree, are the hybrid project CBRs recalculated based on different permutations/combinations?	a. PG&E is incorporating the Cost-Benefit Ratio (CBR) into our decision-making framework in anticipation of this requirement as part of the 10-year Electrical Undergrounding Plan (EUP). The Commission has stated that "the utility is not bound to select its mitigation strategy based solely on the CBRs produced by the Cost-Benefit Approach," supporting the concept that CBR does not need to be the sole determinant of risk mitigation strategies.1 This is because an over-emphasis on CBR devalues high cost / high benefit projects. CBR does not consider the absolute benefits and holistic value of permanent risk mitigations, and when used as the sole criteria, results in situations where risk is permanently left on the system, including on circuit segments where undergrounding's benefits are greater than those of overhead hardening. In our decision tree, CBR is used as the primary criteria for selecting mitigation measures. However, for undergrounding (UG) projects where the benefits are more favorable than OH hardening + EPSS, these projects will also be considered, provided their cost-benefit ratio falls within an acceptable range relative to the CBR of overhead hardening projects. The 50% threshold is a discretionary value intended to ensure that CBR remains a key consideration, while also allowing for the engineering team to weigh the full range of benefits, including mitigation of tree strike risks, reliability risks created by operational mitigations, and ingress/egress considerations, which are often not fully quantified in CBR or risk calculations. In these cases, the CBR must also be greater than 1, indicating the benefits of the mitigation outweigh its costs. b. PG&E's approach to system hardening has been, and continues to be, to begin with the mitigation alternative that permanently reduces the greatest amount of risk, which is undergrounding and line removal with remote grid. If these mitigations do not meet our economic decision criteria, we consider overhead hardening where it may be considered more effective than undergrounding. c. PG&E describes what the tree strikes scores are and how they are calculated in our 2022 WMP (PG&E's Revised 2022 WMP, July 26, 2022, pages 584-585). The scores represent the number of fall-in trees that can touch and break a hardened overhead line. Scores greater than or equal to 6 represent a moderate or greater tree fall-in risk.	A Mireille Fall-Fry	4/7/2025	4/10/2025	4/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_002.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.1-2
11	OEIS	001	OEIS_001	1	No	OEIS_001_Q1	Regarding Vegetation Management QA and QC Unit On page 410 of its 2026-2028 WMP, PG&E lists "inspections" as the "Population size/Sample Unit" for VM-08D, VM-08T, VM-22D, and VM-22T. However, in the "Sample Size" column, PG&E uses a different unit, listing the number of miles (VM-08D, VM-08T, and VM-22T) and spans (VM-22D), that it will audit. a. Define what constitutes an "inspection" unit. b. Clarify whether PG&E is auditing all work performed and not performed along the length of the sample spans/miles, or discrete documented "inspections" within those spans/miles. c. If PG&E audits discrete inspections rather than the entire length of a span/mile, reproduce Table 9-6 "Vegetation Management QA and QC Activity" with: i. An estimated total number of inspections it could potentially audit under the 2026, 2027, and 2028 "Population Size" columns. ii. An estimated number of inspections PG&E plans to audit under the 2026, 2027, and 2028 "Sample Size" columns. d. For VM-22T units, PG&E lists "miles" in "Population Size" column, "spans" in "Sample Size," and "Inspections" in the "Population/Sample Unit." Clarify the unit used for VM-22T.	a. For VM-22 D&T, an inspection unit will be the location1 of overhead electric facilities inspected by Vegetation Management (VM) Operations. b. For VM-08 D&T, an inspection unit will consist of overhead line segments.QA/QC work will be performed along the length of the sample spans/miles/locations. Both, post VM inspection and/or post Tree work activities can be evaluated. c. N/A; please see response B. i. N/A ii. N/A d. The population provides the total estimated volume of overhead transmission facilities in HFTD. The sample size is the minimum volume of VM QC transmission inspected locations to verify. As noted above, for VM-22T, an inspection unit will be the location of overhead electric facilities inspected by Vegetation Management (VM) Operations. See the footnote above for more detail.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.11
12	OEIS	001	OEIS_001	2	No	OEIS_001_Q2	Regarding Vegetation Management QA and QC Outside the HFT On page 410 of its 2026-2028 WMP, PG&E specifies that 100% of QA/QC samples are from locations within the HFTD. a. Does PG&E perform QA/QC in its HFRA? i. If yes, describe its QA/QC program in its HFRA. ii. If not, why does it not extend its QA/QC program to its HFRA? b. Does PG&E perform QA/QC in non-HFTD areas? i. If yes, describe its QA/QC program in non-HFTD areas. ii. If not, why does it not extend its QA/QC program to non-HFTD areas?	a. Yes. QC and QA will perform assessments in HFRA. i. PG&E's QA/QC will be conducted the same in HFRA as elsewhere. ii. N/A b. Yes. QC and QA will perform assessments in both HFTD and non-HFTD areas. i. PG&E's QA and QC will be conducted the same in Non-HFTD as elsewhere. ii. N/A	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.11

12	OEIS	001	OEIS_001	2(a)	Yes	OEIS_001_Q2(a)	Regarding Vegetation Management QA and QC Outside the HFTD On page 410 of its 2026-2028 WMP, PG&E specifies that 100% of QA/QC samples are from locations within the HFTD. a. Does PG&E perform QA/QC in its HFRA? i. If yes, describe its QA/QC program in its HFRA. ii. If not, why does it not extend its QA/QC program to its HFRA? b. Does PG&E perform QA/QC in non-HFTD areas? i. If yes, describe its QA/QC program in non-HFTD areas. ii. If not, why does it not extend its QA/QC program to non-HFTD areas?	a. Yes. QC and QA will perform assessments in HFRA. i. PG&E's QA/QC will be conducted the same in HFRA as elsewhere. ii. N/A b. Yes. QA will perform assessments systemwide, including HFTD, HFRA and non HFTD/non-HFRA. However, QA will only count units in HFTD and HFRA areas towards WMP targets. QC will only perform assessments in HFTD and HFRA areas. i. PG&E's QA and QC will be conducted the same in non-HFTD as elsewhere. ii. N/A	Nathan Poon	4/8/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.11
12	SPD	002	SPD_002	4	No	SPD_002_Q4	Every Friday by noon, submit all of the materials requested in Questions 1-3 to Kiteworks. Each weekly response should be packaged in a single zip file and organized according to the following folder structure: a. Party Name (i.e. Energy Safety, Cal Advocates, etc.) b. DR Name (i.e. SPD-PGE-WMP2026-001) i. Place the data request responses in this folder. c. Attachments i. Place any attachments to the data request responses in this folder.	PG&E objects to this request on the grounds that 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 this objection, PG&E responds as follows. Discovery provided to Energy Safety and other requesting parties is publicly posted and available on PG&E's website at Community Wildfire Safety Program. The native format version (Excel) of PG&E's WMP DR Summary is updated on our website each Thursday. We will provide confidential versions of any confidential responses and/or attachments submitted to Energy Safety or any other party every Friday. We will do our best to provide such responses by noon each Friday, or as soon as is reasonably possible.	Eddie Schmitt	4/16/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_002.zip	0	No	N/A	N/A	N/A
13	OEIS	001	OEIS_001	3	No	OEIS_001_Q3	Regarding Vegetation Management QA and QC Target Pass Rates On page 410 of its 2026-2028 WMP, PG&E sets a target pass rate for Vegetation Management Quality Assurance (VMQA) of 97%. On page 411, PG&E writes that VMQA has a "99% estimated level of compliance." a. How does PG&E use the "estimated level of compliance" in its operations? b. Explain why the estimated level of compliance differs from the target pass rate.	a. The 99% estimated level of compliance is the predicted baseline score based on historic audit data. This estimated level of compliance is then entered into a sampling formula along with error rate and confidence level to derive an appropriate sample mileage. For 2025, we have been using between a 2.5% and 3.25% margin of error to account for variability in the audit sampling (since we aren't looking at 100% of the line mileage in a given area). After the conclusion of the audit, we calculate the true margin of error since we'd have a collected grown-in tree population as a denominator at that point (this is because we use line mileage as a proxy for tree populations to get a minimum amount of mileage to review). At the conclusion of the audit, if the actual margin of error is less than the estimated margin of error used, the audit could be considered statistically valid. Basically, the margin of error would account for any outlier audits where the compliance score was well below 99%. b. Historical VMQA audit shows that system wide, scores average at or above 99% compliance. This is used strictly to derive audit mileage sample. The actual achieved pass rate is still a variable dependent on Operational Performance and independent of what VMQA expected to see. Using 99% as a baseline estimated level of compliance is consistent with the audit scores that QA has observed historically.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.11
14	OEIS	001	OEIS_001	4	No	OEIS_001_Q4	Regarding Vegetation Management Field Quality Control On page 415 of its 2026-2028 WMP, PG&E states that it discontinued its Field Quality Control (FQC) because it is redundant to "ongoing knowledge checks." a. Describe the similarities and differences between FQC and "ongoing knowledge checks." b. List the redundancies between FQC and "ongoing knowledge checks." c. For non-redundant aspects: i. Explain whether and how PG&E accounts for these aspects in other ways (e.g., other QA/QC programs). ii. If PG&E does not account for these aspects in other ways, explain why PG&E discontinued	a. Vegetation Management (VM) Knowledge Checks i. VM operations new hire check-ins – required monthly ii. VM construction management development of a Vegetation Management Inspector (VMI) assessment yard with both field and desk review components iii. Periodic field visits of VMI from their PG&E leadership team or delegates Field Quality Control (FQC) Assessments i. Performs on-site knowledge assessments of VMI using a defined checklist applicable to specific VM work scopes ii. FQC scope required annual assessment of at least 90% of the eligible population WMP-Discovery 2026-2028_DR_OEIS_001-Q004 Page 2 iii. FQC scope included direct observation of VMI inspection work behaviors and adherence/non-adherence to applicable guidance documentation b. FQC performs on-site knowledge assessments of VMI using a standardized checklist. The VMI assessment yard will perform knowledge assessments of VMI using standardized testing methods. FQC performs on-site field observations of VMI. The existing Vegetation Operation Inspection (VOI) team and internal operations field leadership perform periodic field visits with VMI. c. For non-redundant aspects: i. FQC captures VMI adherence to applicable regulatory requirements and internal guidance documentation and publishes the results in a reporting space. QA/QC can be used as an analog for VMI performance by auditing the VMI work product. ii. N/A	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.11
15	OEIS	001	OEIS_001	5	No	OEIS_001_Q5	Regarding Vegetation Management Field Reviews On page 411 of its 2026-2028 WMP, PG&E describes its Vegetation Management Quality Control (VMQC) program. PG&E states that it "performs field reviews after VM Operations has completed their inspections and/or tree work to verify the applicable procedural scope has been met." a. Does PG&E's record keeping system distinguish between field reviews of inspections and field reviews of tree work? i. If yes, list the sample size for distribution (VM-22D) and transmission (VM-22T) of: A. Inspection quality control field reviews; B. Tree work quality control field reviews. ii. Explain why PG&E aggregates quality control of two activities, inspections and tree work, into one target (e.g., VM-22R in Table 9-6, page 410).	a. No; PG&E's VMQC program's record keeping system does not distinguish between field reviews of inspections and field reviews of tree work. i. N/A ii. PG&E aggregates quality control of two activities, inspections, and tree work, into one target because the VMQC assessment criteria allows both VM inspection and tree work activities to be evaluated to ensure procedural and regulatory compliance is met for the annual routine cycle.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.11
16	OEIS	001	OEIS_001	6	No	OEIS_001_Q6	Regarding Vegetation Management Work Orders On page 417 of its 2026-2028 Base WMP, PG&E lists past-due work orders in Table 9-7 and 9-8 and notes that "constrained units are excluded" from both tables. a. Provide Tables 9-7 and 9-8 including constrained work orders. b. List the number of past due work orders constrained by the followed categories: i. Biological and Cultural ii. Customer iii. Encroachment Permit iv. Environmental Permit v. Operational c. For Encroachment and Environmental Permit constraints, list the number of past due work orders by the permit needed to remedy the constraint	a. Please note, PG&E does not consider constrained units as past due. Please see table(s) below for a breakdown of constrained units by constrained category and HFTD Tier/Priority level.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.12
17	OEIS	001	OEIS_001	7	No	OEIS_001_Q7	Regarding Vegetation Management Training and Retention On pages 422-423 in its 2026-2028 Base WMP, PG&E describes "formal courses (instructor-led and web-based) and on-the-job training" in describing vegetation management personnel training. a. Describe how PG&E invests in the career advancement of its vegetation management personnel. b. Describe PG&E's efforts to retain vegetation management personnel.	a. PG&E invests in the career advancement of its vegetation management (VM) personnel by covering both time and cost of certifications including basic Arborist Certification and advanced qualifications like Tree Risk Assessment Qualified (TRAQ). PG&E also helps to streamline the certification process and aid personnel in their Arborist certification test preparation, by hosting weekly International Society of Arboriculture (ISA) Arborist Certification study group calls. For current Arborists, PG&E collaborates with the Western Chapter ISA to schedule dedicated TRAQ qualification training days, ensuring easy access to the course. b. PG&E has unionized the Vegetation Management Inspector (VMI) and Vegetation Operations Inspector (VOI) positions to enhance retention of VM personnel. This initiative has resulted in increased wages and established clear career paths for advancement.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.13
18	OEIS	001	OEIS_001	8	No	OEIS_001_Q8	Regarding PG&E-23B-18. Improving Vegetation Management Inspector Qualifications a. On page 590 of its 2026-2028 WMP, PG&E discusses how it will improve the qualifications and training of VM inspectors. PG&E writes that it has "implemented a process of profiling training courses within the VM organization based on personnel role and internal employee or contractor status." i. Describe the "profiling" process. ii. Define "profiling" in the context of "profiling training courses."	i. With the profiling process, Vegetation Management personnel are automatically assigned trainings based on their job titles. This process automatically adjusts training requirements when individuals are hired or change positions. ii. Profiling in the context of "Profiling Training Courses" is defined as linking specific trainings to job titles.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.13
19	OEIS	001	OEIS_001	9	No	OEIS_001_Q9	Regarding Distribution Routine Patrol Program On page 363, PG&E's WMP states "PG&E is in the process of evaluating which component(s) of the [Focused Tree Inspection (FTI)] and [Tree Removal Inventory (TRI)] scope will be incorporated into the Distribution Routine Patrol Program. This analysis will be based on findings from efficacy studies planned to be performed in 2025. PG&E will incorporate VMOM into activities described in [Activities Based on Weather Conditions]." a. Does PG&E have specific, measurable, achievable, relevant, and time-bound (SMART) targets for evaluating which component(s) of the FTI and TRI scope will be incorporated into the Distribution Routine Patrol Program, the efficacy study, and incorporating VMOM into Activities Based on Weather Conditions? i. If so, provide those SMART targets. ii. If not, explain why PG&E does not have SMART targets for its plan to consolidate its vegetation inspection programs for distribution circuits in the HFTD. b. Provide the procedures for these efficacy studies. c. When does PG&E expect to determine which components of the FTI and TRI scope will be incorporated into the Distribution Routine Patrol Program? d. When does PG&E expect its new Distribution Routine Patrol Program procedure that	On page 362, PG&E's WMP states "PG&E is in the process of evaluating which component(s) of the [Focused Tree Inspection (FTI)] and [Tree Removal Inventory (TRI)] scope will be incorporated into the Distribution Routine Patrol Program. This analysis will be based on findings from efficacy studies planned to be performed in 2025. PG&E will incorporate VMOM into activities described in [Activities Based on Weather Conditions]." a. Does PG&E have specific, measurable, achievable, relevant, and time-bound (SMART) targets for evaluating which component(s) of the FTI and TRI scope will be incorporated into the Distribution Routine Patrol Program, the efficacy study, and incorporating VMOM into Activities Based on Weather Conditions? i. If so, provide those SMART targets. ii. If not, explain why PG&E does not have SMART targets for its plan to consolidate its vegetation inspection programs for distribution circuits in the HFTD. b. Provide the procedures for these efficacy studies. c. When does PG&E expect to determine which components of the FTI and TRI scope will be incorporated into the Distribution Routine Patrol Program? d. When does PG&E expect its new Distribution Routine Patrol Program procedure that includes components of FTI and TRI will be effective (i.e., used by personnel in	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.2.1
20	OEIS	001	OEIS_001	10	No	OEIS_001_Q10	Regarding Pruning and Removal On page 377, PG&E's WMP states "PG&E is examining work prioritization categories beyond the P1, P2, and Routine designation." For this examination: a. Provide examination criteria. b. Provide descriptions of work prioritization categories under examination. c. Provide a description of the parts of the service territory these new designations will apply to including the reason these parts of the service territory would benefit from additional prioritization categories. d. Provide a schedule for and anticipated completion date of this examination. e. Provide an anticipated effective date of the new prioritization category scheme (i.e., when the prioritization scheme will be used by personnel in the field).	a. The examination criteria are based on the completion timelines associated with P1 P2, and Routine designations. If appropriate, additional work prioritization categories would be introduced. b. The current Work Prioritization categories are defined in Priority Tag Procedure TD 7102P-17. The current categories are under examination. Additional categories may be considered for creation. c. The consideration for a new work prioritization category could apply to any part of the service territory. A location of higher wildfire risk could have a higher work prioritization designation. d. This examination is a continuous improvement activity with no anticipated completion date at this time. We expect the examination through the end of 2025 to inform our 2026-2028 WMP activities. WMP-Discovery 2026-2028_DR_OEIS_001-Q010 Page 2 e. As the examination progresses, if PG&E determines to include any additional work prioritization categories, implementation of those additional categories will subsequently need to take into consideration the management of change to be utilized. We do not have an anticipated effective date of this time.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.3

21	OEIS	001	OEIS_001	11	No	OEIS_001_Q11	Regarding Enterprise System Qualitative Targets On pages 535-536 of its WMP, PG&E provides qualitative target ES-01. a. Provide the current data quality, profiling, and monitoring practices used for VM data. b. Provide the data quality, profiling, and monitoring practices planned for use under ES-01. c. List the datasets that have been identified as critical for VM execution.	a. Our current data quality, profiling, and monitoring practices occur in three phases • MANAGE o Define – develop dataset inventory o Own – identify owners for the critical dataset o Metadata – provide the information needed to use the data o Critical data elements – list the critical data elements to be managed. o Standards – define required data standards needed o Profile – analyze the critical data elements o Rules – define business rules to ensure the data meets quality requirements o Retain – determine retention timeline length for the dataset • MITIGATE o Test – build tests to measure quality data WMP-Discovery 2026-2028_DR_OEIS_001-Q011 Page 2 o Measure – identify data that fails quality standards o Control – identify control points in the process that need to be managed o Cleanse – conduct actions to remove or improve poor quality data o Monitor – ensure remediation actions complete and data maintains quality over time o Dispose – determine when and how to dispose of dataset records • MAINTAIN o Stability – ensure data maintains its quality over time o Maturity – update the process, the controls, and the data b. We will continue to apply the prior mentioned practices of MANAGE, MITIGATE, MAINTAIN against remaining unmanaged critical data sets. c. There are currently 28 critical datasets for VM execution. The number and specific datasets are subject to change as execution needs change. Please see list below: • Account • Asset • AssignedResource • Case • CrewCommand	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	12	Enterprise Systems	12.2
22	OEIS	001	OEIS_001	12	No	OEIS_001_Q12	Regarding PG&E-25U-08. Reinspection of Trees in Tree Removal Inventory On page 582 of its WMP, PG&E provides a response to PG&E-25U-08 indicating "In late 2024, PG&E began planning a pilot to re-evaluate trees listed for work within Shasta County." a. Provide pilot study procedure(s). b. Provide pilot schedule. c. Provide any study results.	a. There is no formalized procedure specific to this pilot. PG&E follows TD-7102P-01, Distribution Inspection Procedure and attachment 6 (Tree Removal Inventory program) process for a Level 2 inspection by a Tree Risk Assessment Qualified (TRAQ) -certified arborist. This process was followed for all Tree Assessment tool (TAT) Abate vegetation points with a record of "Yes" in the system of record within Shasta County. b. The field execution of the Pilot began in Quarter 4 of 2024 for Level 2 Inspections performed by a TRAQ-certified arborist and the subsequent Board-Certified Master Arborist review. • All Level 2 field inspections by TRAQ-certified arborists were completed in Q1 2025. • Any remaining Board-Certified Master Arborist reviews are expected to be completed in Q2 2025. Please note: Subsequent to the field collection of data, PG&E plans to analyze the results of the pilot and evaluate recommended next steps by Q4 2025. WMP-Discovery 2026-2028_DR_OEIS_001-Q012 Page 2 c. The study is pending completion and subsequent documentation. Documentation will be analyzed by Q4 2025 for recommendations. The recommendations resulting from the findings of the pilot are also dependent on continued feedback from internal and external stakeholders.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.2.1
23	OEIS	001	OEIS_001	13	No	OEIS_001_Q13	Regarding Wood and Slash Management Tracking Section 9.5.3 of PG&E's 2026-2028 WMP states that "Debris management is completed in coordination with tree work across PG&E's service area…Wood management that is conducted in response to a customer request is typically completed within 90 days of tree work project completion across PG&E's service area, unless affected by weather, field conditions, or other constraints" (p. 381). a. Does PG&E document and track the management of slash and woody debris that is a byproduct of VM work? i. If yes: A. Describe the documentation and record keeping methods used. B. List the data fields that are recorded as part of the wood and slash debris management tracking process. ii. If no, explain: A. How PG&E assures wood and slash management is completed in all VM treatment areas according to the Utility Standard, TD-7116S and Utility Procedure, TD-7116P-01. B. How PG&E plans to integrate wood and slash debris management tracking into internal procedures similar to tracking the completion of other VM orders.	a. No; PG&E does not track the management of slash and woody debris, vegetative material less than 4 inches in diameter. i. N/A WMP-Discovery 2026-2028_DR_OEIS_001-Q013 Page 2 ii. See below: A. There is no language in the Utility Standard, TD-7116S or the Utility Procedure, TD-7116P-01 requiring vegetation management (VM) crews to track the management of slash and woody debris. PG&E directs its VM crews to complete debris treatment in coordination with the tree work. This expectation is clearly defined in our contract specification, "Specific Conditions No. 5404 for Vegetation Management (VM) Tree Trimming and Brush Removal." When tree work is logged as complete in the database by VM crews, it implies that the crews have also completed the associated debris treatment. For reference, here is a screenshot of the contract language from Exhibit J, Page 67 of the "Specific Conditions No. 5404 for Vegetation Management (VM) Tree Trimming and Brush Removal.": B. PG&E has no plans to integrate wood and slash debris management	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.5
24	OEIS	001	OEIS_001	14	No	OEIS_001_Q14	Regarding Wood and Slash Management Impacts on Wildfire Risk PG&E-23B-16, Updating Wood Management Procedure, requires an updated Wood Management Procedure that "[c]onsiders the wildfire risk related to accumulated fuels generated by PG&E's vegetation management activities." On page 586 of its WMP, PG&E states that updates to Utility Standard, TD-7116S and Utility Procedure, TD-7116P-01 include "alignment to industry practices related to accumulated fuels generated by VM activities. a. Clarify what industry practices PG&E is referring to. b. Explain how wildfire risk related to accumulated fuels generated by PG&E's vegetation management activities is considered in Utility Standard, TD-7116S and Utility Procedure, TD-7116P-01.	a. The utility vegetation management industry is increasingly concerned about wood remaining from line clearance activities. In response to these concerns, we are aligning with industry practices which includes expanding wood management offerings to all customers and land managers upon request, within a defined scope and across all vegetation management programs. This alignment with industry best practices is documented in our response to question 15 specifically referencing prior and futured scheduled benchmarking activities with SDG&E, SCE and Liberty Utilities. b. In addition to expanding wood management offerings as described above, our Wood Management Procedure aligns with defensible space requirements and expectations outlined in the State of California Public Resources Code (PRC) Section 4291 and California Code of Regulation (CCR) Title 14 Section 1299.03. Our scope includes wood management within the following zones: • 100 feet of a human inhabitable structure, structure footprint, or campsite. WMP-Discovery 2026-2028_DR_OEIS_001-Q014 Page 2 • Vegetative material located within 15 feet of the access road to a human inhabitable structure, structure footprint, or campsite. • Vegetative material is located within 15 feet of an outbuilding or propane	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.5
25	OEIS	001	OEIS_001	15	No	OEIS_001_Q15	Regarding Wood and Slash Management Benchmarkin In response to PG&E-23B-16, Updating Wood Management Procedure, PG&E states that benchmarking meetings with SCE and SDG&E to discuss wood management began in 2023 (p. 586) and benchmarking is targeted to be complete by September 30, 2028 (p. 354). These discussions with SCE and SDG&E and a review of Liberty's procedure have "helped shape" the new Wood Management Standard and Procedure, though "absent a consistent approach across utilities, [PG&E] aligned and updated our Standard and Procedure to reflect the common ground of PRC 4291" (p. 586). Future benchmarking meeting topics are expected to include consideration of whether each utility's respective wood management policy meet the required progress defined in the area for continued improvement (p. 587). a. Explain why PG&E plans for the benchmarking effort spans over five years. b. Describe common and uncommon practices between PG&E, SCE, and Liberty that have been identified during the benchmarking effort, explain how each uncommon practice was determined to be included or excluded from PG&E's updated Utility Standard, TD-7116S and Utility Procedure, TD-7116P-01. c. Describe specific outcomes from the benchmarking effort and clarify how these outcomes relate to specific updates in the Utility Standard, TD-7116S and Utility Procedure, TD-7116P-01. d. Compare PG&E's past wood management procedure (prior to benchmarking) to the updated wood management procedure and describe how the updates to the procedure meet the required progress of PG&E-23B-16.	a. The utility vegetation management industry is increasingly concerned about wood remaining from line clearance activities. In response to these concerns, we are aligning with industry practices which includes expanding wood management offerings to all customers and land managers upon request, within a defined scope and across all vegetation management programs. This alignment with industry best practices is documented in our response to question 15 specifically referencing prior and futured scheduled benchmarking activities with SDG&E, SCE and Liberty Utilities. b. In addition to expanding wood management offerings as described above, our Wood Management Procedure aligns with defensible space requirements and expectations outlined in the State of California Public Resources Code (PRC) Section 4291 and California Code of Regulation (CCR) Title 14 Section 1299.03. Our scope includes wood management within the following zones: • 100 feet of a human inhabitable structure, structure footprint, or campsite. • Vegetative material located within 15 feet of the access road to a human inhabitable structure, structure footprint, or campsite. • Vegetative material is located within 15 feet of an outbuilding or propane	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.5
26	OEIS	001	OEIS_001	16	No	OEIS_001_Q16	Regarding Integrated Vegetation Management Reassessment and Treatment Timing In Section 9.7.3 IVM Scheduling, PG&E states that, "For TIVM, previously worked ROWs are reassessed every 2-5 years" (p. 386). The 2026-2028 WMP does not described how the need for retreatment of Transmission ROWs is determined. In contrast, PG&E's 2023-2025 WMP provided threshold triggers for retreatment of vegetation, including "incompatible vegetation exceeding 3 ft. in height and/or when incompatible vegetation is greater than 50 percent ground coverage within the ROW" (p. 695). a. Describe the rationale conducting reassessment inspection on a 2-5 year cycle and clarify what factors (e.g. species, growth rates, percent cover, height) were used to define this timeframe. b. Clarify the threshold triggers PG&E will use to determine the need for retreatment of vegetation in transmission ROWs during the 2026-2028 WMP cycle.	a. Historically, the rationale for a 2 or 5-year cycle of reassessment was due to it being known that incompatible vegetation will regrow within that timeframe. With the availability of LiDAR data, vegetation height and density conditions are analyzed each year. This data also allows for year-over-year growth analysis by span. The vegetation conditions are then used for work plan development using the inputs described below. As stated in the 2026-2028 WMP, PG&E schedules Transmission IVM (TIVM) ROW maintenance based on outputs of the work plan development described in the program overview (see 9.7.1 pp. 384). WMP-Discovery 2026-2028_DR_OEIS_001-Q016 Page 2 b. The quantity of TIVM work varies by year and is dependent on the resources available. PG&E considers the following inputs to determine the need for retreatment of vegetation in transmission ROWs during work plan development: • The year in which previous ROW expansion/ROW clearing project work was completed. Follow-up IVM maintenance is then typically targeted to occur within 1-5 years. • How many previous years of IVM maintenance have occurred on a line and when the last cycle of maintenance occurred. Follow-up IVM maintenance is then typically recommended to occur within 1-3, 3-5, or 5-7 years depending on other factors below. • Vegetation height and density (% cover of size classes at 6-12 feet, at 5-6 feet, and at 3-4 feet) • HFTD/HFRA Tiers and circuit mileage length	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	9	Vegetation Management & Inspections	9.7.2
27	OEIS	001	OEIS_001	17	No	OEIS_001_Q17	Regarding Covered Conductor, Line Removal and Microgrid On page 180 of its 2026-2028 Base WMP, PG&E states "[PG&E's System Hardening GH-12] initiative includes overhead hardening mitigations, specifically covered conductor installation and line removal, including remote grids." a. Provide separate targets for the following initiatives in the same table format as Table 8-1. i. Covered Conductor ii. Line Removal iii. Microgrids	PG&E does not set separate targets for the initiatives that are included in GH-12. We have provided estimates based on the 2026-2028 workplan and these estimates may differ from the total miles completed each year. For clarity, microgrid information is not provided because those are not part of the Overhead and Line Removal – Distribution Initiative (GH-12) initiative. Instead, remote grid enables the removal of lines and is included in the line removal activity. See attachment "WMP-Discovery2026-2028_DR_OEIS_001-Q017Atch01.xlsx" with the estimates by initiative requested in Table 8-1 format.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	1	No	8	Grid Design, Operations, and Maintenance	8.2.1/8.2.9/8.2.7
28	OEIS	001	OEIS_001	18	No	OEIS_001_Q18	Regarding idle transmission power lines a. How many circuit miles of idle transmission lines does PG&E have in the HFTD and HFRA? b. Do any of these idle transmission lines run parallel, and in close proximity to energized transmission lines? c. Are any of these idle transmission lines planned for removal in 2026 to 2028? A. If yes, provide targets for 2026, 2027, and 2028. B. If no, explain: 1. Explain why removal is not planned. 2. Explain if any of these lines could become energized through induction.	a. PG&E has three idle transmission lines totaling 2.25 miles in HF TD and HFRA b. One of these lines runs parallel and close to energized Distribution lines outside of HFTD and HFRA. c. i. No ii. N/A B. 1. PG&E plans to remove two of the three lines in 2025. The third line is not planned for removal at this time but is being evaluated for the optimal induction mitigation solution. 2. Only one of the three lines has sections that could become energized through induction. These sections are outside of HFTD and HFRA, and PG&E is evaluating induction mitigation WMP-Discovery 2026-2028_DR_OEIS_001-Q018 Page 2 options to reduce the risk of the line becoming energized through induction.	Nathan Poon	4/8/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.9.1

29	OEIS	001	OEIS_001	19	No	OEIS_001_Q19	Regarding CC and Undergrounding in Fire Rebuild Areas On page 186 of its WMP, PG&E states, "PG&E often refers to areas that have been impacted directly by wildfires within an HFTD as "Fire Rebuild" work. Work in areas impacted by wildfires outside of an HFTD area is referred to as "Community Rebuild" work." Provide the targets for the "Overhead Hardening and Line Removal - Distribution (GH-12)" and "System Hardening - Undergrounding (GH-04)" activities for 2026 to 2028 which are designated as "Fire Rebuild" or "Community Rebuild." Provide your response in the table below.	PG&E has not set separate targets for activities designated as "Fire Rebuild" or "Community Rebuild." These workstreams are emergent and are rebuild, as needed, in response to fire incidents. Currently, 10 miles of Community Rebuild work are forecasted in 2026 in the System Hardening - Undergrounding Initiative GH-04. We do not have any additional forecasts for Fire or Community Rebuild. See the table below for the requested information: WMP-Discovery 2026-2028_DR_OEIS_001-Q019 Page 2 2026 2027 2028 "Fire Rebuild" "Community Rebuild" "Fire Rebuild" "Community Rebuild" "Fire Rebuild" "Community Rebuild" Overhead Hardening and Line Removal - Distribution (GH-12) Targets N/A N/A N/A N/A N/A N/A System Hardening - Undergrounding (GH-04) activity Targets	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.1/8.2.2
30	OEIS	001	OEIS_001	20	No	OEIS_001_Q20	Regarding the CBR Calculation in Area for Continuous Improvement PG&E-25U-04 In response to Area for Continuous Improvement PG&E-25U-04, PG&E discusses the methodology used for its CBR calculation on page 572. The discussion does not include how PG&E calculated the "eyes-on-risk" achieved by a detailed aerial inspection vs. and aerial scan inspection. a. Does PG&E assume that an aerial scan achieves the same eyes-on-risk as a detailed aerial inspection? If yes, discuss how PG&E determined an aerial scan achieves the same eyes-on-risk as a detailed aerial inspection. This discussion must include a description of differences in the process and execution of aerial scans vs. aerial detailed inspections (i.e. photograph locations, equipment required to be photographed, photograph quantity per inspection, photograph clarity requirements, reviewer inspection checklists, etc.) b. If no, provide the following calculations: A. The eyes-on-risk of a detailed aerial inspection on an asset in an area of extreme consequence and extreme wildfire risk. 1. The eyes on risk of an aerial scan inspection on the same asset. B. The eyes-on-risk of a detailed aerial inspection on an asset in an area of severe consequence and severe wildfire risk. 1. The eyes on risk of an aerial scan inspection on the same asset. C. The eyes-on-risk of a detailed aerial inspection on an asset in an area of high consequence and high wildfire risk. 1. The eyes on risk of an aerial scan inspection on the same asset.	a. Yes, PG&E assumes that an aerial scan achieves the same eyes-on-risk as a detailed aerial inspection. i. The primary objective of inspections is to identify various conditions requiring corrective actions. Some of the corrective actions must be addressed in the short term while others have a longer time duration depending on the observed condition and location in the HFTD, in accordance to GO 95, Rule 18. PG&E's eyes-on-risk metric associated with inspections is meant to capture the ability of an activity to detect conditions that could fail in the short-term. These are conditions that are associated with Level 1 findings and urgent Level 2 findings, which correspond to PG&E's A, B, and X tags. These are the tag conditions that are addressed expeditiously immediately for an A tag, within seven days for an X tag, and within a six month time frame for a B tag. Since PG&E's aerial scans will identify A, B, and X conditions, it achieves the same eyes-on-risk as a detailed ground or aerial inspection. b. Not applicable, please see the response to subpart (a) above.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	ACI PG&E-25U-04	ACI PG&E-25U-04	ACI PG&E-25U-04
31	OEIS	001	OEIS_001	21	No	OEIS_001_Q21	Regarding Aerial Scan Inspections On page 236 of its 2026-2028 Base WMP, PG&E states that aerial scan inspections will be implemented to get additional eyes-on-risk in the riskiest areas. PG&E states that the inspection will consist of a review of a "streamlined set of photos…tailored to enable the identification of the conditions…that post the highest wildfire risk." a. Provide a comprehensive list of the differences between aerial scan and aerial distribution detailed inspections (i.e. the number of photographs taken, the equipment photographed, the distance from camera to equipment being photographed, the number of photographs being reviewed, items on the reviewer's inspection checklist, etc.). Provide documentation that supports this list of differences (job aids, inspection checklists, etc.)	The difference between the inspections is that, while the detailed inspection will identify all compelling abnormal conditions on the structure, the scan inspection will focus on emergency and urgent conditions, corresponding to A, B, and X tag priorities. PG&E is piloting the aerial scan inspection this year, utilizing different methodologies and shot sheets with the goal of selecting the best methodology with which to implement the inspection for 2026. Therefore, we cannot provide a fully detailed list of the differences between the two programs since the aerial scans have not yet been finalized. However, as described in PG&E's 2026-2028 WMP, the scan inspection will consist of a review of a streamlined set of photos that have been tailored to enable identification of the conditions on the structure and equipment that pose the highest wildfire risk, including the mid-span conductor. While the aerial scans will be a more abbreviated assessment, they will have the ability to assess and identify the conditions that can lead to failure in the short term.	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	8	Grid Design, Operations, and Maintenance	8.3.8/8.3.14
32	OEIS	001	OEIS_001	22	No	OEIS_001_Q22	Regarding Real Time Sensors On page 237 of its 2026-2028 Base WMP, PG&E states that it is piloting real time sensors that may collect data that in the future can be used in lieu of aerial scan inspections. a. Provide a list of sensors that are being/will be piloted from 2026-2028. b. For each sensor provide the following information i. Manufacturer ii. Model number/series iii. Data the sensor records/transmits (voltage, current, power quality, temperature, vibration, etc.) iv. Current phase of pilot (planning, execution, evaluation, scaling) v. Estimated completion date of pilot evaluation phase	PG&E is still early in exploring the relationship between grid sensors' continuous monitoring capabilities and how they may be used to supplement electrical asset inspections. Information on our current distribution grid sensor technologies follows below. a. During the 2026-2028 period, we anticipate scaling deployment of Early Fault Detection (EFD) sensors, Distribution Fault Anticipator (DFA) sensors, and Gridscope sensors. b. Please see below for the requested information on sensor technology. As these sensors are beyond pilot phase, we are also providing the approximate number of sensors we have installed to date. WMP-Discovery 2026-2028_DR_OEIS_001-Q022 Page 2 Sensor EFD DFA Gridscope Manufacturer IND Technologies Power Solutions / Texas A&M University Gridware Approximate Number Installed 203 96 10,000 Model Number / Series EFD G4; EFD Tag RSA1-0 Gridscope Data the sensor records/transmits (voltage, current, power quality, temperature, vibration, etc.) Radio frequency detections	Nathan Poon	4/8/2025	4/11/2025	4/11/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	10	Situational Awareness and Forecasting	10.4/10.31
33	OEIS	001	OEIS_001	23	No	OEIS_001_Q23	Regarding Projected Risk Reduction On page 147 of the 2026-2028 Base WMP, PG&E provides Figure 6-1: Projected Overall Service Territory Risk, showing the residual risk over time with resiliency mitigations and operational mitigations. a. Provide similar versions of this figure showing the associated projected risk reduction for wildfire risk, PSPS risk, and PEDS risk over time. b. From 2025 to 2028, PG&E shows a projected reduction in overall utility risk of approximately nine percent when only accounting for resiliency mitigations, but only a reduction of approximately one percent when accounting for operational mitigations and resiliency mitigations together. i. Provide the actual projected residual risk percentages broken out by year from 2025 to 2028 for both only resiliency mitigations as well as resiliency and operational mitigations. ii. Explain why there is nominal residual risk reduction when incorporating operational mitigation.	a. The following figures show the projected wildfire risk reduced 2023 – 2033 with and without operational mitigations, the projected PSPS risk reduced 2023 – 2033, and the projected EPSS risk reduced 2023 – 2033.	Nathan Poon	4/8/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	6	Wildfire Mitigation Strategy Development	6.2.1.1
34	OEIS	001	OEIS_001	24	No	OEIS_001_Q24	Regarding Extreme Weather Condition a. On page 87 of the 2026-2028 Base WMP, relating to vegetation, PG&E states that "For WFC, a set of worst weather days during historical fire seasons is used to develop fire simulations of potential ignitions given current fuel conditions." i. What timeframe is used for evaluating historical fire seasons? ii. How does PG&E define "worst weather days"? iii. How many "worst weather days" are included within the set used for WFC? iv. Does PG&E use the same definition of "worst weather days" for weather and wind scenarios? If not, provide those definitions and the number of "worst weather days" within each set. b. On page 90 of the 2026-2028 Base WMP, PG&E states that it "seeks to incorporate the potential impacts of more extreme conditions in future models." i. When does PG&E anticipate completing this evaluation? ii. Which future model is PG&E planning on- first incorporating these more extreme conditions? iii. When does PG&E anticipate operationalizing this model? iv. Is Figure PG&E-5.3.2-1 (p.90) exhaustive of the various extreme risks being studied? If not, provide a list of considerations currently being studied by PG&E. v. PG&E's 2023-2025 WMP included Table 6-4: Example of Extreme Event Scenarios Under Consideration (p. 193), which was not included in PG&E's 2026-2028 WMP. Provide a similar table showing the extreme event scenarios currently under consideration. c. On page 88 of the 2026-2028 Base WMP, Table-5-2: Summary of Design Scenarios, PG&E lists the scenarios used for its various models. Provide a detailed description of how the design scenarios Wind Load 3, Wind Load 4, and Vegetation 3 align and/or differ with extreme weather scenarios, as discussed in Section 5.3.2 Extreme-Event/High Uncertainty Scenarios. d. On page 46 of the 2026-2028 Base WMP, PG&E states that "in terms of risk modeling, this strategy entails paying special attention to tail risk—the low frequency, high consequence events" when discussing Cost-Benefit Analysis. Provide a detailed description of how the evaluation of these low frequency, high consequence events align and/or differ with extreme weather scenarios, as discussed in Section 5.3.2 Extreme-Event/High Uncertainty Scenarios. e. PG&E references fragility curves, shown in Figure PG&E-5.2.2.1-1, capturing Wind Load 1, 2, 3, and 4 conditions for its WTRM Planning Model. i. Provide a detailed description of how PG&E is evaluating the use of fragility curves to perform similar risk analysis for its distribution-level models.	a. i. The months of June through November, inclusive, constitute the Fire season. ii. The Worst Weather Days are determined by the PG&E Meteorology team based on historical red flag warnings, PG&E's Fire Potential Index, historical Diablo wind event days and historical catastrophic fires. The final list of days is reviewed and curated by the meteorology team. iii. PG&E includes 571 worst weather days from March 2003 to Dec 2020. iv. See response ii. b. i. The current suite of Wildfire Risk models (Wildfire Consequence, WDRM and WTRM) are used for long term planning wildfire mitigation strategies, which incorporate the full range of wildfire risk scenarios through the whole year. In parallel, PG&E is evaluating potential methodologies that can quantify the risk of urban conflagration type scenarios that are more likely to occur under extreme weather and fuel conditions. We anticipate completing the evaluation by Q2 2026. ii. If the methodologies to quantify urban conflagration type scenarios are found to be useful and approved for use, they will be incorporated in v5 of the wildfire consequence model. iii. The date of operationalization will depend on the model approval by PG&E's internal Wildfire Risk Governance Steering Committee and consultations with the Asset Strategy teams. WMP-Discovery 2026-2028_DR_OEIS_001-Q024 Page 3 iv. PG&E is currently evaluating methodologies that quantify urban conflagration type scenarios that become more likely in extreme conditions. v. PG&E is currently evaluating methodologies that quantify urban conflagration type scenarios that become more likely in extreme conditions. The factors under consideration include structure density, terrain, wind speeds, distance from wildland urban interface and PG&E electrical assets. c. Please refer to pages 86 and 87 of 2026-2028 Base WMP that describes how the various risk models incorporate the weather, wind and vegetation scenarios as	Nathan Poon	4/8/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	5	Risk Methodology & Assessment	5.3
35	OEIS	001	OEIS_001	25	No	OEIS_001_Q25	Regarding Suppression and Egress Impacts On page 56 of the 2026-2028 Base WMP, PG&E provides Figure PG&E-5.2.1-1: WFC v4 Components, which shows consequence value adjustment steps for suppression access and egress. a. Provide a detailed description of how the inclusion of suppression access impacts the overall WFC v4 base risk scores. Provide the percent change to the overall risk score when suppression access is incorporated, as well as a description of the impact to the ranking of highest risk circuits based on wildfire risk scores. b. Provide a detailed description of how the inclusion of egress impacts the overall WFC v4 base risk scores. Provide the percent change to the overall risk score when egress is incorporated, as well as a description of the impact to the ranking of highest risk circuits based on wildfire risk scores. c. PG&E shows TDI (terrain difficulty index) listed as the impacting value under suppression access. What other values, if any, are included to quantify the impact of suppression access? d. PG&E shows AFN (access/function needs) listed as the impacting value under egress. What other values, if any, are included to quantify the impact of egress? e. How has PG&E validated and verified the impact of including suppression access and egress into its WDRM? Provide any results of such validation, including a description	a. Egress and suppression were incorporated into the WF consequence model in response to the PG&E's 2023-2025 WMP commitment. The current approach only generates the total WF consequence and WF risk values used by asset WMP-Discovery 2026-2028_DR_OEIS_001-Q025 Page 2 management teams. Suppression and egress consequence/risk values are not generated distinctly from the total consequence/risk values. b. See response (a) c. Please refer to the Wildfire Consequence model v4 documentation, Sections 4.1 and 4.3 for details on suppression modeling. d. Please refer to the Wildfire Consequence model v4 documentation, Sections 4.2 and 4.3 for details on egress modeling. e. The overall WF Consequence model v4 with egress and suppression incorporated was validated against historical fire outcomes.	Nathan Poon	4/8/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	5	Risk Methodology & Assessment	5.2.1

36	OEIS	001	OEIS_001	26	No	OEIS_001_Q26	Regarding Community Vulnerability In its 2023-2025 Base WMP (R8), PG&E provides the following key milestone as part of its risk assessment improvement plan, in Table 6-7 on page 221: "By the end of 2023, evaluate an approach to incorporate community vulnerability attributes (AFN, Economic disadvantaged zones, Critical Facilities) into the WFC Model a. What were PG&E's results of this evaluation? b. PG&E discusses inclusion of vulnerable customer populations as part of its PSPS risk components (page 57 of the 2026-2028 Base WMP) and through the critical customer weightings (Table PG&E-5.2.2.2-2, page 69 of the 2026-2028 Base WMP). Describe how these relate to the evaluation discussed in the key milestone identified in the 2023-2025 Base WMP. c. PG&E states that public egress impact considers vulnerability on page 67 of the 2026-2028 Base WMP. Describe how this relates to the evaluation discussed in the key milestone identified in the 2023-2025 Base WMP. d. Provide a description of how PG&E integrated community vulnerability considerations into its wildfire and PSPS consequence models? e. If PG&E is still undergoing this evaluation, what is PG&E's timeline for integration into future models?	a. As a result of this evaluation, PG&E incorporated limited data of age as a proxy for AFN as one measure of community vulnerability in the egress component of the WF consequence model v4. b. The same evaluation from the 2023-2025 Base WMP for critical customer weighting is applied to 2026-2026 Base WMP. PG&E uses customer weightings in its PSPS evaluation to acknowledge certain customers are more vulnerable and are at elevated WMP-Discovery 2026-2028_DR_OEIS_001-Q026 Page 2 risks to sustained outages. A customer type system was selected to support risk prioritization of work for those critical customers and circuits that can be impacted by PSPS events. c. Please refer to section 2.4.3 on Public Egress Impact Model in the Wildfire consequence v4 model documentation how AFN was incorporated as one measure of community vulnerability. d. Please refer to section 2.4.3 on Public Egress Impact Model in the Wildfire consequence v4 model documentation for how AFN was incorporated as one measure of community vulnerability in the wildfire consequence model. For PSPS Consequence model, please refer to response b. e. PG&E has incorporated AFN as one measure of community vulnerability in the wildfire consequence model. Research and collaboration with other IOUs is ongoing to identify other areas where community vulnerability can be quantified and	Nathan Poon	4/8/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	11	Emergency Preparedness, Collaboration, and Public Awareness	11.3.2/11.3.3
37	OEIS	001	OEIS_001	27	No	OEIS_001_Q27	Regarding Independent Review a. Provide a copy of the E3 Review of PG&E's Wildfire Risk Model Version 4, as referenced on page 105 of the 2026-2028 Base WMP. b. Provide PG&E's plan and timeline to address the two areas for improvement listed on page 105 from that report.	a. Please see "WMP-Discovery2026-2028_DR_OEIS_001-Q027Atch01.pdf' for the E3 review of PG&E's Wildfire Risk Model Version 4. b. PG&E is currently evaluating methods to incorporate temporal inputs into the vegetation Event Probability Models. PG&E has also initiated discussions on how to improve the probability of ignition model. PG&E plans to release the enhancements with the WDRM v5 model anticipated for release with the next WMP submission	Nathan Poon	4/8/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	1	No	5	Risk Methodology & Assessment	5.6.1/5.6.2
38	OEIS	001	OEIS_001	28	No	OEIS_001_Q28	Regarding PG&E's Wildfire Transmission Risk Model (WTRM) a. In Table 5-1: Risk Modeling Assumptions and Limitations, page 79 of the 2026-2028 Base WMP, PG&E states that it identified 47 components divided into nine asset groups. i. Provide a list of these 47 components and associated asset groupings for each component. ii. Figure PG&E-5.2-3: Wildfire Transmission Risk Analysis Framework only shows eight probability models relating to assets. How do these eight models relate to the nine asset groups? iii. What asset types, if any, are not captured through this analysis and grouping? How is PG&E working to evaluate the risk associated with these other asset types?	a. i. The table below lists the 47 components and associated asset group. "Component" refers to the individual component whose failure could result in an ignition, and "Group" is the component grouping for the TCM. There are 9 component groupings: (1) conductors, (2) insulators, (3) non-steel structures (NSS), (4) steel structures (SS), (5) foundations, (6) switches, (7) above grade hardware (AGH), (8) below grade hardware (BGH), and (9) splices. ii. The ninth asset group that is missing from Figure 5.2-3 is the switches. A deterministic approach was chosen for the transmission switch asset group rather than predictive modeling through the WTRM. The deterministic model utilizes asset data (age, manufacturer, type, location, etc.), manufacturers' recommendations, industry best practices and inspection results to prioritize controls and mitigations. This approach is typically considered for components with small populations or limited deployment, which applies to transmission switches (approximately 2,000 installed in the system). iii. Individual components whose failure could result in an ignition are captured in this analysis and grouping. Risk associated with switches are evaluated as	Nathan Poon	4/8/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_001.zip	0	No	5	Risk Methodology & Assessment	5.2/5.5
39	MGRA	002	MGRA_002	1	No	MGRA_002_Q1	Weather station metadata valid as of Q4 of 2024.	In response to this request, PG&E is providing the Weather Station Feature Class as delivered in the 4Q 2024 OEIS GIS Data Standard Submission. Please see the file "WMP-Discovery2026-2028_DR_MGRA_002-Q001Atch01.xlsx."	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	1	No	N/A	GIS	N/A
39	MGRA	002	MGRA_002	1(s)	Yes	MGRA_002_Q1(s)	Weather station metadata valid as of Q4 of 2024.	Please see "WMP-Discovery2026-2028_DR_MGRA_002-Q001Supp01Atch01.xlsx" in which PG&E has included requested lat/long information.	Joseph Mitchell	4/11/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	1	No	N/A	GIS	N/A
40	MGRA	002	MGRA_002	2	No	MGRA_002_Q2	PSPS event damage event reports obtained from post-event patrols, including cause for all quarters of 2024.	In response to this request, PG&E is providing non-confidential data for the PSPS Event Damage Feature Classes, as delivered in 2024. Please note that PG&E did not have PSPS events during each quarter nor is every table applicable for relevant damages. For example, there were no support structure or other asset damages, so there are no data to report in the PspsEventSupportStructureDamageDetail or PspsEventOtherAssetDamageDetail to report. Attached, please see the responsive files and associated explanations for when PG&E had relevant data to report each quarter for 2024. • "WMP-Discovery2026-2028_DR_MGRA_002-Q002Atch01.xlsx" o PG&E only provided data in this Feature Class for 4Q 2024. • "WMP-Discovery2026-2028_DR_MGRA_002-Q002Atch02.xlsx" o PG&E only provided data in this Feature Class for 4Q 2024.	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	2	No	N/A	GIS	N/A
40	MGRA	002	MGRA_002	2(s)	Yes	MGRA_002_Q2(s)	PSPS event damage event reports obtained from post-event patrols, including cause for all quarters of 2024.	Please see the attachments listed below in which PG&E has included the requested lat/long information. Please note that a third file responsive to this question was inadvertently omitted from our initial response and is included here. • "WMP-Discovery2026-2028_DR_MGRA_002-Q002Supp01Atch01.xlsx" • "WMP-Discovery2026-2028_DR_MGRA_002-Q002Supp01Atch02.xlsx" • "WMP-Discovery2026-2028_DR_MGRA_002-Q002Supp01Atch03.xlsx	Joseph Mitchell	4/11/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	3	No	N/A	GIS	N/A
41	MGRA	002	MGRA_002	3	No	MGRA_002_Q3	Unplanned outage data, including cause for all four quarters of 2023 and 2024. a. If possible should include whether the outage occurred on a covered conductor segment	In response to this request, PG&E is providing non-confidential data for the Unplanned Outage Feature Class for all 8 quarters requested from 2023 and 2024, as delivered in the OEIS GIS Data Standard Submissions for each quarter. Please see "WMP Discovery2026-2028_DR_MGRA_002-Q003Atch01.xlsx." a. The provided Feature Classes are not structured to include data on covered conductor segmentation, and thus PG&E is presently unable to provide this requested data. When the non-confidential GDBs are created, as requested by MGRA in MGRA-PGE-WMP26_DataRequest1, MGRA will be able to identify line classifications and make spatial inferences through the Primary Distribution Line feature class.	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	1	No	N/A	GIS	N/A
41	MGRA	002	MGRA_002	3(s)	Yes	MGRA_002_Q3(s)	Unplanned outage data, including cause for all four quarters of 2023 and 2024. a. If possible should include whether the outage occurred on a covered conductor segment	Please see "WMP-Discovery2026-2028_DR_MGRA_002-Q003Supp01Atch01.xlsx", in which PG&E has included the requested lat/long information.	Joseph Mitchell	4/11/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	1	No	N/A	GIS	N/A
42	MGRA	002	MGRA_002	4	No	MGRA_002_Q4	Wire down data for all four quarters of 2023 and 2024. Include cause and any associated outage identifier. a. If possible should include whether the outage occurred on a covered conductor segment	In response to this request, PG&E is providing non-confidential data for the Wire Down Feature Class, as delivered in the 8 quarters requested in 2023 and 2024. Please see the file "WMP-Discovery2026-2028_DR_MGRA_002-Q004Atch01.xlsx". a. The provided Feature Classes are not structured to include data on covered conductor segmentation, and thus PG&E is presently unable to provide this requested data. When the non-confidential GDBs are created, as requested by MGRA in MGRA-PGE-WMP26_DataRequest1, MGRA will be able to identify line classifications and make spatial inferences through the Primary Distribution Line feature class.	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	1	No	N/A	GIS	N/A
42	MGRA	002	MGRA_002	4(s)	Yes	MGRA_002_Q4(s)	Wire down data for all four quarters of 2023 and 2024. Include cause and any associated outage identifier. a. If possible should include whether the outage occurred on a covered conductor segment	Please see "WMP-Discovery2026-2028_DR_MGRA_002-Q004Supp01Atch01.xlsx", in which PG&E has included the requested lat/long information.	Joseph Mitchell	4/11/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	1	No	N/A	GIS	N/A
43	MGRA	002	MGRA_002	5	No	MGRA_002_Q5	Ignition data for all four quarters of 2023 and 2024. a. Should include cause and any associated outage identifier. b. If possible should include whether the ignition occurred on a covered conductor segment	In response to this request, PG&E is providing non-confidential data for the Ignition Feature Class, as delivered in the 8 quarters requested in 2023 and 2024. Please see "WMP-Discovery2026-2028_DR_MGRA_002-Q005Atch01.xlsx" a. The provided Feature Classes include the columns SuspectedInitiatedCause and OutageID which are responsive to this question. b. The provided Feature Classes are not structured to include data on covered conductor segmentation, and thus PG&E is presently unable to provide this requested data. When the non-confidential GDBs are created, as requested by MGRA in MGRA-PGE-WMP26_DataRequest1, MGRA will be able to identify line classifications and make spatial inferences through the Primary Distribution Line feature class.	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	1	No	N/A	GIS	N/A
43	MGRA	002	MGRA_002	5(s)	Yes	MGRA_002_Q5(s)	Ignition data for all four quarters of 2023 and 2024. a. Should include cause and any associated outage identifier. b. If possible should include whether the ignition occurred on a covered conductor segment	Please see "WMP-Discovery2026-2028_DR_MGRA_002-Q005Supp01Atch01.xlsx", in which PG&E has included the requested lat/long information.	Joseph Mitchell	4/11/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_002.zip	1	No	N/A	GIS	N/A
44	MGRA	003	MGRA_003	1	No	MGRA_003_Q1	Please provide an excel spreadsheet table that provides for 2021, 2022, 2023, and 2024: a. Number of miles of fully covered conductor circuit segments in the HFTD+HFRA; b. Number of miles of fully "bare wire" conductor circuit segments in the HFTD+HFRA; c. Number of wires down for associated with a covered conductor circuit segment in the HFTD+HFRA; d. Number of wires down associated with a "bare wire" conductor circuit segments in the HFTD+HFRA; e. Number reportable ignitions for fully covered conductor circuit segments in the HFTD+HFRA; f. Number reportable ignitions for fully "bare wire" conductor circuit segments in the HFTD+HFRA; g. For ignitions on partially covered circuit segments in the HFTD+HFRA, or ignitions with uncertain origin, sum these into the "fully covered" or "bare wire" groups based on the most prevalent circuit configuration in the area of ignition. h. Number of outages attributable to infrastructure on fully "bare wire" conductor circuit segments in the HFTD+HFRA; i. Number of outages attributable to infrastructure on fully covered conductor circuit segments in the HFRA; j. For outages on partially covered circuit segments in the HFTD+HFRA, or outages with uncertain locations, sum these into the "fully covered" or "bare wire" groups based on the most prevalent circuit configuration in the area of the outage.	a. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Atch01.xlsx." Please note that the data provided reflects asset status as included in our Q4 spatial data deliveries to the Office of Energy Safety for each of 2021-2024. Please note that PG&E has applied HFTD and HFRA filters based on current, not historical, definitions of HFTD and HFRA. b. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Atch01.xlsx." Please note that the data provided reflects asset status as included in our Q4 spatial data deliveries to the Office of Energy Safety for each of 2021-2024. Please note that PG&E has applied HFTD and HFRA filters based on current, not historical, definitions of HFTD and HFRA. c. Please note that the data provided is drawn from PG&E's Integrated Logging Information System ("ILIS"). The reporting structure for ILIS does not give single outage details for specific events, and wire down metrics may be over-reported as a result. ILIS records do not capture the type of wire, so PG&E is not able to differentiate between covered or bare conductor. In addition, ILIS does not capture HFRA locations, so the volume reported is limited to HFTD only. As a result of these limitations, PG&E is providing the total volume of wire down events in HFTDs in Part D for 2021, 2022, 2023 and 2024. d. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Atch01.xlsx." Please note that the data provided is drawn from PG&E's Integrated Logging Information System ("ILIS"). The reporting structure for ILIS does not give single outage details for specific events, and wire down metrics may be over-reported as a result. ILIS records do not capture the type of wire, so PG&E is not able to differentiate between covered or bare conductor. In addition, ILIS does not capture HFRA locations, so the volume reported is limited to HFTD only. As a result of these limitations, PG&E is providing the total volume of wire down events in HFTDs in Part D for 2021, 2022, 2023 and 2024. e. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Atch01.xlsx." f. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Atch01.xlsx." g. PG&E's ignition tracking does not allow it to identify "partially covered circuit segments," and all ignitions have a designated origin. No ignitions were summer	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	1	No	8	Grid Design, Operations, and Maintenance	8.4.4/8.2.10

44	MGRA	003	MGRA_003	1(a)	Yes	MGRA_003_Q1(a)	Please provide an excel spreadsheet table that provides for 2021, 2022, 2023, and 2024: a. Number of miles of fully covered conductor circuit segments in the HFTD+HFRA; b. Number of miles of fully "bare wire" conductor circuit segments in the HFTD+HFRA; c. Number of wires down for associated with a covered conductor circuit segment in the HFTD+HFRA; d. Number of wires down associated with a "bare wire" conductor circuit segments in the HFTD+HFRA; e. Number reportable ignitions for fully covered conductor circuit segments in the HFTD+HFRA; f. Number reportable ignitions for fully "bare wire" conductor circuit segments in the HFTD+HFRA; g. For ignitions on partially covered circuit segments in the HFTD+HFRA, or ignitions with uncertain origin, sum these into the "fully covered" or "bare wire" groups based on the most prevalent circuit configuration in the area of ignition. h. Number of outages attributable to infrastructure on fully "bare wire" conductor circuit segments in the HFTD+HFRA; i. Number of outages attributable to infrastructure on fully covered conductor circuit segments in the HFRA; j. For outages on partially covered circuit segments in the HFTD+HFRA, or outages with uncertain locations, sum these into the "fully covered" or "bare wire" groups based on the most prevalent circuit configuration in the area of the outage.	a. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Atch01.xlsx" for the requested information. Please note that the data provided reflects asset status as included in our Q4 spatial data deliveries to the Office of Energy Safety for each year from 2021-2024. Please note that PG&E has applied HFTD and HFRA filters based on current, not historical, definitions of HFTD and HFRA. b. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Atch01.xlsx" for the requested information. Please note that the data provided reflects asset status as included in our Q4 spatial data deliveries to the Office of Energy Infrastructure Safety for each year from 2021-2024. Please note that PG&E has applied HFTD and HFRA filters based on current, not historical, definitions of HFTD and HFRA. c. Please note that the data provided is drawn from PG&E's Integrated Logging Information System ("ILIS"). The reporting structure for ILIS does not give single outage details for specific events, and wire down metrics may be over-reported as a result. ILIS records do not capture the type of wire, so PG&E is not able to differentiate between covered or bare conductor. In addition, ILIS does not capture HFRA locations, so the volume reported is limited to HFTD only. As a result of these limitations, PG&E is providing the total volume of wire down events in HFTDs in Part D for 2021, 2022, 2023 and 2024. d. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Atch01.xlsx" for the requested information. Please note that the data provided is drawn from PG&E's Integrated Logging Information System ("ILIS"). The reporting structure for ILIS does not give single outage details for specific events, and wire down metrics may be over-reported as a result. ILIS records do not capture the type of wire, so PG&E is not able to differentiate between covered or bare conductor. In addition, ILIS does not capture HFRA locations, so the volume reported is limited to HFTD only. As a result of these limitations, PG&E is providing the total volume of wire down events in HFTDs in Part D for 2021, 2022, 2023 and 2024. e. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Rev01Atch01.xlsx" for the requested information. f. Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q001Rev01Atch01.xlsx"	Joseph Mitchell	4/11/2025	4/23/2025	4/23/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	1	No	8	Grid Design, Operations, and Maintenance	8.4.4/8.2.10
45	MGRA	003	MGRA_003	2	No	MGRA_003_Q2	Some of the risk drivers in Table 3-1 (pg. 20-21) show wind as a Climatological risk factor. Please provide a technical explanation as to why wind is a factor for the following Risk Sub-Drivers. Also provide data supporting this association: a. Capacitor Bank b. Fuse c. Lightning Arrestor d. Transformer e. Balloon f. Contamination	Wind increases the failure risk of overhead electrical utility equipment through both direct mechanical loading and indirect environmental effects. High wind speeds exert dynamic lateral forces on pole-mounted components such as capacitor banks, fuses, lightning arrestors, and transformers, especially those with large surface areas. Wind driven lateral forces can induce structural oscillations, accelerate fatigue, or cause displacement at the pole top – conditions that can accelerate structural degradation over time. Wind loading on conductors can also introduce tension imbalances and galloping, which can increase mechanical stress at connection points, bushings, and supporting structures. ASCE Manual No. 74 provides guidance for evaluating wind load impacts on transmission and distribution infrastructure. Wind also indirectly increases failure risk by driving foreign objects and vegetation into energized equipment. Vegetation clearance and line routing standards address the fact that high winds can cause branches or debris to contact components like fuses or WMP-Discovery 2026-2028_DR_MGRA_003-Q002 Page 2 arrestors, initiating phase-to-ground faults or electrical arcing. Mylar (metalized) balloons, which are highly conductive, can cause short circuits or flashovers (faults) when blown into energized overhead electrical equipment. Additionally, because devices like capacitor banks and transformers may have exposed energized-terminals and bushings, they can be vulnerable to mylar balloon-induced faults. Furthermore, wind contributes to the accumulation and activation of surface contamination – a known driver of insulation failure in overhead systems. Contamination refers to the buildup of debris or pollutants such as dust, salt, or industrial particulates on equipment and insulators. Under dry conditions, these materials typically cause no electrical or mechanical issues; however, wind combined with moisture (ex. fog or mist) can convert these deposits into conductive films. This can result in surface tracking or flashovers (faults), especially across insulators and bushings connected to transformers, capacitor banks, and lightning arrestors. IEEE Std 1313.2 and IEC 60815 provide methodologies to identify contamination and creepage distances to mitigate such failures. While the technical explanation (above) describes well-established engineering mechanisms, PG&E does not currently have asset-specific failure data that directly WMP-Discovery 2026-2028_DR_MGRA_003-Q002 Page 3 correlates wind exposure with the specific equipment failure rates or ignition rates for	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	0	No	3	Overview of WMP	3.4
46	MGRA	003	MGRA_003	3	No	MGRA_003_Q3	On p. 24, PG&E states that "These exceptional temperatures, in turn, impact the relative humidity of the atmosphere, increasing the occurrence of vapor pressure deficit that is also linked to more severe fires. These conditions also pose a health risk to vegetation, increasing the potential for branch or tree failures impacting our assets and creating potential sources of wildfire ignition." a. What evidence does PG&E have that demonstrates how drought conditions relate to branch and tree failures? b. Has PG&E analyzed the relationship between drought variables and vegetation outage rates? If so please provide the results. c. If it has not done so, is it planning to do so and what would be the timeline? If it is not planning to do so what is the justification?	a. PG&E's statement on page 24 of its WMP references a peer-reviewed article that offers strong scientific support for the mechanism of drought impact on tree aridity and stress. Specifically, it details how rising temperatures and increased vapor pressure deficit reduce vegetation moisture content and increase plant stress and flammability. The scientific rationale for linking drought conditions to tree mortality and failures is well established in the literature. For example, the article "Lesson from California's 2012-2016 Drought"1 confirms this link stating: 1 Lessons from California's 2012–2016 Drought. Jay Lund, Josue Medellin-Azuara, John Durand and Kathleen Stone. J. Water Resour. Plann. Manage., 2018 WMP-Discovery 2026-2028_DR_MGRA_003-Q003 Page 2 "Perhaps the greatest impact of California's drought was the death of 1020 million forest trees, which depend on soil moisture accumulated in the wet season for growth during the spring and summer." Though not PG&E-specific evidence, these peer-reviewed articles underscore how drought conditions severely compromise tree health. b. PG&E evaluated variables related to drought as inputs to the vegetation models released with WDRM v4, which are machine learning (ML) models trained on historical failure & outage events. Specifically, the SPEI (Standard Precipitation Evapotranspiration Index) and CWD (Climatic Water Deficit) were evaluated. The inputs needed to be summarized over multiple years to fit the Maximum Entropy ML algorithm configuration requirements, which is a spatial model. The multi-year aggregation and correlation to other weather variables caused the drought-related variables to have little influence in the model. These features are described in more detail in Section 3.5.2.3 in the Distribution Event Probability Models, Version 4 documentation available at Community Wildfire Safety Program. c. PG&E is continuing to evaluate whether inputs related to vegetation health, like soil moisture, can be incorporated into the vegetation models. If successful, the enhanced vegetation models would be released with Wildfire Distribution Risk	Joseph Mitchell	4/11/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	0	No	9	Vegetation Management & Inspections	9.9
47	MGRA	003	MGRA_003	4	No	MGRA_003_Q4	Provide technical description and available documentation for the Suppression Access model used in the WFC v4 Consequence model, along with data and analysis used to support the Suppression Access model.	Please refer to sections 2.4.2 and 4.1 in the Wildfire Consequence model version 4 documentation for details on the Suppression model, available at Community Wildfire Safety Program	Joseph Mitchell	4/11/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	0	No	5	Risk Methodology & Assessment	5.4
48	MGRA	003	MGRA_003	5	No	MGRA_003_Q5	Provide technical description and available documentation for the Public Egress model used in the WFC v4 Consequence model, along with data and analysis used to support the Public Egress model.	Please refer to sections 2.4.3 and 4.2 in the Wildfire Consequence model version 4 documentation for details on the Public Egress model, available at Community Wildfire Safety Program	Joseph Mitchell	4/11/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	0	No	5	Risk Methodology & Assessment	5.4
49	MGRA	003	MGRA_003	6	No	MGRA_003_Q6	Regarding the WDRM v4 ignition probability model: a. Are the covariates calculated for each geographic location in the machine learning models such as Random Forest calculated as one value per geographic location? Or are they calculated per year? b. Please provide tabular data supporting each of the "Feature Importance" figures in the Distribution Event Probability Models v4 documentation. c. If there is a single value for feature/attributes at each location, or if these are calculated on a coarse time scale (annually), then please provide GIS data for the following feature/attributes for the HFTD+HFRA areas of the PG&E service area: a) Average wildfire season daily max windspeed b) Percent difference from average wildfire season daily max windspeed c) Average wildfire season relative humidity d) Average wildfire season vapor pressure deficit e) Percent exotic summer dry		Joseph Mitchell	4/11/2025	5/5/2025			No	5	Risk Methodology & Assessment	5.4
50	MGRA	003	MGRA_003	7	No	MGRA_003_Q7	Regarding Figure PG&E-6.1.3.2-1 (2026 Year Baseline) representing system-wide wildfire risk, do the values shown in the figure include PG&E's risk scaling function? a. If the answer is 'yes', please provide a figure showing the same values without the scaling function (a neutral risk attitude).	Yes, the values shown in Figure PG&E-6.1.3.2-1 (2026 Year Baseline) includes PG&E's risk scaling function. Please see the figure below which shows the same values without the scaling function (a neutral risk attitude).	Joseph Mitchell	4/11/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.3.2
51	MGRA	003	MGRA_003	8	No	MGRA_003_Q8	Figure 6-1 (p. 140) shows PG&E's fractional risk reduction on a yearly basis from 2023 to 2033. Using available data and methodology, please provide an equivalent risk reduction curve showing the fractional change of PG&E's overall service territory wildfire risk between 2017 and 2024.	PG&E did not start estimating wildfire risk reduction until 2023 with the 2023-2025 WMP cycle. The risk reduction calculations require temporal and spatial alignment across a model version, circuit segments, and work plans. Currently, historical circuit segment datasets have only been prepared with a WDRM model release (earliest full-territory dataset is with WDRM v3). The earliest year that we have a WDRM model, respective circuit segment data, and associated work plans is in 2023.	Joseph Mitchell	4/11/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.3.2
52	MGRA	003	MGRA_003	9	No	MGRA_003_Q9	Advanced Technologies PG&E states that "In 2023, there were observed ignitions that occurred during EPSS protection that were lower than the detectable thresholds of DCD. It was identified that a lower SGF pickup could have interrupted the events sooner, potentially preventing the ignition (DCD not present). In 2024, we revised SGF trip floor settings criteria and device reprogramming planned for increased detection of high-impedance faults to 5 amperage faults within 5 seconds." a. Assuming that these ignitions are listed in the GIS and tabular data provided to MGRA by PG&E, indicate which of these ignitions were the high impedance faults that could potentially be detected by lower trip settings. b. What is the estimated increase in outage rate that would be caused by lowering the SGF trip floor settings to 5 amperage within 5 seconds?	a. Ignitions 20230693, 20230823, 20230912, 20231073, and 20231074 were the high impedance faults that could potentially be interrupted sooner by lower SGF trip settings from 2023. b. As PG&E has just started to deploy the revised settings thresholds at the end of 2024 EPSS season, it is not possible to accurately estimate any negative reliability impact. While these changes are not expected to significantly contribute to negative reliability, there is not sufficient data to provide outage rate impacts at this time. PG&E will continue to monitor reliability system performance with SGF as settings are enabled in the 2025 EPSS season.	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	0	No	ACI PG&E-2SU-06	Evaluation and Reporting of Safety Impacts Relating to EPSS	ACI PG&E-2SU-06
53	MGRA	003	MGRA_003	10	No	MGRA_003_Q10	On p. 458 PG&E writes that: "a paper on chaos and weather prediction from the European Centre for Medium-Range Weather states that: A requirement for skillful predictions is that numerical models can accurately simulate the dominant atmospheric phenomena. The fact that the description of some physical processes has only a certain degree of accuracy, and the fact that numerical models simulate only processes with certain spatial and temporal, is the second source of forecast errors. Computer resources contribute to limit the complexity and the resolution of numerical models and assimilation—since, to be useful, numerical predictions must be produced in a reasonable amount of time. These two sources of forecast errors cause weather forecasts to deteriorate with forecast time." a. Provide a citation for this paper.	Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q010Atch01.pdf," and citation below: Buizza, Roberto. "Chaos and weather prediction January 2000." European Centre for medium-range weather meteorological training course lecture series ECMWF (2002).	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	1	No	10	Situational Awareness and Forecasting	10.5
54	MGRA	003	MGRA_003	11	No	MGRA_003_Q11	Please provide tabular data in Excel spreadsheet format containing the data in the following tables: a. TABLE 4-3: FREQUENTLY DE-ENERGIZED CIRCUITS (CONTINUED) b. TABLE 5-5: SUMMARY OF TOP-RISK CIRCUITS, SEGMENTS, OR SPANS c. TABLE 6-1: PG&E PRIORITIZED AREAS BASED ON OVERALL UTILITY RISK d. Table 6-4 - TABLE 6-4: SUMMARY OF RISK REDUCTION FOR TOP RISK	Please see "WMP-Discovery2026-2028_DR_MGRA_003-Q011Atch01.xlsx" for all tables in PG&E's 2026-2028 WMP in Excel spreadsheet format.	Joseph Mitchell	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_003.zip	1	No	7	Public Safety Power Shutoff	7.7/6.2.1

55	OEIS	002	OEIS_002	1	No	OEIS_002_Q1	PG&E states on page 168 of its 2026-2028 Base WMP that "The number of PSPS events is driven by weather, in particular wind speed and fuel conditions, both of which are difficult to reduce. However, PG&E is continuously improving our risk model sensitivity to weather, vegetation, and fuel conditions through the adoption of changes our FPI, Ignition Probability Weather, and Operability Assessment models." PG&E shows in Table 10.6.1-1 FPI Class Breakpoints on page 476 of the 2026-2028 Base WMP, that there are 4 tiers of FPI Breakpoints categorized as "Small, Large, Critical, and Catastrophic" based on potential fire acreage size. In the PSPS State Executive Briefings Slide Deck utilized on the December 9, 2024, PSPS briefing (slide 2). PG&E shows the Fire Potential Index as "R3". a. Provide the following information regarding the Fire Potential Index Breakpoints and how they are used in the initiation of PSPS events: i. Clarification of the Fire Potential Index naming conventions used between the WMP submission and those utilized on the State Executive Briefings. Describe how "Small, Large, Critical, and Catastrophic" designations relate to the R1, R2, R3, etc. designations. ii. A detailed description of what weather conditions are associated with each level of the FPI Breakpoints (i.e. Small, Large, Critical, Catastrophic). iii. The initiation criteria for PSPS events for each of the FPI Breakpoints (i.e. Small, Large, Critical, Catastrophic).	a. i. The FPI model is based on a multi-classification balanced random forest framework, a state-of-the-art open-source machine learning model based on decision trees. FPI is trained on the novel fire occurrence dataset developed by Sonoma Technology (McClure et. al., 2023) that combines agency fire information with satellite fire detections. Fire detections are derived from satellite infrared data and provide information on the location, intensity and time of fires. FPI was trained on this historical dataset using defined classes that separate small, moderate, critical, and catastrophic defined fires. These classes are determined by both fire spread and intensity. For example, a slow moving, low intensity fire would be defined as small, while a fast moving, intense fire would be defined as catastrophic. These small to catastrophic definitions described here only apply to the FPI. The FPI model was trained using historical weather, fuels and topography data to be able to forecast the probability of small to catastrophic fires in both space and time. The actual FPI model outputs the conditional probability from 0 – 100% fire growth or intensity will align to the small, moderate, critical or catastrophic classes described in the WMP. The probability of the critical and catastrophic classes combined is translated into a fire danger rating scale from R1 (low) to R5 (extreme) based on climatological breakpoints and calibration with historical incidents. This method mirrors industry standards; for example, how unitless, relativistic numeric outputs of Energy Release Component or Burning Index from the Federal National Fire Danger Rating System (NFDRS) are translated to fire danger ratings from low, medium, high, very high and extreme (https://www.mesg.gov/publications/pms437/fire-danger/nfdrs-system-inputs and-outputs). The NFDRS fire danger rating scale versus FPI is shown below; moving up the scale from R1 to R5 increases the forecasted conditional probability of critical or catastrophic growth or intensity according to the FPI classifications described above. We use the R (Rating) scale and not the NFDRS scale based on a historical request from agencies. Table 1. Fire potential index scale versus NFDRS rating and color scale WMP Discovery 2026-2028_DR_OEIS_002-Q002 Page 5	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	7	Public Safety Power Shutoff	7
56	OEIS	002	OEIS_002	2	No	OEIS_002_Q2	Regarding improvements to accuracy of asset inventory data On page 536 of its 2026-2028 Base WMP, PG&E describes its objective to "evaluate and create new method(s) to improve the accuracy of asset inventory data (ES-02)" as an effort that "involves the design, development, and evaluation of methods to validate the accuracy of asset inventory data," and Table 12-1 (page 538) states that the objective completion date is December 31, 2026. Additionally, Table 13-2 (page 553) identifies that the "Filling Asset Inventory Data Gaps (AI-11)" initiative from the 2023-2025 Base WMP "will continue under ES-02." a. Describe the status of PG&E's efforts to populate missing age data in the asset registry. b. Explain the relationship between ES-02 and the Asset Registry Data Quality (ARDQ) program described in its response to PG&E-22-33 – Progress on Filling Asset Inventory Data Gaps (PG&E 2023-2025 Base WMP R8, pages 1133-1135). c. Describe the milestones PG&E will use to measure progress toward this objective.	a. PG&E understands this sub-question to be related to the 2023-2025 AI-11 objective to populate missing age data in the asset registry to a 90% weighted average across risk prioritized distribution and transmission equipment types. PG&E has other data remediation projects and programmatic efforts like its map correction program that will not be covered in this response. Below are the milestones PG&E has achieved under the AI-11 objective: • In 2023, PG&E completed proof-of-concept projects to test the feasibility of manual and automated methods for locating missing age data, including field data collection, electronic records review, paper record scanning and review, and identification of PG&E age proxy data for the targeted equipment types. WMP-Discovery 2026-2028_DR_OEIS_002-Q002 Page 2 • In 2024, PG&E piloted both automated and manual methods of identifying age data to determine the scalability of each method. From these activities, PG&E determined that the cost and time required to manually remediate installation date data warranted a shift in approach to generating Estimated Asset Age using available age proxy data. • In Q4 of 2024, PG&E presented to the OEIS the plan to shift the focus of the AI-11 commitment toward generating Estimated Asset Ages. • In Q1 of 2025, PG&E deployed its Estimated Asset Age model that generates data-derived installation years for the 11 targeted, risk-prioritized transmission and distribution types. • In Q1 of 2025, PG&E also finalized its extended piloting to identify ways to optimize the scanning and review of paper records to identify installation dates. • By end of Q4 2025, PG&E expects the quantification of the Estimated Asset Age model results to be available. b. The Asset Registry Data Quality (ARDQ) program is designed to measure asset registry data quality dimensions using data quality rules. However, assessing the data quality dimension of Accuracy requires real-world validation. As such, the ARDQ program is not currently equipped with a means to establish a baseline of data accuracy and measure improvements. The objective of the ES-02 project is to identify and evaluate various methods for validation the accuracy of targeted asset	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	ES-02/AI-11	ES-02/AI-11	ES-02/AI-11
57	OEIS	002	OEIS_002	3	No	OEIS_002_Q3	Regarding PG&E's Q4 quarterly data report for 2022, 2023, and 2024 PG&E's 2026-2028 Base WMP defines "Fire Rebuild" work as undergrounding installations in areas impacted by wildfires within High Fire Threat District (HFTD); and defines "Community Rebuild" work as undergrounding installations in areas impacted by wildfires outside of the HFTD. Additionally, PG&E states that its undergrounding work includes activities under System Hardening, Butte County Rebuild, Community Rebuild programs, and other efforts in HFTD, High Fire Risk Area (HFRA), buffer zones, and fire rebuild areas. a. For 2024: PG&E reported 348.3 circuit miles total completed under 10K Undergrounding (GH-04). Provide a breakdown of the total miles completed in 2024 by the following categories: i. Undergrounding as part of System Hardening (GH-01) activity. ii. Undergrounding as part of its Fire Rebuild program iii. Undergrounding as part of its Community Rebuild program iv. Any other undergrounding work performed in HFTD, HFRA and Buffer Zone A. For each other type of undergrounding work specified here, explain why this work was not reported under the System Hardening (GH-01) activity. b. For 2023: PG&E reported 363.9 circuit miles total completed under 10K Undergrounding (GH-04). Provide a breakdown of the total miles completed in 2023 by the following categories: i. Undergrounding completed as part of System Hardening (GH-01); ii. Undergrounding completed as part of the Fire Rebuild program; iii. Undergrounding completed as part of the Community Rebuild program; iv. Any other undergrounding completed in HFTDs, HFRAs, or buffer zones. A. For each other type of undergrounding work specified here, explain why this work was not reported under the System Hardening (GH-01) activity.	Please see the table below for the requested information in subparts a. and b. The data provided is updated as of January 14, 2025, in alignment with the Q4 2024 WMP Quarterly Data Report (QDR). Note, the data provided is slightly adjusted from the values reported in the Q4 2023 QDR due to the completion of project as-built construction packages. For clarity, in 2024, PG&E completed 257.8 miles under WMP initiative GH-04, not 348.3 miles referenced in the question, which are the miles completed in WMP initiative GH-01, instead. Based on the detail included in the question, we assume the intention was to include the total completed GH-04 mileage and associated sub-programs, which is reflected in our response. Year i. Undergrounding as part of System Hardening activity1 ii. Undergrounding as part of the Fire Rebuild program2 iii. Undergrounding as part of the Community Rebuild program3 iv. Any other undergrounding work performed in HFTD, HFRA and Buffer Zone4 Total (i+ii+iii+iv) a. 2024 213.8 27.5 42.0 2.0 257.8 b. 2023 284.4 57.6 75.7 4.1 364.2 1 System Hardening Undergrounding miles are included in both 2023 Base WMP Initiatives: GH-01.	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.2
58	OEIS	002	OEIS_002	4	No	OEIS_002_Q4	Regarding Distribution Infrared Inspections On page 247 of its 2026-2028 WMP, PG&E states that it shifted its distribution IR inspection program from inspecting all the HFTD/HFRA in 2020-2022, to focusing on specific areas with known issues expected to be detectable by IR in 2023-2025 (mostly outside of the HFTD/HFRA). In 2026-2028, PG&E plans to "target IR to areas of emerging concern as needed." a. Provide the following distribution IR inspection data: i. The number of inspections performed in 2021, 2022, 2023, and 2024. ii. The number of inspections performed in the HFRA/HFTD in 2021, 2022, 2023, and 2024. iii. The number of level 1 conditions identified by distribution IR inspections in 2021, 2022, 2023, and 2024. iv. The number of level 1 conditions identified by distribution IR inspections in the HFRA/HFTD in 2021, 2022, 2023, and 2024 v. The number of level 2 conditions identified by distribution IR inspections in 2021, 2022, 2023, and 2024. vi. The number of level 2 conditions identified by distribution IR inspections in the HFRA/HFTD in 2021, 2022, 2023, and 2024 b. Provide the estimated number of level 1 and 2 conditions that would have been identified by distribution detailed inspections, aerial scan inspections, or sensor readings, had an inspection or sensor reading been used in place of the IR inspection. i. For each IR condition that PG&E anticipates would have been identified by a sensor reading, provide the sensor manufacturer and model/series number that could have identified the issue, and the percentage of PG&E's assets in the HFTD/HFRA that are currently actively monitored by the sensor. ii. For each IR condition that PG&E anticipates would have been identified by a detailed or scan inspection, provide a description of the visible indicators expected to be present and the corresponding inspection guidance on job aid TD-2305M-JA02 rev 14. c. Provide the criteria PG&E will use to determine areas of emerging concern that warrant IR inspections.	Table 1: Q4(a)(i)-(vi) Infrared Inspections and Findings Metric Number Metric Name 2021 2022 2023 2024 Q4(a)(i) Total Inspections Performed1 12948 10080 3686 2224 Q4(a)(ii) HFTD-HFRA Inspections Performed1 10094 9560 3618 2152 Q4(a)(iii) Total Level 1 Conditions Identified 0 0 0 0 Q4(a)(iv) HFTD-HFRA Level 1 Conditions Identified 0 0 0 0 Q4(a)(v) Total Level 2 Conditions Identified 108 72 35 21 Q4(a)(vi) HFTD-HFRA Level 2 Conditions Identified 61 62 26 12 1. Infrared (IR) inspections are conducted by circuit-mile. Inspection counts represent miles of conductor inspected by IR. b. i. Sensors can detect some of the excessive heat conditions that would be detected by IR, but this ability would be highly dependent on the specific type and placement of the sensor. The prioritize of IR conditions that may have	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	8	Grid Design, Operations, and Maintenance	8.3.10
59	OEIS	002	OEIS_002	5	No	OEIS_002_Q5	Regarding distribution detailed aerial and ground inspections On page 226 of it WMP, PG&E sets a target of 218,000 distribution detailed inspections per year for 2026-2028. The target states the inspections can be either ground or aerial; separate targets are not provided for detailed aerial or detailed ground inspections. a. Provide the following information related to scheduling detailed aerial and ground inspections: i. Does PG&E have controls in place to avoid an asset being only subject to one variety of detailed inspection for extended periods of time? (i.e. an asset in an area of extreme consequence and extreme wildfire risk only receiving detailed aerial inspections for 10 years). Provide PG&E's reasoning for its chosen approach. b. Some hazardous conditions may be less likely identified via ground inspections while others may be less likely identified via aerial inspections. i. Provide a list of conditions that PG&E has recognized as being more likely identified via aerial inspections and less likely identified via ground inspections. Provide a brief explanation for each condition. A. If PG&E has not recognized any such conditions, briefly discuss its reasoning. ii. Provide a list of conditions that PG&E has recognized as being more likely identified via ground inspections and less likely identified via aerial inspections. Provide a brief explanation for each condition. A. If PG&E has not recognized any such conditions, briefly discuss its reasoning.	a. PG&E anticipates that the vast majority of detailed inspections completed in HFTD/HFRA in the 2026-2028 time frame will be completed via aerial means. PG&E is working towards having the aerial inspection meet PG&E's GO 165 detailed inspection requirements beginning in 2026. Ground inspections may continue to be used where aerial inspections cannot access the structure due to various issues such as customer or vegetation. Changes in HFTD/HFRA inspection frequency are reviewed and approved through PG&E's Wildfire Risk Governance Committee to ensure changes mitigate wildfire risk. As described in response to part b below, PG&E expects that the detailed aerial inspection will detect all conditions that the ground inspection detects. b. PG&E has been improving and maturing its aerial inspections as aerial has evolved from pilot stages to an inspection deployed at scale. In 2023, the pilot aerial inspection focused on only pole top conditions. In 2024, as PG&E deployed the inspection at scale for the first time, we expanded the aerial inspection to include all structures. The aerial inspection performed by PG&E in 2024 and 2025 is a risk-based inspection, focusing on identifying Level 1 and 2 conditions. It was not a detailed GO 165 inspection for all abnormal compelling conditions. This risk-based aerial inspection demonstrated improved ability to detect most Level 1 and 2 conditions on the assets that are most likely to fail: pole, crossarm/insulator, equipment, and conductor conditions. However, since aerial inspection was limited to Level 1 and 2 conditions, it would not report Level 3 conditions such as high voltage sign, visibility strip, and guy issues that the ground inspection detects. For 2025, PG&E already updated the aerial shot sheet to enable better capture of exposed grounds and issues that require particular angles to detect such as leaning poles and slack guys. There was also a need to create a handheld shot sheet in order to capture photos where drone flights were not able to be completed due to safety concerns or tree obstructions. This shot profile will allow the desktop inspector to do a full inspection using a combination of drone imagery and images captured from the handheld device. Currently, PG&E is identifying additional requirements to make the aerial inspection a GO-165 detailed inspection beginning in 2026. These include adding the requirement for aerial to report Level 3 conditions as well as the handful of	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	8	Grid Design, Operations, and Maintenance	8.3.8

60	OEIS	002	OEIS_002	6	No	OEIS_002_Q6	Regarding transmission detailed aerial and ground inspections On page 226 of 8 WMP, PG&E sets a target of 22,000 transmission detailed inspections per year. The target states the inspections can be either ground or aerial; separate targets are not provided for detailed aerial or detailed ground inspections. a. Provide supporting documentation for transmission detailed inspections, including any job aids, procedural documentation, or inspector checklists. Specify any documents that are unique to aerial or ground inspections. b. Provide the following information related to scheduling detailed aerial and ground inspections: i. Does PG&E have controls in place to avoid an asset being only subject to one variety of detailed inspection for extended periods of time? (i.e. an asset only receiving detailed aerial inspections for 10 years). Provide PG&E's reasoning for its chosen approach. ii. Some hazardous conditions may be less likely identified via ground inspections while others may be less likely identified via aerial inspections. i. Provide a list of conditions that PG&E has recognized as being more likely identified via aerial inspections and less likely identified via ground inspections. Provide a brief explanation for each condition. A. If PG&E has not recognized any such conditions, briefly discuss its reasoning. ii. Provide a list of conditions that PG&E has recognized as being more likely identified via ground inspections and less likely identified via aerial inspections. Provide a brief explanation for each condition. A. If PG&E has not recognized any such conditions, briefly discuss its reasoning.	a. See attachment "WMP-Discovery\2026-2028_DR_OEIS_002-Q006Atch01CONF.zip" for 2025 job aids, inspection form, and inspection procedures. b. i. Currently both Ground and Aerial inspections are required for HFTD/HFRA structures but the frequency or population scope of either inspection method may evolve in the future to best address wildfire risk based on inspection finding trends and emerging technology. Changes in HFTD/HFRA inspection frequency are reviewed and approved through PG&E's Wildfire Risk Governance Committee to ensure changes mitigate wildfire risk. ii. i. PG&E has identified conditions located at the top of structures are more likely to be identified by Aerial in comparison to Ground inspections due to the higher vantage point of the aerial method. This includes conditions related to: • Conductor • Jumper • Insulator • Switch • Pole top • Tower peak ii. PG&E has identified conditions located at the bottom of structures are more likely to be identified by Ground in comparison to Aerial inspections due to the ground level vantage point of the inspectors. This includes conditions related to: • Foundations • Guys	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	1	No	8	Grid Design, Operations, and Maintenance	8.3.1
61	OEIS	002	OEIS_002	7	No	OEIS_002_Q7	Regarding transmission switch function testing PG&E does not provide a target for its transmission switch function testing inspection program in its 2026-2028 Base WMP. However, of the ten inspection initiatives with find rates provided, transmission switch function testing demonstrates the highest find rate of level 1 conditions and the fourth highest find rate of level 2 conditions. a. Briefly discuss PG&E's reasoning for not including a compliance target for transmission switch testing. b. Provide the following data for transmission switch function testing: i. The total number of transmission switches in the HFTD/HFRA in 2022, 2023, and 2024. ii. The number of transmission switch function tests performed in the HFRA/HFTD in 2022, 2023, and 2024. iii. The number of level 1 conditions identified in 2022, 2023 and 2024. iv. The number of level 1 conditions with associated wildfire risk identified in 2022, 2023, and 2024. v. The number of level 2 conditions identified in 2022, 2023 and 2024. vi. The number of level 2 conditions with associated wildfire risk identified in 2022, 2023, and 2024.	a. The Switch Function Test program is in the process of maturation and is reliant on opportunistic clearance timing. The process of scheduling and executing these inspections has been steadily improving as shown by the growth in completed inspections year over year. PG&E tentatively expects to revisit the decision on whether to include this program as a WMP target in 2029. WMP-Discovery 2026-2028_DR_OEIS_002-Q007 Page 2 b. NOTE: Due to the small sample size of the Switch Function Test program the find rate reported in PG&E's submitted WMP includes both HFTD and Non-HFTD.	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	8	Grid Design, Operations, and Maintenance	8.3.5
62	OEIS	002	OEIS_002	8	No	OEIS_002_Q8	Regarding vegetation inspections and pole clearing targets On WMP page 356, PG&E provides quantitative targets for its vegetation inspection and vegetation management programs. For the column "% HFTD Covered in 2026" it appears PG&E provided the percentage of the 2026 target that is performed within the HFTD. The WMP Guidelines (page 104) defines this column as "the percentage of total overhead circuit miles in the HFTD covered by the [Year 1] target (e.g., 100 circuit miles of patrol inspections in [Year 1] divided by 300 overhead circuit miles in the HFTD equals 33 percent coverage)" a. Provide the equation PG&E used to calculate the "% HFTD Covered in 2026" column. b. If PG&E used a different equation other than the one defined in the Guidelines, provide "% HFTD in 2026" figures for each of PG&E's targets in Table 9-2 using the calculation defined in the WMP Guidelines. For targets that do not use overhead circuit miles as a unit, the denominator should be the total number of the unit present the HFTD.	a. The equation used to calculate the "% HFTD Covered in 2026" is as follows For VM-02: The quantity of VM-02 inspected poles in HFTD divided by the total inventory of VM-02 inspected poles for 2026. For VM-05, VM-06, VM-07: The quantity of sub stations/power generation facilities in HFTD divided by the total inventory of inspected substations for 2026. For VM-13, VM-14, VM-16, and VM-17: The total 2026 program miles in HFTD is divided by the total 2026 program miles target. WMP-Discovery 2026-2028_DR_OEIS_002-Q008 Page 2 b. The %HFTD as defined in the WMP guidelines are as follows: VM-02: 8% of Distribution Poles in HFTD for 2026 VM-05: 100% of Distribution substations in HFTD for 2026 VM-06: 100% of Transmission substations in HFTD for 2026 VM-07: 100% of power generation substations in HFTD for 2026 VM-13: 100% of Routine Transmission-Ground miles in HFTD for 2026 VM-14: 100% of Transmission Hazard Patrol in HFTD for 2026 VM-16: 100% of HFTD distribution circuit miles in 2026 VM-17: 100% of HFTD distribution circuit miles in 2026	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	9	Vegetation Management & Inspections	9.4
63	OEIS	002	OEIS_002	9	No	OEIS_002_Q9	Regarding Distribution Routine Patrol quantitative targets (VM-16) On WMP page 356, PG&E sets cumulative quarterly targets for Q4 in 2026, 2027, and 2028 of 78,200, 77,800, and 77,000 circuit miles respectively. These are annual decreases of 400 miles from 2026 to 2027, and 300 miles from 2027 to 2028. a. Do the incrementally decreasing targets reflect miles of distribution lines projected to be undergrounded? i. If so, explain how PG&E calculated each annual decrease in Distribution Routine Patrol target circuit miles. ii. If not provide the justification for each annual decrease in Distribution Routine Patrol target circuit miles.	a. Yes, the incremental decrease is based on mileage reduction due to undergrounding for the respective year. i. PG&E utilized the total mileage from prior year's total distribution mileage less the total underground mileage workplan for the current year to end of year. For example, the tentative 2026 underground mileage plan is 400 miles, therefore the inspection targets were reduced by 400 miles for 2027. ii. N/A	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	9	Vegetation Management & Inspections	9.1.2
64	OEIS	002	OEIS_002	10	No	OEIS_002_Q10	Regarding PG&E's Pole Clearing Program target (VM-02) On page 356 of its 2026-2028 Base WMP, PG&E sets cumulative quarterly targets for Q4 in 2026, 2027, and 2028 of 70,000 distribution poles. a. Clarify whether PG&E's target is to clear vegetation around 70,000 distribution poles or inspect 70,000 distribution poles and clear vegetation at those poles only as needed. b. Of the 70,000 poles targeted for pole clearing specify how many of those poles: i. Are required to be cleared under Public Resources Code (PRC) 4292. ii. Are not required to be cleared under PRC 4292.	a. PG&E's target is to inspect 871,000 distribution/transmission poles and a target to clear vegetation at 70,000 of those poles if necessary. Please note, the VM-02 Pole Clearing target will be adjusted as determined by inspections in the previous year and may additionally be impacted by changes to facilities or based on other utility risk mitigation reasons. b. Based on the 2025 analysis: i. Approximately 66% of the Poles are required to be cleared under PRC 4292. ii. Approximately 34% of these Poles are not required to be cleared under PRC 4292. See WMP Section 9.4.1 for further information regarding PG&E's risk reduction pole clearing work	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	9	Vegetation Management & Inspections	9.4
65	OEIS	002	OEIS_002	11	No	OEIS_002_Q11	Regarding PG&E-23B-21 Identification of High-Risk Species for Focused Tree Inspection On page 591 of its 2026-2028 WMP, PG&E defines "criteria for determining which [tree] species warrant increased scrutiny during Focused Tree Inspections and other inspections." PG&E states that it provides Vegetation Management Inspectors (VMIs) historical outage data and developed a "dashboard [that] allows the user to drill down to the circuit or CPZ level to see historical outage and ignition causes by species, diameter, and failure." a. Is PG&E able to calculate outage and ignition probabilities by tree species at the CPZ level? i. If it is able to calculate outage and ignition probabilities by tree species, how does PG&E plan to use this information to inform its vegetation management program? ii. If it is unable to calculate outage and ignition probabilities by tree species, list the information PG&E would require to perform this calculation. A. Describe when PG&E expects to obtain the information it requires to calculate outage and ignition probabilities by tree species.	a. PG&E has calculated outage probability by tree species at the eco-region level. There is not enough data at the CPZ level to confidently estimate the outage or ignition probability of tree species at such a granular level. PG&E plans to evaluate ignition probability of tree species at the eco-region level in 2025. i. At present, we do not plan to use this information to inform our vegetation management program. ii. N/A	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	ACI PG&E-23B-15	ACI PG&E-23B-15	ACI PG&E-23B-15
67	OEIS	002	OEIS_002	12	No	OEIS_002_Q12	Regarding utilities' vegetation management (VM-15) On page 384 of its 2026-2028 WMP, PG&E states that "TIVM [transmission integrated vegetation management] LiDAR data…assesses vegetation conditions by electric transmission lines [ETL]." On page 356, PG&E targets 17,500 miles annually for its Routine Transmission Patrol (VM-13), and 5,625 circuit miles annually for its Transmission Hazard Patrol (VM-14). a. Do the Routine Transmission Patrol (VM-13) and the Transmission Hazard Patrol (VM-14) also capture the LiDAR data used for TIVM? b. List the number of circuit miles PG&E inspects annually using LiDAR to assess transmission risks of sag to	a. Yes, TIVM utilizes the same LiDAR collection as Routine Transmission Patrol (VM-13) and Transmission Hazard Patrol (VM-14). b. The circuit mileage used to assess transmission rights-of-way for IVM (VM-15) are the same as the circuit mileage assessed for Routine Transmission Patrol (VM-13), which is approximately 17,500 circuit miles systemwide. c. Fixed wing aircraft are utilized to capture imagery for the Transmission Hazard Patrol program. d. PG&E does not collect any other remote sensing data besides ortho imagery during	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	9	Vegetation Management & Inspections	9.7
68	OEIS	002	OEIS_002	13	No	OEIS_002_Q13	Regarding risk model documentation a. Page 6 of PG&E's Distribution Event Probability Models Version 4 (DEPM v4) Documentation includes "RaDA Algorithms and Methodologies" under its list of documents as part of the documentation suite for the Wildfire Distribution Risk Model (WDRM) v4. Provide a copy of this document. b. Figure 24: RaDA Product Plan – WDRM on page 25 of PG&E's Wildfire Distribution Risk Model Version 4 (WDRM v4) Documentation shows that the following components are not included in the WDRM plan: Insulator Contamination Update, Public Safety Risk Model v2, Reliability Risk Model v1, Public Safety Consequence v2, and Reliability Consequence V1. i. Why are these components not included in WDRM plans'	a. "See "WMP-Discovery\2026-2028_DR_OEIS_002-Q013Atch01.pdf". b. i. The Insulator Contamination model is under development for the WTRM but is not yet completed. It will be documented with the other transmission models, which are separate from the WDRM. Models for Reliability and Public Safety risk are separate from the WDRM planning models. They are developed to help inform internal investment planning primarily outside of HFTD. ii. Reliability and Public Safety risk models are not considered components of	Nathan Poon	4/11/2025	4/21/2025	4/21/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	1	No	Appendix B	Supporting Documentation for Risk Methodology	Appendix B
69	OEIS	002	OEIS_002	14	No	OEIS_002_Q14	Regarding suppression and egress impacts On page 32 of PG&E's Wildfire Consequence Model Version 4 (WFC v4) Documentation, PG&E states that "This was not the original expectation for adding the wildfire Suppression and public Egress impacts, resulting in additional efforts to validate the results and confirm the model development" when discussing the adjusted consequence curve and associated work to mitigate 60% of the wildfire risk. a. How did PG&E calculate the mileages associated with mitigating 60% of the wildfire risk? b. What "additional efforts" were completed for model development as a result of this finding? c. How did any efforts resulting in response to this validation impact the consequence curve? Provide copies of the curve before and after. d. Provide a step-by-step process showing how PG&E calculated the associated mileage of work needed to mitigate 60% of the wildfire risk before and after.	a. The plots were generated by creating risk rankings for all circuit segments with overhead conductor assets within the PG&E territory using approximated risk values. Approximated risk values were calculated using release candidate asset probability data that was converted into spatial values for simplified compositing and aggregation multiplied times the base and adjusted consequence values. Processing the circuit segments in order of their risk rank, each circuit segment's summed risk value, as a percentage of summed risk in the service territory, was sequentially subtracted from 100% to form the data series for the y-axis values for the buydown curves. The x-axis data series was formed by creating a running total of miles for each ordered circuit segment. WMP-Discovery 2026-2028_DR_OEIS_002-Q014 Page 2 b. The sentence highlighted from the Wildfire Consequence Model v4 documentation indicates that incorporating the egress and suppression impacts into wildfire consequence resulted in risk buydown curve that showed that the number of miles that needed to be undergrounded to mitigate 60% of the wildfire risk was higher than anticipated. As a result of this finding, the team dedicated extra validation to confirm the results by evaluating against historical fire outcomes. The additional validation resulted in the removal of several lightning fires from the consequence training data set as described in Section 3.2.4 on page 12 of the consequence documentation. In the end, the team concluded that the general flattening of the risk buydown curve when adjusting consequence for egress and suppression was a correct outcome. c. As stated above in (b.), lightning fires were taken out of the historical fire data set used to calibrate the wildfire consequence model as they skewed results for fires initiated on non-predicted destructive weather days, which resulted in slightly steeper buydown curves for both base and adjusted consequence. No changes were made that altered the Egress or Suppression impacts for the adjusted consequence. The relative differences between the base and adjusted consequence curves remained as depicted in Figure 20.	Nathan Poon	4/11/2025	4/21/2025	4/21/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	5	Risk Methodology & Assessment	5.4
70	OEIS	002	OEIS_002	15	No	OEIS_002_Q15	Q15. Regarding PG&E's Ignition Investigation Process Figure PG&E-8.1.3-1-2: Summary of Ignition Investigation Process, on page 123 of PG&E's 2026-2028 Base WMP includes a step for "Corrective Actions Generated and Assigned." a. Provide a list of corrective actions generated by the ignition investigation team that have led to changes in PG&E's wildfire mitigation efforts since PG&E's 2023-2025 Base WMP. b. Provide a list of ignitions, including causes and locations, associated with the changes discussed in part (a).	Many of the corrective actions generated by single incidents are focused on the single incidents and do not directly lead to changes in PG&E's wildfire mitigation efforts. However, PG&E conducts trend analyses to identify possible corrective actions, including corrective actions associated with some of PG&E's wildfire mitigation programs. The corrective actions listed below, which did lead to changes in our wildfire mitigation efforts, are based on trend analyses across many incidents along with input from subject matter experts who contribute to the investigation. The table below includes the mitigation efforts that have resulted from analyzing trends generated from the ignition investigation team along with various example ignitions associated with those corrective actions and causes thereof. Corrective Action Example Associated Indexes Cause Location Improvements to High Impedance Fault Protection (including implementing lower sensitive ground fault thresholds and high 20230530, 20230692, 20230693, 20230782N, 20230792, 20230823, 20230912, 20230981, Various Various WMP-Discovery 2026-2028_DR_OEIS_002-Q015 Page 2 Corrective Action Example Associated Indexes Cause Location impedance fault detection on four-wire circuits) 20231073, 20231074, 20231083 Expanded Ground Vegetation Clearing around Poles 20230666, 20231053, 20240583, 20240887, 20241109N Various Various Mitigations for SMI-L20 Fuses	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	ACI PG&E-25U-01	Outage-to-Ignition Risk Analyses	ACI PG&E-25U-01

71	OEIS	002	OEIS_002	16	No	OEIS_002_Q16	Regarding Table 5-5: Summary of Top Risk Circuit Segments a. Provide a copy of Table 5-5: Summary of Top Risk Circuit Segments from the 2026-2028 Base WMP via Excel that includes additional columns for: i. WFC v4 Consequence Values ii. PSPS Risk Score iii. PEDS Risk score iv. HFTD Designation, including percentage by circuit mileage that falls in each designation (HFTD Tier II, HFTD Tier III, non-HFTD/HFRA, and non-HFTD/non-HFRA	a. Expanded Table 5-5 with requested data is provided in "WMP-Discovery2026-2028_DR_OEIS_002-Q016Atch01.xlsx".	Nathan Poon	4/11/2025	4/21/2025	4/21/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	1	No	5	Risk Methodology & Assessment	5.5.2
72	OEIS	002	OEIS_002	17	No	OEIS_002_Q17	Regarding Table 6-4: Summary of Risk Reduction for Top Risk Circuits Provide a copy of Table 6-4: Summary of Risk Reduction for Top Risk Circuits from the 2026-2028 Base WMP via Excel with the following additions: a. The associated circuit mileage for each of the hardening activities (covered conductor installation, undergrounding, and line removal) planned for each circuit segment for each year of the Base WMP (2026-2028). b. The percentage (by circuit mileage) in which each circuit segment has already been planned for hardening as part of a previous Wildfire Mitigation Plan up to 2025, broken out by type of hardening.	Please see "WMP-Discovery2026-2028_DR_OEIS_002-Q017Atch01.xlsx" for the requested information. a. In response to subpart a: Please reference columns I-K, N-P, and S-U for miles planned in 2026, 2027, and 2028, respectively. Miles provided by circuit segment are estimates and subject to change as the 2026-2028 workplan continues to move through planning and execution phases. Circuit segment names can vary across different Wildfire Distribution Risk Model (WDRM) versions. Circuit segments in the 2026-2028 WMP are from WDRM v4. As a result, forecast work might not be reflected in the reported mileages if the circuit segment name has changed. b. In response to subpart b: Please reference columns D-F. WMP-Discovery 2026-2028_DR_OEIS_002-Q017 Page 2 For reference, as adopted by 2023 GRC Decision (Conclusion of Law 80, pg. 862), the undergrounding to overhead conversion factor is 1 mile of overhead to 1.25 miles of undergrounding. We have adjusted the % of Circuit Segment that is Undergrounded through 2025 (Column D) to reflect this ratio. Total circuit segment mileage used in this analysis represents miles associated with WDRM v4. Circuit segment mileage varies in each WDRM update. Mileage completed/planned on a circuit segment may exceed the total circuit segment mileage due to changes across risk model updates. As noted in subpart a, circuit segment names also change across different WDRM versions, and there may be completed or forecast work not reflected in these mileages if the circuit segment name changed. For subprojects spanning multiple circuit segments, the total mileage is attributed to the primary circuit segment. This results in the primary circuit segment having mor	Nathan Poon	4/11/2025	4/16/2025	4/16/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	1	No	5	Risk Methodology & Assessment	5.5.2
72	OEIS	002	OEIS_002	17(a)	Yes	OEIS_002_Q17(a)	Regarding Table 6-4: Summary of Risk Reduction for Top Risk Circuits Provide a copy of Table 6-4: Summary of Risk Reduction for Top Risk Circuits from the 2026-2028 Base WMP via Excel with the following additions: a. The associated circuit mileage for each of the hardening activities (covered conductor installation, undergrounding, and line removal) planned for each circuit segment for each year of the Base WMP (2026-2028). b. The percentage (by circuit mileage) in which each circuit segment has already been planned for hardening as part of a previous Wildfire Mitigation Plan up to 2025, broken out by type of hardening.	Please see attachment "WMP-Discovery2026-2028_DR_OEIS_002-Q017Rev01Atch01.xlsx" for the requested information. a. Please reference columns I-K, N-P, and S-U for miles planned in 2026, 2027, and 2028, respectively. Miles provided by circuit segment are estimates and subject to change as the 2026-2028 workplan continues to move through planning and execution phases. Circuit segment names can vary across different Wildfire Distribution Risk Model (WDRM) versions. Circuit segments in the 2026-2028 WMP are from WDRM v4. As a result, forecast work might not be reflected in the reported mileages if the circuit segment name has changed. b. Please reference columns D-F. For reference, as adopted by 2023 GRC Decision (Conclusion of Law 80, pg. 862), the undergrounding to overhead conversion factor is 1 mile of overhead to 1.25 WMP-Discovery 2026-2028_DR_OEIS_002-Q017Rev01 Page 2 miles of undergrounding. We have adjusted the % of Circuit Segment that is Undergrounded through 2025 (Column D) to reflect this ratio. Total circuit segment mileage used in this analysis represents miles associated with WDRM v4. Circuit segment mileage varies in each WDRM update. Mileage completed/planned on a circuit segment may exceed the total circuit segment mileage due to changes across risk model updates. As noted in subpart a, circuit segment names also change across different WDRM versions, and there may be completed or forecast work not reflected in these mileages if the circuit segment name changed. For subprojects spanning multiple circuit segments, the total mileage is attributed to the primary circuit segment. This results in the primary circuit segment having mor	Nathan Poon	4/11/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	1	No	5	Risk Methodology & Assessment	5.5.2
73	OEIS	002	OEIS_002	18	No	OEIS_002_Q18	Regarding Independent Review of PG&E's Wildfire Risk Model For each of the following recommendations made in the E3 Review of PG&E's Wildfire Risk Model Version 4, provide a description of 1) the progress/improvements made, 2) the current status, 3) the timeline/completion date for addressing the recommendation, and 4) the model(s) and associated version impacted by implementing the recommendation. a. Right-size development efforts based on importance and impact (pp. 11, 36, 50, 59) b. Justify and seek improvements for model approaches that dilute valuable upstream detail: consequence binning and conservative age logic (pp. 11, 49, 55, 59) c. Report risk + uncertainty in outputs and develop a process to understand how individual modeling updates impact results (pp. 12, 33, 60) d. Incorporate air quality and health impacts (pp. 13, 57, 60) e. Increase collaboration between modeling efforts (p. 37) f. Develop robust validation procedures (p. 49) g. Improve transparency and assessment of proprietary wildfire spread modeling and the wildfire consequence model at large (p. 56) h. Consider the differences in mitigation lifetimes (p. 58)	a. Right-size development efforts PG&E continuously manages and adjusts the resources dedicated to the development of the WDRM and WTRM models based on regulatory requirements and PG&E user needs. As managing resources is an ongoing effort to respond to changing internal and external needs, there are no committed resource targets and timelines to be tracked. b. Consequence binning and conservative age logic i. Conservative age logic: Initial improvements to the conservative age logic have already been released with the latest WTRM model release. The improvements are ongoing and will continue to improve with each new model release. ii. Consequence binning: PG&E is investigating methods to create a Wildfire Consequence output with a continuous distribution, aiming to replace the eight Consequence regimes from version 4. If any of these methods demonstrate predictive accuracy during validation and review, they will be incorporated into version 5 of the Wildfire Consequence model. c. Report risk + uncertainty in outputs and develop a process to understand how individual modeling updates impact results This E3 recommendation proposes that a different methodology be adopted for mitigation project selection, which would in turn require specific risk model functionality development. PG&E does not plan to commit any resources for this recommendation until the proposed methodology has been thoroughly discussed and a decision has been made to change from the current risk ranking process. d. Incorporate air quality and health impacts This E3 recommendation is targeted at all IOUs and the State of CA. While this is an area of interest for PG&E research, there are currently no committed development objectives for these impacts. e. Increase collaboration between modeling efforts PG&E has already implemented E3's recommendation to improve the collaboration of modeling efforts. The PG&E Risk and Data Analytics (RaDA) team that produces the WDRM and WTRM models was reorganized in late 2023. The data scientists that produce the event probability models for distribution and transmission assets now belong to a common data science team. For several event types, the same data	Nathan Poon	4/11/2025	4/21/2025	4/21/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_002.zip	0	No	5	Risk Methodology & Assessment	5.4
74	SPD	001	SPD_001	1	No	SPD_001_Q1	Provide the confidential versions of PG&E's 2026-2028 Wildfire Mitigation Plan (WMP) and any confidential associated documents or attachments submitted to the Office of Energy Infrastructure and Safety not currently on PG&E's Community Wildfire Safety Program Website (Community Wildfire Safety Program).	PG&E did not submit a confidential version of its 2026-2028 Wildfire Mitigation Plan or any confidential associated documents or attachments.	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	N/A	N/A	N/A
75	SPD	001	SPD_001	2	No	SPD_001_Q2	The PG&E's 2023-2025 WMP contained attachments PGE_2023_WMP_R0_Appendix D ACI PG&E-22-16_Atch01_Redacted.xlsx and PGE_2023_WMP_R0_Section_642_Atch01.xlsx. Submit equivalent documents for the 2026-2028 WMP. Schedule a meeting with SPD if equivalent documents do not exist.	With regard to the 2023-2025 WMP attachment titled "PGE_2023_WMP_R0_Appendix D ACI PG&E-22-16_Atch01_Redacted.xlsx," PG&E does not have this information readily available in the format requested. We are compiling it and will supplement the response by Friday, April 25. With regard to the 2023-2025 WMP attachment titled PGE_2023_WMP_R0_Section_642_Atch01.xlsx, please refer to Table 6-4 included in Appendix F of PG&E's 2026-2028 WMP.	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	6	Wildfire Mitigation Strategy Development	6
75	SPD	001	SPD_001	2(a)	Yes	SPD_001_Q2(a)	The PG&E's 2023-2025 WMP contained attachments PGE_2023_WMP_R0_Appendix D ACI PG&E-22-16_Atch01_Redacted.xlsx and PGE_2023_WMP_R0_Section_642_Atch01.xlsx. Submit equivalent documents for the 2026-2028 WMP. Schedule a meeting with SPD if equivalent documents do not exist.	Please see attachment "WMP-Discovery2026-2028_DR_SPD_001-Q002PSpp01Atch01CONF.xlsx" and for documentation equivalent to "PGE_2023_WMP_R0_Appendix D ACI PG&E-22-16_Atch01_Redacted.xlsx."	Eddie Schmitt	4/15/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	1	No	6	Wildfire Mitigation Strategy Development	6
76	SPD	001	SPD_001	3	No	SPD_001_Q3	For FIGURE PG&E-8.3.8.3-1, FIGURE PG&E-8.3.8.3-2, and FIGURE PG&E-8.3.8.3-3, provide the work orders for each condition. a. Describe why each condition met the designated priority of the work order.	With regard to Figure 8.3.8.3-1, a damaged conductor with more than 30% broken strands requires a priority A or priority X tag, depending on exposure. Please see "WMP-Discovery2026-2028_DR_SPD_001-Q003Atch01CONF.pdf." With regard to Figure 8.3.8.3-2, a secondary floater making contact with a cross arm requires a priority X notification. Please see "WMP-Discovery2026-2028_DR_SPD_001-Q003Atch02CONF.pdf." With regard to Figure 8.3.8.3-3, a heavily decayed pole top with hardware sinking into the pole requires a minimum priority E notification. However, this was created as a priority B notification due to the severity of the decay and exposure. Please see "WMP Discovery2026-2028_DR_SPD_001-Q003Atch03CONF.pdf."	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	3	No	8	Grid Design, Operations, and Maintenance	8.3.8
77	SPD	001	SPD_001	4	No	SPD_001_Q4	Provide all research or engineering reports which contributed to distribution inspection job aid changes in 2024 and 2025.	Please see the attachments listed below for the research and engineering reports that contributed to distribution inspection job aid changes in 2024 and 2025: • WMP-Discovery2026-2028_DR_SPD_001-Q004Atch01CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q004Atch02CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q004Atch03CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q004Atch04CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q004Atch05CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q004Atch06CONF.pdf	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	9	No	8	Grid Design, Operations, and Maintenance	8.3.8
78	SPD	001	SPD_001	5	No	SPD_001_Q5	Provide the full year inspection 2024 inspection find rates in a format matching "WMP-Discovery2023-2025_DR_SPD_014-Q005Rev02Supp01".	Table Q-005 Inspection Find Rates 20241 1. Find rate is calculated as number of new notifications created divided by number of inspections. Counts for Priority E notifications include Priority H notifications as well. 2. Includes Priority A and X conditions from Aerial Inspection which were processed manually and not flagged as created by aerial in our system of record. 3. PTT find rates reflect the routine PTT program described in the WMP.	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	8	Grid Design, Operations, and Maintenance	8.3.8
79	SPD	001	SPD_001	6	No	SPD_001_Q6	Discovery2023_DR_SPD_004-Q001, which must include values to be filled in for "FPI," "HFTD" information, and "Acreage", along with some additional columns described below. Additionally, verify and update the ignition dataset with any new information (for instance if PG&E has determined an ignition occurred which it was not aware of at the time of the original template). The columns required in this data set should be as follows: a. "FPI" – State the Fire Potential Index (FPI) for each ignition using FPI 5.0 on a scale of R1 to R5. The FPI should be specified at the most granular level (circuit segment).	requested information for subparts (a) through (g). Additionally, please see the explanatory notes below. • With regard to subparts (a) and (b), please note that circuit identifiers can change over time which can lead to an incomplete or incorrect match of historical ignition circuit identifiers with current asset circuit identifiers. Further, circuit geometries can also change over time, for example when circuits are moved, re-configured,	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	1	No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-01

79	SPD	001	SPD_001	6(a)	Yes	SPD_001_Q6(a)	Update the ignition data from 2014-2024 in the same format as the response to WMP-Discovery2023_DR_SPD_004-Q001, which must include values to be filled in for "FPI," "HFTD" information, and "Acreage", along with some additional columns described below. Additionally, verify and update the ignition dataset with any new information (for instance if PG&E has determined an ignition occurred which it was not aware of at the time of the original template). The columns required in this data set should be as follows: a. "FPI" – State the Fire Potential Index (FPI) for each ignition using FPI 5.0 on a scale of R1 to R5. The FPI should be specified at the most granular level (circuit segment). b. "FPI Natural Units" - State the FPI for each ignition using FPI 5.0's numerical output. c. "HFTD": Classify each ignition based on its location as "Zone 1," "Tier 2," or "Tier 3," "HFRA," or "Non-HFTD."		Eddie Schmitt	4/15/2025	4/30/2025	4/30/2025			No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-01
80	SPD	001	SPD_001	7	No	SPD_001_Q7	Utilize the same classifications as in the WMP-Discovery2023-2025_DR_CalAdvocates_04-Q005Atch01.xlsx" file to provide the following data related to various classifications PG&E used in risk modeling of ignitions in parts e through i. Explain where each classification is used, and how the classifications relate. a. Describe why the WDRM v4 subdrivers in in Column A of worksheet "Effectiveness Analysis Detail" in the file "WMP-Discovery2026-2028_DR_TURN_002-Q005Atch01.xslx" do not seem to match one to one with the WDRM-4 submodels in columns S-AO from "WMP-Discovery2023-2025_DR_CalAdvocates_04-Q005Atch01.xlsx."		Eddie Schmitt	4/15/2025	4/30/2025	4/30/2025			No	5	Risk Methodology & Assessment	5.4
81	SPD	001	SPD_001	8	No	SPD_001_Q8	Provide the outage data set used in WDRM v4. Include a unique outage ID that matches the data in the Spatial Quarterly Data Reports (QDR) data set in excel format. Each row should correspond to an outage, and each column should correspond to a feature related to the outage used in the model. a. Describe how the outage location was used in WDRM v4 to determine risk at an asset location. i. If the GPS-based outage location was not used, explain why? b. Was the classification of HFTD/non-HFTD (or other similar HFRA/non-HFRA) used as a factor in the model? If so, explain how.		Eddie Schmitt	4/15/2025	4/30/2025	4/30/2025			No	5	Risk Methodology & Assessment	5.4
82	SPD	001	SPD_001	9	No	SPD_001_Q9	Provide the ignition data set used in WDRM v4 in excel format. Each row should correspond to an ignition, and each column should correspond to a feature related to the ignition used in the model		Eddie Schmitt	4/15/2025	4/30/2025	4/30/2025			No	5	Risk Methodology & Assessment	5.4
83	SPD	001	SPD_001	10	No	SPD_001_Q10	The current data set in "WMP-Discovery2026-2028_DR_TURN_002-Q005Atch01.xlsx" appears to be missing columns and spreadsheets necessary to generate important data and analysis. Many of the columns in the "Effective Analysis Detail" seem to indicate the same subdriver/drivers. a. Provide an updated version which clarifies the difference between each row. b. "WMP-Discovery2023-2025_DR_SPD_016-Q007Atch01.xlsx," include more data and spreadsheets than "WMP-Discovery2026-2028_DR_TURN_002-Q005Atch01.xlsx", such as columns for basic_cause, supplemental_cause, equipinvolved, equipcondition and the counts of incidents in each year as well as worksheets like Grid Hardening SME Input_Outages_HFTD and Mapping. Provide these columns and worksheets in an update to "WMP-Discovery2026-2028_DR_TURN_002-Q005Atch01.xlsx". SPD expects that this new outage data set should be a more complete dataset than was used to generate PG&E's Effectiveness Analysis in WMP-Discovery2026-2028_DR_TURN_002-Q005Atch01.xlsx. The data should match the columns within Outages_HFTD found in WMP-Discovery2023-2025_DR_SPD_016-Q007Atch01.xlsx but also should include the unique outage IDs and GPS location. The unique outage IDs should be the same as the unique outage IDs found in the Spatial QDR data set. i. SPD expects to be able to aggregate this data into "WMP-Discovery2026-2028_DR_TURN_002-Q005Atch01.xlsx"	a. On "the Effectiveness Analysis Detail worksheet, columns D, E, F and G have been added to "WMP-Discovery2026-2028_DR_SPD_001-Q010Atch01.xlsx" with Basic Cause, Supplemental Cause, Equipment Involved, and Equipment Condition fields for additional clarity. WMP-Discovery 2026-2028_DR_SPD_001-Q010 Page 2 b. The following updates have been made to the "WMP-Discovery2026-2028_DR_SPD_001-Q010Atch02.xlsx". i. Basic Cause, Supplemental Cause, Equipment Involved, and Equipment Condition fields have been added to the Effectiveness Analysis Detail tab for counts of incidents by year. Additional worksheets have been added: (1) Grid Hardening SME Input, (2) Outages_HFTD and (2) Mapping. QDR is not the original source for the outages used in the mitigation effectiveness analysis; however, columns P ("Latitude"), Q ("Longitude"), and R ("OutageID") have been added to the Outages_HFTD worksheet on attachment "WMP Discovery2026-2028_DR_SPD_001-Q010Atch02.xlsx", to align outages as possible to the unique outage ID's found in the Spatial QDR data set. Note that the Lat./Log. of outages may be based on the operating device and not necessarily at the damage location. For outages that did not align with the	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	2	No	6	Wildfire Mitigation Strategy Development	6.1.3-1
84	SPD	001	SPD_001	11	No	SPD_001_Q11	Describe how the data set associated with Question 10 was created. a. Was the dataset associated with Question 10 created from a PG&E dataset of all outages? b. Was the dataset associated with Question 10 created from a subset of a PG&E dataset of all outages? If so, describe that subset.	a. No, the dataset is comprised of snapshots of only outages in the HFTD from PG&E's ILIS database, which were taken at different points in time. The initial iteration of the analysis included a snapshot of HFTD outages between 2015-2022, then snapshots of 2023 and 2024 HFTD outages were added in early 2024 and early 2025, respectively. b. Yes, the dataset was created from a subset of outages recorded in ILIS, specifically HFTD outages between 2015-2024.	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.3-1
85	SPD	001	SPD_001	12	No	SPD_001_Q12	Provide the number of overhead circuit mile-days for each FPI rating per year starting in 2014 through 2024. The response should mirror the format of PG&E's response "WMP-Discovery2023_DR_SPD_004-Q003.pdf". However, the circuit mile-day data is to be calculated based on FPI 5.0 at the circuit segment level. a. Provide the FPI circuit mile day breakdown for the HFTD miles. b. Provide the FPI circuit mile day breakdown for HFRA miles.	The FPI 5.0 climatology from 2014 to 2024 was utilized for this analysis. Each grid cell along each distribution and transmission circuit using a 4/17/2025 GIS snapshot was intersected with daily aggregated FPI ratings and then intersected with the HFTD and HFRA to produce the results below. Units are in circuit-miles. a. Year R1 R2 R3 R4 R5 2014 6,204,052 875,330 1,996,733 1,078,358 937,058 2015 6,416,277 776,182 1,986,206 1,065,202 847,665 2016 7,052,437 527,748 1,601,247 1,063,928 876,560 2017 6,568,671 586,534 1,868,555 1,162,468 905,304 2018 6,307,438 559,128 1,992,872 1,222,168 1,009,924 2019 6,327,327 659,921 2,363,061 1,154,387 586,836 2020 6,089,637 690,180 1,932,752 1,312,260 1,097,092 2021 6,310,138 595,646 1,817,545 1,145,826 1,222,376 2022 6,590,773 683,700 2,030,006 987,614 799,438 WMP-Discovery 2026-2028_DR_SPD_001-Q012 Page 2 Year R1 R2 R3 R4 R5 2023 7,236,427 789,796 1,816,725 734,199 512,362 2024 6,282,480 615,916 2,210,990 1,293,915 709,618 b. Year R1 R2 R3 R4 R5 2014 6,302,847 900,503 2,094,010 1,109,103 942,836 2015 6,525,569 798,562 2,082,916 1,091,025 851,230 2016 7,182,680 543,334 1,683,989 1,090,317 880,075 2017 6,687,093 605,022 1,958,763 1,189,024 909,428 2018 6,416,804 578,971 2,091,430 1,247,382 1,014,713 2019 6,445,704 679,117 2,463,307 1,173,062 588,111 2020 6,196,071 709,146 2,029,859 1,341,945 1,103,573 2021 6,422,137 608,325 1,910,688 1,179,194 1,228,960 2022 6,709,675 701,874 2,120,979 1,014,161 802,811 2023 7,367,041 811,508 1,905,571 750,791 514,389	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	5	Risk Methodology & Assessment	5.5.2
86	SPD	001	SPD_001	13	No	SPD_001_Q13	Identify any ignitions in 2024 associated with assets where PG&E had an existing corrective notification at the time of the ignition. Provide a spreadsheet listing each such ignition (as rows) in the same format as that provided to the CPUC in the annual CPUC Fire Ignition Data (see this website for the publicly available version: Wildfire and Wildfire Safety). a. Include one additional column that includes the corrective notification (i.e., work order or tag).	a. PG&E observed 166 CPUC-reportable ignition events in 2024 associated with equipment failure. We were able to identify 20 CPUC-reportable ignitions where the suspected cause was equipment failure, and the support structure associated with the location of the fire had an open EC or LC notification at the time of the ignition event. Please see "WMP-Discovery2026-2028_DR_SPD_001-Q013Atch01.xlsx" for the information associated with those 20 fires.	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	1	No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-01
87	SPD	001	SPD_001	14	No	SPD_001_Q14	Identify any ignitions in 2024 associated with assets where PG&E had an existing corrective notification at the time of the ignition which PG&E attributes as causally connected to the ignition. Provide a spreadsheet listing each such ignition (as rows) in the same format as that provided to the CPUC in the annual CPUC Fire Ignition Data (see this website for the publicly available version: Wildfire and Wildfire Safety). a. Include one additional column that includes the existing corrective notification number (i.e., work order or tag number). b. Provide the existing corrective notification for each identified ignition (i.e., the work order).	a. PG&E observed 166 CPUC-reportable ignition events in 2024 associated with equipment failure. We were able to identify 7 CPUC-reportable ignitions that have completed our ignition analysis process where the suspected cause is equipment failure and the failure mode associated with the fire was specifically captured in the scope of a EC or LC corrective notification created prior to, and still open at, the ignition event. Please see "WMP-Discovery2026-2028_DR_SPD_001-Q014Atch01.xlsx" for information associated with those 7 fires. Please note that PG&E has determined that the conditions identified by the provided corrective notifications are likely related to the failure mode of an ignition event but cannot definitively determine causality. b. Please see the attachments listed below for the requested information: • WMP-Discovery2026-2028_DR_SPD_001-Q014Atch02CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q014Atch03CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q014Atch04CONF.pdf WMP-Discovery 2026-2028_DR_SPD_001-Q014 Page 2 • WMP-Discovery2026-2028_DR_SPD_001-Q014Atch05CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q014Atch06CONF.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q014Atch07CONF.pdf	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	8	No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-01
88	SPD	001	SPD_001	15	No	SPD_001_Q15	Identify any outages in 2024 associated with assets where PG&E had an existing corrective notification at the time of the outage which PG&E attributes as causally connected to the outage. Provide a list with unique IDs of each outage which can be cross-referenced with the data provided as part of the 2024 QDR spatial data and the corrective notification number.	Distribution: Please see "WMP-Discovery2026-2028_DR_SPD_001-Q015Atch01.xlsx" for distribution outages associated with overhead assets where PG&E had an existing corrective notification at the time of the outage. Due to the volume of data, the method used to derive this data defines "causally connected" as having a Level 1 (emergency) tag, linked to an unplanned outage, attributed to an equipment failure associated with the primary indicator on the same electric facility as the open maintenance tag. As this is a data pull and each event has not been desktop reviewed, there may be cases where the associated notification was not causal—for example, an instance in which a pole with two crossarms and an open tag on crossarm 1 experiences an outage caused by a failure of crossarm 2. Similarly, there may be cases where causally connected notifications are excluded—for example, an instance in which a pole fails due to a broken/damaged guy which had an existing notification. Details on the filtering procedure are included in "WMP-Discovery2026-2028_DR_SPD_001-Q015Atch01.xlsx." Transmission: Please see "WMP-Discovery2026-2028_DR_SPD_001-Q015Atch02.xlsx" for transmission outages associated with assets where PG&E had an existing corrective notification at the time of the outage. Most outages are linked to an asset through manual review, which allows lookup of notifications on that asset; however, the outage dataset still contains some entries where the location is WMP-Discovery 2026-2028_DR_SPD_001-Q015 Page 2 approximate, and these locations were not considered in the analysis. Determining which open notifications have a causal connection was performed by a combination of methods: this data already is collected for a subset of outages through previous manual review; some outages are associated with Level 1 findings that were reviewed as part of Question 016, and the remaining outages were analyzed by attempting to match the Facility/Damage/Action (FDA) of all open notifications on the asset to the outage cause and asset type information. The last of these approaches is not expected to be completely accurate due to the level of granularity and imperfect alignment between notification FDAs and outage cause and asset type information. An outage may have more than one open notification with a causal connection; a separate list sorted by the	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	2	No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-01
89	SPD	001	SPD_001	16	No	SPD_001_Q16	Identify any level 1 corrective actions in 2024 associated with assets where PG&E had an existing corrective notification at the time of the level 1 corrective action which PG&E attributes as causally connected to the level 1 corrective action (one example would be if a level one corrective action was created on a pole with a priority E tag failure). For each instance, provide a list of the electric corrective notification numbers for both the existing corrective notification and the new level one corrective action, the priority level of the existing notification, as well as the date of the occurrence, and the unique ID of each outage (if available) which can be cross-referenced with the data provided as part of the 2024 QDR spatial data.	Distribution: Please see "WMP-Discovery2026-2028_DR_SPD_001-Q016Atch01.xlsx" for Level 1 corrective notifications associated with overhead distribution assets where PG&E had an existing corrective notification at the time of failure. Due to the volume of data, the method used to derive this data defines "causally connected" as having a Level 1 (emergency) tag, attributed to an equipment failure associated with the primary indicator on the same electric facility as the open maintenance tag. As this is a data pull and each event has not been desktop reviewed, there may be cases where the associated notification was not causal—for example, an instance in which a pole with two crossarms and an open tag on crossarm 1 experiences a failure of crossarm 2. Similarly, there may be cases where causally connected notifications are excluded—for example, an instance in which a pole fails due to a broken/damaged guy which had an existing notification. Details on the filtering procedure are included in "WMP Discovery2026-2028_DR_SPD_001-Q016Atch01.xlsx."	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	2	No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-01
90	SPD	001	SPD_001	17	No	SPD_001_Q17	Provide all Preliminary Ignition Investigation Reports (PIIRs) associated with Underground Ignitions.	Please see the records below for PG&E's PIIRs associated with underground ignitions • WMP-Discovery2026-2028_DR_SPD_001-Q017Atch01_Redacted.pdf • WMP-Discovery2026-2028_DR_SPD_001-Q017Atch02_Redacted.pdf Please note, we have provided redacted copies of the requested PIIRs in an effort to provide them expeditiously.	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	2	No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-01
91	SPD	001	SPD_001	18	No	SPD_001_Q18	Provide all PIIRs for ignitions in the HFTD in 2024.	Please see PG&E's PIIRs for ignitions in the HFTD in 2024 at "WMP-Discovery2026-2028_DR_SPD_001-Q018Atch01.zip."	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	1	No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-01

92	SPD	001	SPD_001	19	No	SPD_001_Q19	Provide all Priority A work orders PG&E created between 2020 and 2024 in the same format as "WMP-Discovery2023-2025_DR_SPD_019-Q002Atch01CONF," with the exception that column T and U need not be filled out. Include Priority As for both distribution and transmission. a. For the purposes of this response to the data request, use column J ("Completion Data (if applicable)" for the date the work order was closed and column R ("Last Maintenance Data") as the date the field work was finished. b. Correct Column P so the values are either Y (for yes, a wire down occurred) or N (for no, a wire down did not occur), unless there is a unique identifier for the wires down that does not match the Outage ID. Add a new column with the Outage Event ID that matches the unique outage ID identifier for the QDR data set. For instance, in the current data set, the column Q outage ID 1910360 appears to refer to an event in 2023, but in the QDR spatial data set, outage ID 1910360 appears to refer to an event in 2024. Continue to use the same methodology for creating outage event IDs for column Q. c. Explain why the QDR spatial data appears to have a different outage event IDs than those specified in column Q.	Please see attachment "WMP-Discovery2026-2028_DR_SPD_001-Q019Atch01.xlsx" for Priority A distribution work orders, and attachment "WMP-Discovery2026-2028_DR_SPD_001-Q019Atch02.xlsx" for Priority A transmission work orders. With regard to "WMP-Discovery2026-2028_DR_SPD_001-Q019Atch01.xlsx," please note that PG&E has refreshed the data provided using its Quarterly Data Reports (QDR). PG&E amended its Priority A tag reporting in its past QDRs to more accurately reflect Priority A tag metrics, and this submission reflects that amendment. WMP-Discovery 2026-2028_DR_SPD_001-Q019 Page 2 a. Distribution: Column J has been changed to reflect the SAP closure date. Column T "Last maintenance date (if applicable)" and Column I "Completed On Date" contain the date the notification was completed in the field. Transmission: Column J has been changed to reflect the SAP closure date. Note that if a notification is re-opened for administrative reasons, when it is re-closed the SAP closure date will change. Column R now contains the date the notification was completed in the field. The remaining logic is identical to that used to generate the previously provided data in "WMP-Discovery2023-2025_DR_SPD_019-Q002Atch01CONF.xlsx," in which outages are matched to A-priority notifications on the same day and circuit. b. Distribution: Column R "OutageID QDR" has been added. Please note that there are multiple unique outage identifiers in PG&E's systems of record, Integrated Logging and Information System (ILIS). The OutageID in the QDR represents the outage_log_id, which is the primary identifier of an outage in ILIS where this data was pulled from. The outage event IDs specified in column Q are the Outage Information System (OIS) number, which is the primary identifier of the same outage in the Distribution Management System (DMS). Please note that PG&E has populated "Outage event ID" using the OIS number associated with each respective Priority A tag. There may be instances in which an OIS identifier is not associated with an outage (e.g. a troubleshooter dispatched to an emergency that does not result in an outage), and therefore where the "Outage event ID" column is populated but the "OutageID QDR" column is not. Please note PG&E has endeavored to match the provided Priority A tags to outages associated with the conditions to the best of its ability. However, certain circumstances such as data	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	2	No	8	Grid Design, Operations, and Maintenance	8.6
93	SPD	001	SPD_001	20	No	SPD_001_Q20	Provide an update version of "WMP-Discovery2023-2025_DR_CalAdvocates_041-Q005Atch01.xlsx" if the risk model has been updated since this spreadsheet was generated. a. Additionally, update the narrative and table provided in the response "WMP-Discovery2023-2025_DR_CalAdvocates_041-Q001.pdf"	The risk model, WDRMv4, has not been updated since the generation of this spreadsheet.	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	5	Risk Methodology & Assessment	5.4
94	SPD	001	SPD_001	21	No	SPD_001_Q21	SPD is attempting to compute the cost per unit for many of the WMP initiatives tracked in the WMP Implementation Dashboard (WMP Implementation Dashboard). Review and confirm the cost per unit is correct for the initiatives. See the attached workbook titled PGE WMP Implementation Dashboard.xlsx. a. Follow all of the instructions within the cells and notes included in PGE WMP Implementation Dashboard.xlsx. b. SPD is attempting to do a similar exercise for the 2026-2028 WMP but the QDR tabular data was not submitted. SPD saw some of the data in the WMP, but was unable to determine if this data was inclusive of all initiatives. Where should SPD look for equivalent data?		Eddie Schmitt	4/15/2025	5/7/2025			No	3	Overview of WMP	3.6
95	SPD	001	SPD_001	22	No	SPD_001_Q22	The 2026-2028 WMP states on page 182 that the System Hardening Project Scoping Decision Tree and Process is shown in Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3 will begin to inform the selection of projects in 2027. What methodology is being used for 2026?	The system hardening decision tree presented in PG&E's 2023-2025 Base WMP (Figures SRN-PG&E-23-05-06A, SRN-PG&E-23-05-06B, SRN-PG&E-23-05-06C) is the decision tree used as the starting point for selecting system hardening mitigations for 2026.	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.1
96	SPD	001	SPD_001	23	No	SPD_001_Q23	Provide a narrative explanation regarding how the decision tree on pg. 125 of PG&E's 2026-2028 WMP (Figure PG&E-8.1.3-4) and the decision tree on pg. 183-185 (Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3) are related. a. Provide examples of how the four decision trees were used to determine some form of system hardening as the selected mitigation at a given circuit segment. The examples should exhaust all of the system hardening results made possible by these four decision trees.	The mitigation selection, Planning and Execution process referenced in Figure PG&E-8.1.3-4 describes the general process by which PG&E's Investment Planning Organization considers budgets for mitigation programs. Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3 is the decision tree used by the System Hardening Program for choosing system hardening mitigation alternatives for projects starting in 2027. We use the budgets developed by Investment Planning shown in Figure PG&E-8.1.3-1.4 to fund the system hardening mitigations. a. Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3 is one single decision tree that we use to choose system hardening mitigation alternatives for projects starting in 2027. It is shown in the WMP as three individual figures so that it is more legible. To be clear, there are not four decision trees used to determine some form of system hardening as the selected mitigation at a given circuit segment—there is only one decision tree (Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3). The system hardening results made possible by the decision tree are: (1) do not implement system hardening; (2) implement a 100% overhead hardening solution; (3) implement a 100% undergrounding solution; (4) implement a hybrid hardening WMP-Discovery 2026-2028_DR_SPD_001-Q023 Page 2 solution where portions of a line are undergrounded and other portions are overhead hardened; and (5) implement a line removal with remote grid solution. Figure PG&E-8.1.3-1.4 is a high-level illustration showing a life-cycle view of how we consider risk drivers to develop mitigation initiatives, develop an investment plan to fund the mitigations and then execute them. This decision tree is not used to	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.3
97	SPD	001	SPD_001	24	No	SPD_001_Q24	In response to WMP-Discovery2026-2028_DR_TURN_002-Q006, PG&E references the Wildfire Benefit Cost Analysis (WBCA) Tool. Provide a description of the WBCA Tool as referenced in PG&E's 5th Revision to its 2023-2025 WMP on pg. 425 and on page 187 of the 2026-2028 WMP that includes the following: a. An explanation of how Cost-Benefit Ratios are utilized within the Tool. b. An explanation of how the Tool complies with the requirements of D.22-12-027. c. An explanation of how the Tool complies with the requirements of D.24-05-064. d. A definition for each of the following terms presented in TABLE RN-PG&E-23-05-3 of PG&E's 5th Revision to its 2023-2025 WMP on pg. 427. i. PVRR Cap. Invest. ii. Lifetime O&M Costs iii. Wildfire iv. Public Safety v. Normal Reliability vi. PSPS vii. EPSS viii. Total Risk ix. Risk Avoidance over Lifetime Benefit x. Residual Risk over Lifetime xi. Lifetime – Benefit-Cost e. Provide a step by step explanation of how each of the terms in Question 24d. are calculated.	a. PG&E uses its Wildfire Benefit Cost Analysis (WBCA) tool to estimate project costs, wildfire risk reduction, and reliability improvements that are applicable to system hardening mitigations (undergrounding, overhead hardening + Enhanced Powerline Safety Setting + Downed Conductor Detection, and hybrid mitigations). The WBCA considers: the approximate capital costs to construct a system hardening project; the expected capital and expense operation and maintenance (O&M) costs for the life of the asset; financing costs; ignition risk reduction and outage program reliability; the benefits period/asset life; rebuild costs for overhead assets; and the effectiveness of different mitigations. The WBCA output for each circuit segment is an estimated cost to build and maintain system hardening alternatives, a Cost Benefit Ratio (CBR), and net benefit analysis. PG&E uses the CBR and net benefit results to inform mitigation selection at the circuit-segment level. b. D.22-12-027 replaced the Multi-Attribute Value Framework (MAVF) with a Cost Benefit Approach that includes standardized dollar valuations of Safety, Electric Reliability and Gas Reliability Consequences from risk events. Investor-Owned Utilities (IOUs) are required to use the Cost-Benefit Approach to assess and rank risks and mitigations. PG&E's WBCA complies with the requirements in D.22-12-027 by using standardized dollar valuations for safety and electric reliability consequence to calculate a CBR. CBRs are calculated within the WBCA for various mitigation alternatives on each circuit segment. PG&E evaluates the CBR results as part of our mitigation selection process. We will use the outputs from the WBCA as one factor for informing our mitigation alternative selection. D.22-12-027 allows a utility to consider other factors when selecting a mitigation alternative if we explain how other factors influenced our mitigation selection.1 c. D.24-05-064 modified the Risk-Based Decision-Making Framework (RDF) included in Appendix A to D.22-12-027 and includes four salient requirements: (1) require the IOUs to present cost-benefit ratios (CBR) for each general rate case post-test year rather than an aggregate CBR for the entire post-test year period;2 (2) should require the IOUs to determine reporting tranches in the RDF by using combinations of quantiles of LoRE and CoRE where portions of a risk with the highest 20 percent of LoRE would be grouped within a tranche and the highest 20 percent of CoRE would be grouped in another tranche or, where data is available, device IOUs to d. Yes, PG&E intends to use the WBCA, in addition to other analyses, to select mitigations for our 2027 GRC system hardening program. i. N/A ii. We will use the WBCA to: (1) aggregate risk analysis for circuit segments and (2) generate CBRs and Net Benefits for mitigation alternatives (undergrounding, overhead hardening + Enhanced Powerline Safety Setting + Downed Conductor Detection, and hybrid mitigations) for each circuit segment. PG&E will further evaluate the circuit segment risk ranking, CBRs and Net Benefits from the WBCA, along with other considerations such as tree-strike risk and ingress/egress, to ultimately select the mitigation for each circuit segment. WMP-Discovery 2026-2028_DR_SPD_001-Q025 Page 2 a) In the 2024 RAMP PG&E planned three system hardening mitigations for 2027-2030: 1. System hardening undergrounding (WLDFR-M022); 2. System hardening overhead hardening (WLDFR-M002) and 3. Line removal with remote grid (WLDFR-M011). The three system hardening mitigations planned in the 2024 RAMP will be considered in the WBCA for PG&E's next post-2027 GRC.	Eddie Schmitt	4/15/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	5	Risk Methodology & Assessment	5.4
98	SPD	001	SPD_001	25	No	SPD_001_Q25	State the filings where PG&E has used the Wildfire Benefit Cost Analysis Tool (i.e. RAMP, GRC, WMP, other proceedings or filings) a. Does PG&E intend to apply the Wildfire Benefit Cost Analysis Tool in its 2027 Test Year GRC Application? i. If no, explain why not. ii. If yes, explain how this tool will be applied in the 2027 Test Year GRC Application. a) Which mitigations presented in the 2024 RAMP Application will be impacted by PG&E's use of the Wildfire Benefit Cost Analysis Tool when PG&E files its 2027 Test Year GRC Application?		Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	5	Risk Methodology & Assessment	5.4
99	SPD	001	SPD_001	26	No	SPD_001_Q26	The 2026-2028 WMP references the WBCA Tool, but SPD has reviewed other filings like PG&E's 2024 RAMP Application (R.24-05-008) where this tool is not referenced. a. The WBCA was not referenced in PG&E's 2024 RAMP Application. During the preparation of PG&E's 2024 RAMP, were any aspects of the WBCA used to determine mitigation effectiveness values and/or mitigation selection and, if so, explain in detail how. If not, explain why not. i. When did PG&E begin developing the WBCA Tool? b. List the differences between the way mitigation effectiveness values were calculated when preparing PG&E's 2024 RAMP Application and when preparing the 2026-2028 WMP submission. i. Provide an explanation for each difference listed. c. List the differences between the way mitigations were selected for a given asset when preparing PG&E's 2024 RAMP Application and when preparing the 2026-2028 WMP submission. i. Provide an explanation for each difference listed. d. In WMP-Discovery2026-2028_DR_TURN_002-Q006, PG&E stated the WBCA tool is still in development in its response to TURN's questions, but pages 187 through 192 of the 2026-2028 WMP appear to present the tool as complete. What portions of the WBCA Tool are still under development? e. SPD understands that PG&E has two risk models for its wildfire risk, (1) the EORM and (2) the WDRM/WTRM. How does the WBCA Tool incorporate information from both of these risk models?	a. The WBCA was not used for any analysis in the 2024 RAMP Application as the WBCA tool was not developed at the time of the 2024 RAMP Application. i. PG&E conceptualized the WBCA in 2023 and began developing the WBCA tool in earnest in 2024 based upon OEIS' Revised EUP Guidelines and described it in the 2023 WMP Revision Notice 23-05. Starting this year, the inputs of PG&E's WBCA are being used to inform the cost-benefit analysis for scoping using the System Hardening Project Scoping Decision Tree and Process (shown in Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3) for work that will be completed in 2027, and included in our Test Year 2027 GRC and our EUP. b. The mitigation effectiveness values in the 2026-2028 Base WMP submission are calculated at the circuit segment-level (see Section 8.2.1, p. 187). When analyzing a potential project, the WBCA uses specific effectiveness values for those circuit segments based on the unique risk sub-drivers (outage combinations) for that location, as identified by the WDRM. The 2024 RAMP Application mitigation effectiveness values were calculated using the system averages for undergrounding work, and sub-driver mitigation effectiveness values for covered conductor. The mitigation effectiveness values in the 2024 RAMP Application are aggregated at the tranche level rather than the circuit segment-level. This was based on analysis available at the time of filing. c. The 2026-2028 Base WMP submission uses the most recent mitigation effectiveness analysis that uses a preliminary version of the WBCA tool that was not available at the time of the 2024 RAMP application. In addition, the 2024 RAMP analysis focuses on tranche-level analysis rather than circuit segment analysis. c. For the 2024 RAMP Filing, the mitigation selected was based on a filtering of the circuit segments from 1-N based on wildfire risk rank. There was no cost-benefit analysis conducted for the RAMP filing. It was assumed that projects selected for undergrounding had a hybrid split between overhead hardening and undergrounding (90% of a circuit segment was assumed to be undergrounding and 10% of the circuit segment assumed to be overhead hardening). The focus for mitigation selection at the time of the 2024 RAMP filing was risk reduction	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	5	Risk Methodology & Assessment	5.4
100	SPD	001	SPD_001	27	No	SPD_001_Q27	Provide SPD with any follow up responses PG&E provides in response to WMP-Discovery2026-2028_DR_TURN_002-Q006e-f	Please see "WMP-Discovery2026-2028_DR_TURN_002-Q006Supp01.pdf," which is also available on our website at Community Wildfire Safety Program.	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	N/A	N/A	N/A

101	SPD	001	SPD_001	28	No	SPD_001_Q28	Building on PG&E's response in WMP-Discovery2026-2028_DR_TURN_002-Q009Atch01.xlsx, fill out the Table provided below. The rows labeled "HFTD Tier 2 with Spans Outside HFTD" and "HFTD Tier 3 with Spans Outside HFTD" refers to miles that meet the requirements found on pg. 16 of Energy Safety's 10-Year Electrical Undergrounding Plan Guidelines.	Building on PG&E's response in WMP-Discovery2026-2028_DR_TURN_002-Q009Atch01.xlsx, fill out the Table provided below. The rows labeled "HFTD Tier 2 with Spans Outside HFTD" and "HFTD Tier 3 with Spans Outside HFTD" refers to miles that meet the requirements found on pg.16 of Energy Safety's 10-Year Electrical Undergrounding Plan Guidelines. Total Miles OH Hardening Miles Year X OH replaced by UG Miles Year X Total HFTD HFTD Tier 2 HFTD Tier 2 with Spans Outside HFTD HFTD Tier 3 HFTD Tier 3 with Spans Outside HFTD Additional HFRA Answer 028 PG&E does not have the requested information and does not maintain the data required to compile such information. PG&E would need to expend significant time, effort, and cost to perform the evaluations necessary to create the information. Please let us know	Eddie Schmitt	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_001.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.2
102	OEIS	003	OEIS_003	1	No	OEIS_003_Q1	Regarding Tree Removal Inventory (TRI) PG&E does not list TRI as a vegetation management program in its 2026-2028 Base WMP. On page 363, PG&E's WMP states "PG&E is in the process of evaluating which component(s) of the ... [Tree Removal Inventory (TRI)] scope will be incorporated into the Distribution Routine Patrol Program." a. How many trees are currently listed for work under TRI? b. How many trees does PG&E expect to remain in the TRI list on January 1, 2026? c. How will PG&E mitigate trees listed for work under TRI during the 2026-2028 cycle? d. When does PG&E expect to mitigate all the trees listed for work under TRI?	a. As of April 16, 2025, there are currently 45,804 trees listed for tree work under TRI. Of those trees, 32,100 are constrained. b. We estimate there will be approximately 291,792 trees still to be reviewed in the TRI inventory as of January 1, 2026. This includes 223,963 trees that have not been released for review in the TRI work plans yet, plus an estimated 67,829 trees that may be remaining from the current year's work plan, which may include trees where work is scheduled, trees that are listed for work but are constrained, and trees that have not yet been reviewed. c. We are planning to mitigate TRI trees through the Distribution Routine program. See the 2023-2025 WMP page 622 for more information regarding methods of mitigation. d. PG&E expects to mitigate all the trees listed in the TRI inventory by 2030.	Nathan Poon	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_003.zip	0	No	Appendix D: Areas of Continued Improvement	Areas of Continued Improvement	ACI PG&E-25U-08
103	OEIS	003	OEIS_003	2	No	OEIS_003_Q2	Regarding Constrained Vegetation Management Work Orders In response to data request OEIS-P-WMP_2025-PGE-001, Questions 6, PG&E lists 7,084 Priority 2 constrained work orders. a. In the table below, categorize all 7,084 constrained work orders by age (days since inspection) and HFTD tier.	Please see the table below for the 7,084 constrained work orders by age (days since inspection) and HFTD tier. a. Please note, the data set utilized to generate the table below was pulled on 12/31/2024 and aligns with the data that was used to populate the response in the prior OEIS-001 Question 6 response. 1 1 As of 4/18/2025 5,226 of the 7,084 constrained work orders pulled 12/31/2024 remain constrained. WMP-Discovery 2026-2028_DR_OEIS_003-Q002 Page 2 HFTD Area 0-30 Days 31-90 Days 91-180 Days 181-270 Days 270-365 Days 366+ Days Non-HFTD 6 939 723 260 188 101 HFTD Tier 2 7 963 904 283 139 176 HFTD Tier 3 4,814 1074 747 404 67	Nathan Poon	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_003.zip	0	No	9	Vegetation Management & Inspections	9.12
104	OEIS	003	OEIS_003	3	No	OEIS_003_Q3	Regarding System Hardening Decision-Making Regarding Figure PG&E-8.2.1-2: PG&E's System Hardening Project Scoping Decision Tree and Process (PG&E's 2026-2028 Base WMP, pp. 183-185): a. Define "NB" as seen for "UG NB > OH NB." i. How does PG&E calculate UG NB and OH NB for the purpose of determining these criteria? ii. How does NB differ from the CBR in terms of how benefit is calculated? iii. Does PG&E calculate benefit (for NB and CBR) based on overall effectiveness for mitigations (as seen in Table PG&E-6.1.3-1, PG&E's 2026-2028 Base WMP, p. 128), or based on location-specific effectiveness accounting for local risk drivers? Provide a brief explanation of this calculation in the response. b. Provide the spatial data (via KML or KMZ) for the tree strike potential throughout PG&E's service territory, showing a heat map across circuit segments for areas with no/low (0-5) versus high (6+) strike potential. c. How are areas of egress/ingress concern identified by the Public Safety Specialist (PSS) team (i.e. annually produce a list of areas of concern, review specific projects through this process to evaluate concerns once triggered)? i. Provide a list of areas that have been identified by the PSS team for ingress/egress concerns. This should include the circuit protection zone. ii. What criteria and threshold does PG&E use when determining whether a circuit protection zone (CPZ) is affected by PSPS? e. Provide a list of projects scheduled for 2026 to 2028 that have been triggered to be a hybrid solution (from strike tree potential, ingress/egress concerns, or PSPS impacts), as depicted by one of the three criteria listed in the decision tree. Provide the information via Excel following the table below for each project. f. Provide a list of projects scheduled for 2026 to 2028 that are undergrounding projects where the UG CBR is greater than the OH+EPSS CBR, but due to the UG CBR being within 50% of the OH+EPSS CBR, the project is scoped to be undergrounded. This must also include hybrid projects that were triggered from the criteria discussed in Q03(e). Provide the information via Excel following the table below for each project.	c. NB is defined as Net Benefit. i. Net Benefit is calculated as 'Net Benefit = Benefits – Costs ii. Net benefit is the difference between total present value of benefits and total present value of costs (costs are subtracted from benefits) whereas a cost benefit ratio compares the total present value of benefits expected from a project to the total present value of its costs (the total project benefits are divided by the total project costs). The cost and benefit inputs used in both the CBR and net benefit calculations are the same. PG&E considers multiple factors in selecting alternatives because an over emphasis on CBR devalues high cost / high benefit projects. CBR does not consider the absolute benefits and holistic value of permanent risk mitigations, and when used as the sole criteria, results in situations where risk is permanently left on the system, including on circuit segments where undergrounding's benefits are greater than those of overhead hardening. iii. The CBR calculation in the WBCA starts with the overall effectiveness values as seen in Table PG&E-6.1.3-1 and then calculates a location-specific mitigation effectiveness value for each circuit-segment. This location-specific effectiveness value is then multiplied by the same location's initial risk value to calculate the risk reduction benefit of the mitigation. Effectiveness calculation details can be found in PG&E's response to WMP-Discovery2026-2028_DR_TURN_002-Q005, with follow-up information to be provided in WMP-Discovery 2026-2028_DR_SPD_001-Q010. b. PG&E does not have a single KMZ file that represents tree strike potential throughout PG&E's service territory. Instead, each circuit is associated with its own set of KMZ files based on the following conductor types: • Not Hardened • #2Cu TW • 1/0ASR TW • 397AAC TW • 715AAC TW For reference, please see the attachment folder "WMP-Discovery2026-2028_DR_OEIS_003-Q04Attach1.zip," which contains example KMZ files for circuits	Nathan Poon	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_003.zip	6	No	8	Grid Design, Operations, and Maintenance	8.2.1
105	OEIS	003	OEIS_003	4	No	OEIS_003_Q4	Regarding Effectiveness Analysis Regarding PG&E's response to TURN's Data Request 2 Question 5, Attachment 1: a. In its response to the data request, PG&E states that "Company-initiated outages, including PSPS outages, outages of unknown cause, as well as outages on existing underground assets are not applicable to this study." i. Why does PG&E not include outages on existing underground assets? ii. 581 events are shown as "N/A" that are not under the GRC drivers of "Unknown" or "Utility Work / Operation." A. Are these 581 events limited to existing underground assets or PSPS outages? B. If not, why are these listed as "N/A" for determining effectiveness? b. PG&E's response included a spreadsheet with a tab accounting for risk scores and associated wildfire intensity and outcome when calculating for PSPS effectiveness. Provide a detailed description of how PG&E accounts for wildfire intensity and outcome when determining the effectiveness of reducing wildfire risk for mitigations.	a. i. The purpose of the study is to analyze the effectiveness of an array of mitigations in comparison to existing bare overhead conductors within the HFTD. Replacement of existing underground assets, which are mostly located in urban settings, are not the focus of system hardening mitigations. ii. PG&E notes 581 outage combinations (not 561) with effectiveness values of "N/A" that are not explicitly listed as "Unknown" or "Utility Work / Operation" drivers. WMP-Discovery 2026-2028_DR_OEIS_003-Q004 Page 2 A. These 581 outage combinations are categorized as follows: (i) 221 were underground outages (ii) 121 have insufficient information to assess mitigation effectiveness (iii) 100 were caused by environmental/external forces of either wildfires or ice/snow storms and outage cause could not be properly associated with any specific equipment failure (iv) 65 were substation outages (v) 74 were caused by 3rd party/metering equipment B. PG&E excluded these outage events from consideration in the analysis as they are not directly applicable to system hardening mitigations. b. In determining the effectiveness of reducing wildfire risk for mitigation, PG&E accounts for wildfire intensity and outcomes by differentiating (a) the type of fire – categorized as destructive, large, or small – and (b) whether the fire would occur during Red Flag Warning (RFW) conditions. This distinction is important because both the environmental conditions and the potential severity of a fire influence the overall risk. The likelihood of a destructive fire is significantly higher under RFW conditions compared to non-RFW conditions, and the fire type further informs the expected impact. When assessing the effectiveness of wildfire risk mitigations, especially Public Safety Power Shutoffs (PSPS), PG&E factors in this elevated risk by specifying effectiveness in reducing likelihood of ignition by different outcomes (which is combination of fire severity and RFW flag) if applicable. This allows PG&E to also	Nathan Poon	4/15/2025	4/23/2025	4/23/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_003.zip	0	No	6	Wildfire Mitigation Strategy Development	6.1.3-1
106	OEIS	003	OEIS_003	5	No	OEIS_003_Q5	Regarding Risk Reduction a. Provide a copy of Table 6-4: Summary of Risk Reduction for Top Risk Circuits (PG&E's 2026-2028 Base WMP, p. 163) that has the overall utility risk scores for all top risk circuits broken out by year without including the expected risk reduction from EPSS.	Please see "WMP-Discovery2026-2028_DR_OEIS_003-Q005Atch01.xlsx" for the Summary of Risk Reduction without the expected risk reduction from EPSS.	Nathan Poon	4/15/2025	4/23/2025	4/23/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_003.zip	1	No	6	Wildfire Mitigation Strategy Development	6.2.1
107	OEIS	003	OEIS_003	6	No	OEIS_003_Q6	Regarding Pole Clearing Table 9-2 shows an Activity Timeline Target of 365 days for Pole Clearing Program (VM-02). a. Explain how this timeline target allows PG&E to maintain compliance with PRC 4292. b. Provide documentation of an example of past conditions that required PG&E to use a substantial portion of the 365-day Activity Timeline Target to complete pole clearing work.	a. To maintain compliance with PRC 4292, PG&E performs year-round pole clearing activities. Per TD-7112S Section 7.1 "Annual Planning", pole clearing personnel must perform inspection and work at each designated location to ensure compliance with PRC § 4292. Pole clearing activities occur during four phases which are conducted annually: • Inspection: October of the Prior Year – March • Initial Clear: January – April • Maintenance 1 (M1) Except for "Inspect No Work" locations, all documented Subject Poles are targeted for clearance: May – August • Maintenance 2 (M2) Except for "Inspect No Work" locations, all documented Subject Poles are targeted for clearance: September – December WMP-Discovery 2026-2028_DR_OEIS_003-Q006 Page 2 b. Please refer to response in 'A' for the four phases established and utilized annually by the Pole Clearing program that covers the 365-day timeline needed to ensure we remain compliant with the PRC 4292 guidelines for our VM-02 initiative. These phases allow us to address constraints, regrowth and	Nathan Poon	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_003.zip	0	No	9	Vegetation Management & Inspections	9.4
108	OEIS	003	OEIS_003	7	No	OEIS_003_Q7	Regarding Substation Inspection Timelines Table 9-2 shows an Activity Timeline Target of 274 days for Substation Inspections - Distribution (VM-05), Substation Inspections - Transmission (VM-06), and Substation Inspections - Power Generation (VM-07). a. Explain how this timeline target allows PG&E to maintain compliance with PRC 4291. b. Provide documentation of an example of past conditions that required PG&E to use a substantial portion of the 274-day Activity Timeline Target to complete pole clearing work.	a. PG&E targets completion of inspections under VM-05, VM-06, and VM-07 no later than the end of Q3 so that any related mitigation work required to maintain compliance with PRC 4291 can be completed by the end of the year. b. PG&E understands this request to refer to VM-05, VM-06, and VM-07, which perform defensible space inspections for substations and powerhouses, not pole clearing work. Please see "WMP-Discovery2026-2028_DR_OEIS_003-Q007Atch01.jpg" for an example of an external factor which may temporarily delay our ability to perform defensible space inspections at substations and powerhouses. In general, those factors may include, but are not limited to, physical conditions, weather conditions, active wildfire, and other safety considerations. This example is a road access issue with a snowed-in road that temporarily delayed access to the substation.	Nathan Poon	4/15/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_003.zip	1	No	8	Grid Design, Operations, and Maintenance	8.3.15
109	SPD	002	SPD_002	1	No	SPD_002_Q1	Every Friday by noon, provide SPD with copies of any data requests PG&E received from the Office of Energy Infrastructure Safety (Energy Safety) or any other party within the previous seven days. Include any attachments, appendices or datasets in the native format that were submitted to PG&E with the data requests.	PG&E objects to this request on the grounds that continuing discovery obligations are not permitted under California law. Bles v. Exxon Mobil Corp., 124 Cal.App.4th 1315, 1328 (2004); Code Civ. Proc. § 2030.060(g). Notwithstanding and without waiving this objection, PG&E responds as follows. Discovery provided to Energy Safety and other requesting parties is publicly posted and available on PG&E's website at Community Wildfire Safety Program. The native format version (Excel) of PG&E's WMP DR Summary is updated on our website each Thursday. We will provide confidential versions of any confidential responses and/or attachments submitted to Energy Safety or any other party every Friday. We will do our best to provide such responses by noon each Friday, or as soon as is reasonably possible	Eddie Schmitt	4/16/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_002.zip	0	No	N/A	N/A	N/A

110	SPD	002	SPD_002	2	No	SPD_002_Q2	Every Friday by noon, provide SPD with any responses to data requests that PG&E sent to Energy Safety or any other party within the previous seven days. Include any attachments, appendices or datasets in the native format that were sent to Energy Safety or any other party with the data requests.	PG&E objects to this request on the grounds that 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 this objection, PG&E responds as follows. Discovery provided to Energy Safety and other requesting parties is publicly posted and available on PG&E's website at Community Wildfire Safety Program. The native format version (Excel) of PG&E's WMP DR Summary is updated on our website each Thursday. We will provide confidential versions of any confidential responses and/or attachments	Eddie Schmitt	4/16/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_002.zip	0	No	N/A	N/A	N/A
111	SPD	002	SPD_002	3	No	SPD_002_Q3	Every Friday by noon, provide SPD with the updated native format version (i.e. Excel) of the PG&E WMP DR Summary1 that is submitted weekly to the Energy Safety docket.	PG&E objects to this request on the grounds that 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 this objection, PG&E responds as follows. Discovery provided to Energy Safety and other requesting parties is publicly posted and	Eddie Schmitt	4/16/2025	4/18/2025	4/18/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_002.zip	0	No	N/A	N/A	N/A
112	TURN	003	TURN_003	1	No	TURN_003_Q1	Please provide PG&E's wildfire risk model (WDRM v4) assumptions and results in Excel. Please provide all outputs and assumptions available. At minimum, this should include Circuit Protection Zone (CPZ) name, likelihood, consequence, total risk score, and number of overhead miles of each CPZ in separate columns. In addition, please include the following: a. Indicate which CPZs are prioritized for undergrounding from 2026-2028 (please indicate the year work will start and finish). b. Please provide the same information for CPZs that were prioritized for undergrounding in 2023-2025.	Please see attachment "WMP-Discovery2026-2028_DR_TURN_003-Q001Atch01.xlsx," which is PG&E's wildfire risk model (WDRM v4) output. Please refer to sections 3, 4, and 5 in the Wildfire Distribution Risk Model v4 documentation for the requested assumptions, available at https://www.pge.com/en/outages-and-safety/safety/community-wildfire-safety program.html?WT.mc_id=Vanity_wildfiremitigationplan#accordion-99016a73ab-item 4366b09ea7. a. Please see attachment "WMP-Discovery2026-2028_DR_TURN_003-	Reina Yanagiba	4/17/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	3	No	5	Risk Methodology & Assessment	5.4
113	TURN	003	TURN_003	2	No	TURN_003_Q2	Please provide an estimate, by activity, of total annual cost and risk reduction, for all wildfire mitigation activities from 2019-2024 (recorded). Please explain whether this risk reduction has been incorporated into PG&E's baseline risk. Please provide all supporting calculations and data in Excel.	Please see attachment "WMP-Discovery2026-2028_DR_TURN_003-Q002Atch01.xlsx" for the outputs of the PSPS and EPSS risk models. This data was created as of April 24, 2025. There are currently six circuit segments planned for construction in 2026-2027 with the purpose of reducing PSPS risk: 1. TEJON 110273283E; 2. DUNBAR 1103534; 3. PLACERVILLE 2106752Z; 4. EL DORADO PH 2101QB; 5. PLACERVILLE 2106752Z; and 6. EL DORADO PH 2101QB.	Reina Yanagiba	4/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	0	No	5	Risk Methodology & Assessment	5.4
114	TURN	003	TURN_003	3	No	TURN_003_Q3	In Excel, please provide the outputs of the PSPS and EPSS risk models, respectively, with the same circuit/CPZ identifiers as provided in the previous questions. At minimum, this should include Circuit Protection Zone (CPZ) name, likelihood, consequence, total risk score, and number of overhead miles of each CPZ in separate columns. In addition, please indicate which CPZs are targeted for PSPS and EPSS mitigations from 2026-2028. Please indicate what the mitigation is.	Please see attachment "WMP-Discovery2026-2028_DR_TURN_003-Q003Atch01.xlsx" for the outputs of the PSPS and EPSS risk models. This data was created as of April 24, 2025. There are currently six circuit segments planned for construction in 2026-2027 with the purpose of reducing PSPS risk: 1. TEJON 110273283E; 2. DUNBAR 1103534; 3. PLACERVILLE 2106752Z; 4. EL DORADO PH 2101QB; 5. PLACERVILLE 2106752Z; and 6. EL DORADO PH 2101QB.	Reina Yanagiba	4/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	1	No	5	Risk Methodology & Assessment	5.4
115	TURN	003	TURN_003	4	No	TURN_003_Q4	Section 6.1.3.1, Page 129, states "PG&E estimates that the average cost for primary distribution undergrounding is approximately $3.0 million per mile and the average cost to install covered conductor is approximately $1.0 million per mile." a. Please provide support for these estimates, including any calculations in Excel. b. Are both estimates in dollars per overhead mile? If not, please provide PG&E's estimates in dollars per overhead mile and provide the underlying assumptions/calculations to show how the estimates were formed. c. For all undergrounding projects completed from 2018 to 2024, please provide, on a project-level basis, the following information in Excel with supporting data and calculations: i. the dates of the project (start and finish), ii. total cost, iii. number of overhead miles removed, iv. purpose of the project, including whether it was related to wildfire risk or in an urban setting, v. overhead miles removed, vi. overhead miles undergrounded, and vii. cost per overhead mile. d. For all overhead hardening projects completed from 2018 to 2024, please provide, on a project-level basis, the following information in Excel with supporting data and calculations: i. the dates of the project (start and finish), ii. total cost, iii. number of overhead miles covered/hardened, iv. purpose of the project, including whether it was related to wildfire risk, and v. cost per overhead mile. e. Please provide assumed unit costs ($/overhead mile) for covered conductor and undergrounding, separately, in 2026, 2027, and 2028.	a. Please see worksheet Subparts A and B in attachment "WMP-Discovery2026-2028_DR_TURN_003-Q004Atch01.xlsx," which shows the calculations for PG&E's estimated average unit costs for undergrounding and overhead hardening, which is based on the historical performance. Unit cost is calculated based on the total costs-since-inception (multi-year) of the subprojects that are 100% complete each year. For Undergrounding, we have included the unit costs for system hardening undergrounding (excluding Community Rebuild undergrounding). Note, unit cost is not calculated by dividing the total program cost spent in one year by the total miles completed in one year because this would inaccurately include the readiness costs for future work that is not yet complete and post-construction costs for previously completed projects. b. Please see column F in worksheet Subparts A and B in attachment "WMP Discovery2026-2028_DR_TURN_003-Q004Atch01.xlsx." The undergrounding unit cost at approximately $3.0 million per mile is the cost for undergrounding installed, not just overhead mile removed. The overhead miles removed and replaced by UG reflect actual overhead miles removed on undergrounding subprojects, where data is available; otherwise, where data is not yet available, we used the adopted1 overhead to undergrounding conversion factor of 1 mile of overhead to 1.25 miles of undergrounding. c. Please see worksheet Subpart C in attachment "WMP-Discovery2026-2028_DR_TURN_003-Q004Atch01.xlsx." • Note, the question asks for "ii. number of overhead miles removed" and "v. overhead miles removed". We are assuming those are the same request and have included one column for overhead miles removed. Additionally, because the unit cost is associated with undergrounding miles installed, we have included the undergrounding miles installed as an additional column in this dataset. • Note, the start date reflects when the project was first identified for scoping; the end date reflects when the project was fully constructed. • Year complete signifies the year a subproject completes the final Fire Risk Safety Audit, which may differ from the end date year, which reflects when the project was fully constructed.	Reina Yanagiba	4/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	1	No	6	Wildfire Mitigation Strategy Development	6.1.3.1
116	TURN	003	TURN_003	5	No	TURN_003_Q5	Section 6.1.3.1, page 129, states "Covered conductor can generally be installed more quickly and costs less than undergrounding, but it does not protect against tree strike risk or fully address the reliability risk. Given increasing instances of extreme weather and volatility, the stress on vegetation around our assets is only expected to get worse. Therefore, undergrounding, where feasible, is the best alternative where tree strike risk is high." In Excel, please provide the time (days) from project initiation to project completion for all covered conductor and undergrounding projects, separately from 2018. Please include all supporting data/calculations. a. Please explain and quantify whether the fact that covered conductor can be installed more quickly than undergrounding has been incorporated into PG&E's risk modeling and cost-benefit ratios. If yes, please explain and provide an illustrative calculation. If no, please explain why not.	Please see worksheets, "Summary" and "Duration Analysis" in attachment "WMP Discovery2026-2028_DR_TURN_003-Q005Atch01.xlsx". The attachment includes the days the subproject was initiated (i.e., start of project scoping) to the end of the project (i.e., construction complete) for both undergrounding and overhead subprojects between 2018 and 2024, split between base system hardening and fire rebuild work. A few notes about the subproject data provided in the "Duration Analysis": • Construction End Date represents the date construction was complete. If that date was not available, we provided the date the project was energized. • As identified in Column I, projects were removed from the analysis if there were data anomalies based on: o Negative duration (i.e., construction end date showed prior to the project start) o Missing dates (i.e., data was not captured at the time) o Data discrepancies (i.e., where we know that construction end date is inaccurate based on when the project was energized and passed the Fire Risk Safety Audit) • Projects with less than 14-day durations were removed from the average calculation in the "summary" worksheet based on subject matter expertise of project durations of fire rebuild work. a. Please see the discussion of cumulative risk in PG&E's 2025 WMP Update (PG&E's 2025 Wildfire Mitigation Plan Update R2, p. 57-58). While speed of initiative construction has not explicitly been incorporated into PG&E's risk modeling and cost-benefit ratios, PG&E manages its suite of wildfire mitigation initiatives to minimize cumulative risk exposure and does account for the time value of risk based on the useful life of the asset. Specifically, PG&E uses an integrated mitigation strategy to manage wildfire risk across our system while we implement more permanent risk reduction strategies like undergrounding and other system hardening work. PG&E's objective when scheduling mitigation initiatives is to ensure that we have built sufficient risk mitigation into the system to minimize risk exposure as we develop our long-term system hardening programs. PG&E achieves this through a suite of Comprehensive Monitoring and Data Collection programs designed to provide insight into the physical environmental hazard	Reina Yanagiba	4/17/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	1	No	6	Wildfire Mitigation Strategy Development	6.1.3.1
117	TURN	003	TURN_003	6	No	TURN_003_Q6	Please provide recorded and forecast red flag warning circuit mile days for 2020-2028 on an annual basis in PG&E's HFTD. Please define "forecast" as the assumption for PG&E's risk modeling, if available.	Please see "WMP-Discovery2026-2028_DR_TURN_003-Q006Atch01.xlsx" for recorded red flag warning circuit mile days from 2013 – 4/15/2025 broken out by year. PG&E does not include "forecasts" for red flag warning circuit mile days in its risk modeling.	Reina Yanagiba	4/17/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	1	No	5	Risk Methodology & Assessment	5.3
118	TURN	003	TURN_003	7	No	TURN_003_Q7	In one Excel workbook, please provide the annual number of ignition started by PG&E equipment from 2018-2024 in PG&E's HFTD (or indicating which are in the HFTD) with supporting data and calculations. Please also include: a. The date of each ignition. b. Driver of the ignition (cause). c. Structures destroyed. d. Fatalities and/or injuries. e. Whether there was red flag warning at the time of the ignition. f. Any other information readily available and used by PG&E in its risk modeling.	Please see "WMP-Discovery2026-2028_DR_TURN_003-Q007Atch01.xlsx" for the requested information.	Reina Yanagiba	4/17/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	1	No	5	Risk Methodology & Assessment	5.2.2.1
119	TURN	003	TURN_003	8	No	TURN_003_Q8	Regarding the mitigation effectiveness of covered conductor: a. Please provide all studies known to PG&E that calculate the mitigation effectiveness of covered conductor using data rather than SME estimates. b. From 2020-2024 on an annual basis, please provide the number of faults per mile on lines with covered conductor versus lines without covered conductor in PG&E's HFTD. c. From 2020-2024 on an annual basis, please provide the number of ignitions per mile on lines with covered conductor versus lines without covered conductor in PG&E's HFTD.	a. Please see PG&E's response titled "RAMP-2024_DR_TURN_006-Q004," provided to TURN on September 10, 2024, for further details regarding an example analysis of observed covered conductor mitigation effectiveness and details around why PG&E does not support application of this analysis. These reasons include: • Much of PG&E's covered conductor installation has been in wildfire rebuild areas in the absence of significant vegetation growth • Limited degradation of assets due to recent installation • Targeted installation in areas areas of low tree strike risk in alignment with PG&E's decision tree Please note that this analysis was based on only two known reportable ignitions on covered conductor. PG&E has subsequently identified an additional ignition related to covered conductor which occurred in 2023. PG&E is also partnering with UCLA on an observed effectiveness study for covered conductor but has not yet operationalized this methodology due to the limited data availability in addition to the key points reflected above. b. Please see the table below for the volume of faults per mile of PG&E's overhead conductor in HFTDs. Please note that PG&E interprets "faults" as outages, which are drawn from the Integrated Logging Information System ("ILIS"). ILIS records do not capture the type of wire, so PG&E is not able to differentiate between covered or bare conductor. As a result, PG&E is providing the outages per HFTD miles of conductor c. Please see the table below for the volume of ignitions per mile of PG&E's overhead covered vs non-covered conductor in the HFTD/HFRA. Please note that we do not track ignitions by covered conductor line mile. However, we estimate the following values for ignitions per line mile of overhead covered conductor in the HFTD, based on the number of such ignitions in each year and the line miles of overhead covered conductor in the HFTD/HFRA at the close of each year. As such, the values may not be fully representative, as covered	Reina Yanagiba	4/17/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.1

120	TURN	003	TURN_003	9	No	TURN_003_Q9	For each project proposed from 2026-2028 for UG and CC, please provide the following in Excel with all supporting data, calculations, and assumptions: a. Cost-benefit ratio of UG and CC for each project, indicating which mitigation was chosen (UG or CC). i. This should include unit costs assumed for each mitigation. ii. This should include number of overhead miles of each project. iii. This should include total risk and risk reduction from the project.	a. As discussed in response to TURN-003, Q01, PG&E did not calculate CBRs for projects planned to be completed in 2026 and analysis was in line with the Risk Based Decision-Making Framework, Phase 2 Decision,1 that did not require project level CBR calculations. PG&E will use elements of the WBCA to perform a cost-benefit analysis during scoping for work to be completed in 2027 and 2028; however, that analysis had not been initiated at the time of our 2026-2028 WMP submission. Preliminary CBRs have been estimated, as seen in previous DR response (OEIS-003, Q035), which included some of the analysis conducted to date. The CBR data presented in PG&E's 2026-2028 WMP are presented at the programmatic level. Those CBR calculations are consistent with those that will be proposed in the GRC and are generated using the Enterprise Risk Models. These models include our wildfire and reliability bowties and evaluate the risk reduction benefits based on location of work and program effectiveness. Additionally, these cost-benefit ratios account for the entire benefit life of the projects and present value 1 D.22-12-017 WMP-Discovery 2026-2028_DR_TURN_003-Q009 Page 2 of revenue requirements (PVRR). For more detail, please see section 6.2.1.2 Cost Benefit Scores of PG&E WMP Plan R0 2026-2028. i. N/A ii. N/A	Reina Yanagiba	4/17/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.1
121	TURN	003	TURN_003	10	No	TURN_003_Q10	Section 8.2.1, Page 195 states "In any given location, overhead hardening does not reduce the impact from PSPS events, but is expected to reduce EPSS-caused outages." Please explain why PG&E has not instituted higher wind thresholds for overhead hardened circuits, which reduce the probability of PSPS, as Southern California Edison has done. Please support the response with all analyses and data regarding purported differences between SCE's and PG&E's service territory or overhead hardening programs.	a. PG&E does not use wildfire specific wind speed thresholds for PSPS execution. Please see the Section 5 of the WMP. Instead, PG&E uses a risk-informed methodology that combines the probability of an ignition (Ignition Probability Weather model [IPWI]) with the probability of rapid and intense fire (Fire Potential Index Model [FPI]). The IPW model is informed by a machine learning outage model called OPW, that is trained on if outages were observed or not, hourly, across our entire network combined with meteorological, topographic and asset information. Thus, any benefits from covered conductor, vegetation management, or any other program that would reduce the probability of an outage is reflected in the actual grid performance in localized areas which the model is trained on. Thus, we do not apply wind speed threshold modifiers for grid hardening, vegetation management or any other program that could reduce outage or ignition risk outside the OPW model, nor do we have to make any assumptions or estimates about the effectiveness of each program to then apply across all circuits. To ensure our model is reflective of the latest grid performance, we annually update the model with the last year of performance versus weather data and utilize an exponential function (which was calibrated to provide the best performance), that weights the most current years most heavily in final model predictions.	Reina Yanagiba	4/17/2025	4/22/2025	4/22/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_003.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.1
122	OEIS	004	OEIS_004	1	No	OEIS_004_Q1	Regarding Third-Party Model Review a. Page 12 of the E3 review states that "the main driver for consequence is the FPI score which further reduces the impacts of the in-depth simulations coming from the Technosylva analysis." On page 15 of the Wildfire Consequence Model V4 document, two criteria are mentioned for the predictive destructive criteria, one for FPI-R and one for the Technosylva simulations. i. Out of the simulated weather history, how many days from 2012 through 2022 have met each criterion in the highest risk circuits? ii. Provide a detailed description of how FPI-R compared to predictive destructive criteria influence the consequence score.	a. i. The criteria for "predicted destructive" are computed for every 100x100m raster pixel containing grid infrastructure. We confirmed that this request is for the tabulation of days where at least one grid pixel containing part of each high risk circuit segment meets each of the "predicted destructive" criteria. There are 90 high risk circuit segments in Tables 5-5 and 6-1 of the 2026 WMP, so those were used for the analysis, the results of which are tabulated in "WMP-Discovery2026-2028_DR_OEIS_004-Q001Atch01.xlsx" in the worksheet titled "Predicted destructive days." ii. The predicted destructive criteria draw on two different sources of information: • The predictions of the FPI model, an empirical model trained on historical fire outcomes conditional on weather and environmental covariates, via its 1-5 R-score (4+ are classified as predicted destructive conditions). The R score expresses how likely a destructive fire is, given the input conditions, based on model fit using outcomes of historical fires. These values are available and adopted by the v4 wildfire consequence model for all 183 WMP-Discovery 2026-2028_DR_TURN_001-Q001 Page 2 days of the June-November wildfire season annually from 2012 through 2022. • The flame length and rate of spread produced by wildfire simulations run by Technosylva across all grid locations. These metrics describe how intense and fast-moving simulated fires were, with thresholds for predicted destructive set to include all the values output by simulations of historically destructive fires. For the v4 model, and in keeping with past practice, the simulations were performed across the set of worst wildfire conditions days identified by PG&E's meteorology team from the weather data for each year. There are approximately 30 such days with simulation data available each year, with data spanning 2012 through 2020 available at the time of v4 model finalization. Either source of data is sufficient to label conditions as "predicted destructive". The FPI model is probabilistic and tuned to past outcomes	Nathan Poon	4/18/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_004.zip	1	No	5	Risk Methodology & Assessment	5.4
123	OEIS	004	OEIS_004	2	No	OEIS_004_Q2	Regarding the Wildfire Transmission Risk Mode a. On page 32 of PG&E's Wildfire Transmission Risk Model Documentation v4, PG&E references the "T-Line Asset Data Quality Improvement - Critical Components, Guide to Conservative Assumptions," dated January 14, 2020. Provide a copy of this document.	Please see "WMP-Discovery2026-2028_DR_OEIS_004-Q002Atch01.pdf" for the requested infor	Nathan Poon	4/18/2025	4/23/2025	4/23/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_004.zip	1	No	5	Risk Methodology & Assessment	5.4
124	OEIS	004	OEIS_004	3	No	OEIS_004_Q3	Regarding the Wildfire Consequence Mode a. On pages 18-22 of PG&E's Wildfire Consequence Model V4 document, PG&E provides an example of the suppression model applied to the Dixie Fire. i. Provide an expanded version of the example to show the calculation of the number of structures in Table 11 (p. 22). This includes providing the data on Existing Structures, five fuel moisture (LFM), and wind speed (WS), as noted on page 20, which are not reported in the example. ii. How did PG&E select the 300 m height for wind speed (p. 20)? What impact does that have on the statistical performance of the model? iii. On page 14 of the Wildfire Consequence Model V4 document, Table 4 lists the dry wind conditions criteria. Are these sampled at a weather station height, at 300 m above surface (like the consequence model wind speeds), or some other reference height? b. On page 26 of PG&E's Wildfire Consequence Model V4 document, PG&E presents the equation for calculating the fractional fatalities based on AFN and WS fatalities. i. What are the units of the AFN value? ii. How does this correspond to the AFN deciles shown in Figure 13 and Table 13 (p. 26)? c. On page 36 of the Wildfire Consequence Model V4 document, Table 20 provides example consequence training data. Provide this table as an Excel spreadsheet with one row per historical fire used in consequence training. Provide the following columns in addition to the columns shown in Table 20: (1) TDI level (2) AFN decile level (3) Wind speed in mph at 300 m (4) Live fuel moisture (5) Daily average wind speed for Dry Wind Conditions (if this is different from wind speed in mph at 300 m) (6) 10-hr dry fuel moisture (7) Relative humidity (8) FPI-R (9) Flame Length (10) Rate of Spread (11) Whether the fire is within the HFRA (12) Whether the fire was used for training or validation d. In PG&E's response to Energy Safety's Data Request 1 Question 25, PG&E states that "the overall WF Regarding the WMP v4 Wildfire and Asset Modeling, PG&E has validated against historical fire	a. i. The calculations in the 4.1.3.2 and 4.1.3.3 sections of documentation were included as an illustrative example not drawn from the modeling performed for the v4 release. A worksheet named "Dixie example" in "WMP-Discovery2026-2028_DR_OEIS_004-Q003Atch01.xlsx" reproduces the calculations for the equivalent of Table 11, starting with model coefficients and covariate values for the Dixie Fire, but based on coefficients aligned with the released v4 model. The model only requires the known count of structures burned under actual conditions, not existing structures, because other values are computed as a ratio relative to the actual values. ii. Modeling wind in weather models, like the one used to create the historical gridded weather data available at PG&E, requires accounting for air flows in 3 dimensions. Wind is particularly impacted by the boundary layer at ground level and various obstructions like topographical features, buildings, trees, etc. In PG&E's weather model (which is a standard model in the meteorological community), wind is modeled at various heights above the ground, with values at 10m influenced by surface roughness and topographic obstructions and values at 300m typically capturing more "free flow" conditions. In other words, there is much more spatial/local variability in the data closer to the surface due to surface characteristics. The higher altitude winds are also (very generally speaking) the drivers of wind gusts at the ground level. When considering the conditions that would correlate with the expected outcome of a hypothetical wildfire, we opted to use speeds at 300m to avoid overly local influences at the point of origin that may not be representative of the prevailing conditions in the surrounding area. We did not perform a formal sensitivity analysis on other potential covariates in the same role. WMP-Discovery 2026-2028_DR_OEIS_004-Q003 Page 3 iii. The Dry Wind criteria are based on 10m wind speed. Dry Wind is predictive of outcomes due to its role in drying fuels (as well as propelling fires) and humidity is modeled at 2m above the ground, so the 10m wind speed is closer b. The data is in the "WMP-Discovery2026-2028_DR_OEIS_004-Q003Atch01.xlsx"	Nathan Poon	4/18/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_004.zip	1	No	5	Risk Methodology & Assessment	5.4
125	OEIS	004	OEIS_004	4	No	OEIS_004_Q4	In response to Energy Safety's Data Request 2, Question 17, PG&E provided an updated version of Table 6-4 including the associated mileage for various hardening planned and percentage that has already been hardened. a. Compared to the targets provided in Table 8-1 (PG&E's 2026-2028 Base WMP, p. 175) and estimates in PG&E's response to Energy Safety's Data Request 1 Question 17 (labeled "WMP" in the table), to the summation of the mileages provided in Attachment 1 (labeled "DR" in the table), Energy Safety found the following: 2026 2027 2028 Hardening Type WMP DR Δ WMP DR Δ WMP DR Δ Undergrounding 370 16.94 353 307 203.68 103 400 278.10 122 Covered Conductor Grid	Q004Atch01.xlsx" for missing from the mileages provided in the updated Table 6-4 (labeled "Δ" in the table). A few notes about this data: • In answering this question, we identified a calculation error in our response to OEIS_002 Question 17 regarding the miles pulled in for each circuit segment. That response under counted the miles planned on circuit segments in Table 6-4 based on the formula that was used to pull in the data (i.e., the miles originally included only captured the miles for one subproject associated with the circuit segment, not all subprojects planned on that circuit segment). We have corrected the miles in the table and provided as a supplemental response to this data request as attachment "CORRECTED_WMP-Discovery2026-2028_DR_OEIS_002-Q017Atch01.xlsx". • The 2027-2028 portfolio is currently planned at the circuit segment-level based on the top 20% risk ranked circuit segments of the WDRM v4 model. The work is not yet scoped and broken into subprojects. Columns i-v cannot be filled out. • i. The values in Table 6-4 were generated using WDRM v4. We assume the intent of this subpart was to provide work prescribed in lower 80% of total overall utility risk due to prioritization based on WDRM v4, not v3, and have responded accordingly. PG&E welcomes clarification if there was different intent about scope of this request. • ii. Work in this category represents projects that are Fire Rebuild, PSPS, or "Other", which includes projects that were initiated under other programs outside of the System Hardening program which is funded by MAT codes 08W and 3UG, such as Work Requested by Others (WRO), capacity, and Rule 20 B and C programs. • iv. Work in this category represents Community Rebuild miles. This work occurs in HFTD and non-HFTD areas following fire incidents. b. Table 6-4 of the WMP includes the top 20% of total overall utility risk for circuit segments within the HFTD/HFRA. These tables are generated from WDRM v4. The responses included in subparts i-iii are for the entire service territory. Additionally, subparts i and ii will be included in the same attachment as Overall Utility Risk is comprised of Wildfire Risk + ERSS and PSPS risk. As described in subpart (a)	Nathan Poon	4/18/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_004.zip	3	No	6	Grid Design, Operations, and Maintenance	6.2.1.3

126	MGRA	004	MGRA_004	1	No	MGRA_004_Q1	PSPS event damage event reports obtained from post-event patrols, including cause and estimated time of damage for all quarters of 2024. Cause was not included in the provided data. a. Also please extend the request to cover four quarters or 2023 as well.	In the PSPS Event Damage Feature Class schema previously provided in "WMP-Discovery2026-2028_DR_MGRA_002-Q002Supp01Atch02.xlsx", there is a field titled DamageDateTime. This field should be used to relate records in the Feature Class to the PSPS Event Conductor Damage and PSPS Event Support Structure Damage Detail tables, which are provided in "WMP-Discovery2026-2028_DR_MGRA_002-Q002Supp01Atch01.xlsx" and "WMP-Discovery2026-2028_DR_MGRA_002-Q002Supp01Atch03.xlsx", respectively. Please note that DamageDateTime is not a native field within the detail table schemas as defined by Energy Safety; rather, it is a linking field that exists in the Feature Class and must be used to establish the relationship with the associated detail tables. Regarding the Cause field, PG&E considers this information to be confidential and applies a consistent policy of nondisclosure, regardless of the feature class. Data submitted in quarterly reports to the Office of Energy Infrastructure Safety may be part of ongoing investigations and analyses and is protected under applicable legal privileges, including the attorney-client privilege (e.g., Evid. Code § 954; Code Civ. Proc. § 2018.010, et seq.). These reports capture a snapshot in time and are not subsequently updated to reflect findings from later investigations. Moreover, PG&E exercises caution in disclosing information that could be exploited by malicious actors to replicate adverse events. Cause data may include sensitive details about physical infrastructure, cybersecurity systems, or critical energy assets, all of which are protected under federal and state laws (see 18 C.F.R. § 388.113; Gov. Code § 6254(k), (ab); 6 U.S.C. § 131; 6 C.F.R. § 29.2). For example, if a specific piece of equipment was identified as causing a large-scale outage, that knowledge could potentially be used to target similar equipment elsewhere. WMP-Discovery 2026-2028_DR_MRGA_001-Q001 Page 2 PG&E is reshaping data provided to MGRA from last year's MGRA request where MGRA requested PSPS Event Damages. As noted last year, there were two PSPS events during the year and both took place during Q3 2023. Please see "WMP-Discovery2026-2028_DR_MGRA_004-Q001Atch01.xlsx". Data is extracted from our quarterly GDB files, which contain a high volume of records in each submission (anywhere between 10-16 million records). The feature classes and related tables included in the submission are not static and change each quarter. Similarly, the Office of Energy Infrastructure Safety (Energy Safety) often revises their Data Guidelines introducing and removing various data points, consolidating feature classes, changing field names, updating definitions, and renaming fields. Such revisions make it difficult to create a consistent, non-confidential GDB version. Energy Safety does not have a non-confidential GDB submission. The submission they receive is confidential. To create a non-confidential file for MGRA, PG&E attempts to apply logic to the feature classes to strike known confidential fields, data types, or entire datasets across the entire GDB. However, confidential data could still have been provided inadvertently. PG&E respectfully requests that MGRA use this data for internal purposes only and restrict access to a need-to-know basis. WMP-Discovery 2026-2028_DR_MRGA_001-Q002 Page 2 Additionally, the interconnected aspect of feature classes data and geospatial representation of	Joseph Mitchell	4/21/2025	4/23/2025	4/23/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_004.zip	1	No	N/A	GIS	N/A
127	MGRA	004	MGRA_004	2	No	MGRA_004_Q2	Unplanned outage data, including cause. Cause was not provided in the initial response	PG&E considers the BasicCause field information to be confidential. Data submitted in quarterly reports to the Office of Energy Infrastructure and Safety may be part of ongoing investigations and analyses and is protected under applicable legal privileges, including the attorney-client privilege (e.g., Evid. Code § 954; Code Civ. Proc. § 2018.010, et seq.). These reports capture a snapshot in time and are not subsequently updated to reflect findings from later investigations. Moreover, PG&E exercises caution in disclosing information that could be exploited by malicious actors to replicate adverse events. Cause data may include sensitive details about physical infrastructure, cybersecurity systems, or critical energy assets, all of which are protected under federal and state laws (see 18 C.F.R. § 388.113; Gov. Code § 6254(k), (ab); 6 U.S.C. § 131; 6 C.F.R. § 29.2). For example, if a specific piece of equipment were identified as causing a large-scale outage, that knowledge could potentially be used to target similar equipment elsewhere. Data is extracted from our quarterly GDB files, which contain a high volume of records in each submission (anywhere between 10-16 million records). The feature classes and related tables included in the submission are not static and change each quarter. Similarly, the Office of Energy Infrastructure Safety (Energy Safety) often revises their Data Guidelines introducing and removing various data points, consolidating feature classes, changing field names, updating definitions, and renaming fields. Such revisions make it difficult to create a consistent, non-confidential GDB version. Energy Safety does not have a non-confidential GDB submission. The submission they receive is confidential. To create a non-confidential file for MGRA, PG&E attempts to apply logic to the feature classes to strike known confidential fields, data types, or entire datasets across the entire GDB. However, confidential data could still have been provided inadvertently. PG&E respectfully requests that MGRA use this data for internal purposes only and restrict access to a need-to-know basis. WMP-Discovery 2026-2028_DR_MRGA_001-Q002 Page 2	Joseph Mitchell	4/21/2025	4/23/2025	4/23/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_004.zip	0	No	N/A	GIS	N/A
128	MGRA	004	MGRA_004	3	No	MGRA_004_Q3	Wire down data for all four quarters of 2023 and 2024. This was missing cause and event time.	PG&E considers the Cause fields to be confidential. While this field was inadvertently shared with MGRA in the past, PG&E maintains that such information is protected. Data included in quarterly reports submitted to the Office of Energy Infrastructure and Safety may be part of ongoing investigations and analyses and is protected under applicable legal privileges, including the attorney-client privilege (e.g., Evid. Code § 954; Code Civ. Proc. § 2018.010, et seq.). These reports capture a snapshot in time and are not subsequently updated to reflect findings from later investigations. Moreover, PG&E exercises caution in disclosing information that could be exploited by malicious actors to replicate adverse events. Cause data may include sensitive details about physical infrastructure, cybersecurity systems, or critical energy assets, all of which are protected under federal and state laws (see 18 C.F.R. § 388.113; Gov. Code § 6254(k), (ab); 6 U.S.C. § 131; 6 C.F.R. § 29.2). For example, if a specific piece of equipment were identified as causing a large-scale outage, that knowledge could potentially be used to target similar equipment elsewhere. Data is extracted from our quarterly GDB files, which contain a high volume of records in each submission (anywhere between 10-16 million records). The feature classes and related tables included in the submission are not static and change each quarter. Similarly, the Office of Energy Infrastructure Safety (Energy Safety) often revises their Data Guidelines introducing and removing various data points, consolidating feature classes, changing field names, updating definitions, and renaming fields. Such revisions make it difficult to create a consistent, non-confidential GDB version. Energy Safety does not have a non-confidential GDB submission. The submission they receive is confidential. To create a non-confidential file for MGRA, PG&E attempts to apply logic to the feature classes to strike known confidential fields, data types, or entire datasets across the entire GDB. However, confidential data could still have been provided inadvertently. WMP-Discovery 2026-2028_DR_MRGA_001-Q003 Page 2 PG&E respectfully requests that MGRA use this data for internal purposes only and restrict access to a need-to-know basis. Additionally, the interconnected aspect of feature classes data and geospatial representation of the data creates complexities in identifying the confidentiality of individual records and introduces additional risk for error. As such, PG&E may designate additional data points confidential at a	Joseph Mitchell	4/21/2025	4/23/2025	4/23/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_004.zip	0	No	N/A	GIS	N/A
129	OEIS	005	OEIS_005	1	No	OEIS_005_Q1	Regarding distribution detailed inspections and findings a. Provide the following data related to detailed distribution inspections: i. The number of detailed distribution inspections performed in the HFRA/HFTD 2020, 2021, 2022, 2023 and 2024. ii. The number of level 1 work orders that resulted from distribution detailed inspections in the HFRA/HFTD in 2020, 2021, 2022, 2023 and 2024. iii. The number of level 1 work orders originating from distribution detailed inspections closed in the HFRA/HFTD 2020, 2021, 2022, 2023, and 2024. iv. The number of level 2 work orders that resulted from distribution detailed inspections in the HFRA/HFTD in 2020, 2021, 2022, 2023 and 2024. v. The number of level 2 work orders originating from distribution detailed inspections closed in the HFRA/HFTD in 2020, 2021, 2022, 2023 and 2024.	Please see the table below for the requested information. Notes 1 and 2 below help explain the data in the table. Metric Number Metric Name 2020 2021 2022 2023 2024 Q01(a)(i) Total Inspections Performed in HFTD-HFRA 552,057 449,645 395,968 235,265 10,197 Q01(a)(ii) HFTD-HFRA Level 1 Work Orders 1,200 855 896 1,138 23 WMP-Discovery 2026-2028_DR_TURN_005-Q001 Page 2 Metric Number Metric Name 2020 2021 2022 2023 2024 resulting from inspection Q01(a)(iii) Level 1 Work orders closed 1,015 999 894 1,324 69 Q01(a)(iv) HFTD-HFRA Level 2 Work Orders resulting from inspection 56,596 64,275 80,654 72,294 1,240 Q01(a)(v) Level 2 Work orders closed 12,478 35,722 35,135 41,231 52,633 1. PG&E understands "detailed distribution inspections" to mean "detailed overhead inspections" conducted by ground inspectors in accordance with General Order (GO) 165. Therefore, Wildfire Safety Inspection Program (WSIP) and aerial inspections or notifications are not included in these tables. Please note that	Nathan Poon	4/22/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_005.zip	0	No	8	Grid Design, Operations, and Maintenance	8.3.8.1
130	OEIS	005	OEIS_005	2	No	OEIS_005_Q2	Regarding Distribution Hazard Patrol Page 364 of PG&E's 2026-2028 Base WMP states Distribution Hazard Patrol inspections are "conducted in high-risk areas based on a risk-prioritized approach." Figure PG&E-9.2.2.1-1, reproduced below, shows the	a. The Distribution Hazard Patrol target of 10,000 miles in Table 9-2 reflects our original target mileage. The final target mileage will change as we continue to	Nathan Poon	4/22/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_005.zip	0	No	9	Vegetation Management and Inspections	9.2.2
131	OEIS	005	OEIS_005	3	No	OEIS_005_Q3	Regarding Distribution Routine Patro Page 363 of PG&E's 2026-2028 Base WMP states "In 2025, PG&E will use data gathered from proven remote sensing technologies to analyze how distribution inspections could be further evolved to incorporate remote sensing techniques." Further, page 363 states "PG&E may consider utilizing remote sensing in lieu of ground-based inspections on electrical spans that typically have no trees around the lines, to provide customers with a more cost-effective solution." a. Does the target for Distribution Routine Patrol listed on Table 9-2 (VM-16) include circuit miles that will be inspected using only remote sensing? i. If yes, A. Provide the number of circuit miles in each quarterly target that will be inspected using only remote sensing. B. Provide any procedures governing remote sensing inspections of vegetation along distribution line	a. No, the target for Distribution Routine Patrol listed in Table 9-2 does not currently include circuit miles to be inspected using remote sensing. PG&E is analyzing remote sensing detection and identification data in 2025 to determine whether some number of miles may be inspected using only remote sensing in the future. The use of remote sensing is expected to be applied where there are typically no trees in proximity to the line. i. N/A	Nathan Poon	4/22/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_005.zip	0	No	9	Vegetation Management and Inspections	9.2.1

132	OEIS	005	OEIS_005	4	No	OEIS_005_Q4	Regarding Quality Assurance and Quality Control Unit Equivalent On page 410 of its 2026-2028 Base WMP, PG&E lists "Inspections" as the "Population/Sample Unit" for VM-08D&T, and VM-22D&T. In the "Population Size" and "Sample Size" columns, PG&E then indicates the unit is either "miles" or "spans." This makes it unclear whether the "Population/Sample Unit" is "inspections" or another factor. a. Clarify what the sample unit is for quality control and quality assurance audits by describing: i. The randomization software PG&E uses to draw samples randomly. ii. The unit that the randomization software draws from the population to create a sample (i.e., describe if PG&E selects from a population of inspections, miles, spans, or another population). iii. Any procedural differences when auditing randomly sampled areas for VM-08D, VM-08T, VM-22D, and VM-22T. For example, procedural differences might include selecting an inspection location randomly and then auditing an entire mile in a specific direction or selecting an inspection location randomly and then auditing the span where the inspection occurred. A. In the table below, for VM-08D&T and VM-22D&T, convert all values in "Population Size" and "Sample Size" columns from "miles" to actual or estimated numbers of inspections by completing the "2026, 2027, or 2028 Inspection Population Size" and "2026, 2027, and 2028 Inspection Sample Size" columns. Initiative/ Activity Being Audited Population/ Sample Unit Mile or Span Population Size 2026, 2027, or 2028 Inspection Population Size Mile or Span Sample Size 2026, 2027, or 2028 Inspection Sample Size Vegetation Management Quality Assurance Distribution Routine (VM-08D) Inspections 25,748 miles _____ inspections 500 miles _____ inspections Vegetation Management Quality Assurance Transmission Routine (VM-08T) Inspections 5,624 miles _____ inspections	a. i. QC (VM-22D, -22P and -22T): Excel will be used as our randomization tool in 2026-28 for both distribution and transmission. QA (VM-08D): Distribution uses ArcGIS Pro to randomize sample locations with Python scripts. QA (VM-08T): Transmission is randomized by excel. ii. QC (VM-22D): The randomization software selects from a population of Work Packets consisting of spans inspected. QC (VM-22T): The randomization software selects from a population of Work Packets consisting of a group of individual inspected locations. Transmission locations may consist of individual spans, portions of spans or multiple spans inspected, depending on the system of record, as described in greater detail in OEIS_001, Q001. QC (VM-22P): The randomization software selects from a population of poles inspected and/or cleared. QA (VM-08D): The randomization software selects from a population of Distribution units calculated based off overhead circuit mileage. QA (VM-08T): The randomization software selects from a population of Transmission units calculated based on transmission structures. iii. QC (VM-22D and VM-22T): QC verifies Distribution and Transmission span/locations inspected to affirm procedural scope met. QA (VM-08D and VM-08T): QA uses randomized starting locations of overhead (OH) line segments for distribution and structures for transmission, independent of whether there is an existing inspection record. Distribution target mileage for each audit segment is 0.5-line mile segments. Transmission designates 1-mile line segments for transmission audits that originate from the transmission structure sample selected. QA WMP-Discovery 2026-2028_DR_TURN_005-Q004 Page 3 then assesses whether VM Operations is compliant with applicable regulatory requirements. A. QC (VM-22D): The estimated 'inspection' unit is determined by a span (pole to pole) inspected by the VMI in One VM. QC (VM-22T): The QC Transmission Routine inspection record may not be a full span (pole to pole). We estimated 5.5 inspection records per mile for the Inspection	Nathan Poon	4/22/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_005.zip	0	No	9	Vegetation Management and Inspections	9.11
133	OEIS	005	OEIS_005	5	No	OEIS_005_Q5	Regarding Quality Control – Pole Clearing (VM-22P) Target On page 7 of its 2026-2028 Base WMP Substantive Errata, PG&E lists 99,933 poles as the population size for its annual Quality Control of Pole Clearing activity. On page 356 of its 2026-2028 Base WMP, PG&E targets 70,000 poles annually for its Pole Clearing (VM-22) activity. a. Explain why PG&E's audit population for quality control is 29,933 more poles than it targets for its pole clearing activity each year.	We apologize; the discrepancy is due to an inadvertent error. The correct population number of Quality Control Pole Clearing poles in HFRA and HFTD to be sampled from is 70,000 annually, not 99,933 poles.	Nathan Poon	4/22/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-OEIS_005.zip	0	No	9	Vegetation Management and Inspections	9.4
134	OEIS	005	OEIS_005	6	No	OEIS_005_Q6	Regarding Risk Model Validation a. In PG&E's response to data request OEIS-P-WMP_2025-PG&E-002, Question 14, PG&E states that "the team dedicated extra validation to confirm the results by evaluating against historical fire outcomes" and that the validation "resulted in the removal of several lightning fires from the consequence training data set". i. Provide the date this validation was completed, including, at minimum the month(s) and year. ii. Provide the date the model was updated as a result of this validation, including, at minimum the month(s) and year. b. On p. 29 of E3's Review of PG&E's Wildfire Risk Model Version 4, E3 includes a recommendation on "establishing an expanded model roadmap for model direction." i. Has PG&E established this roadmap for its planned risk model changes? A. If so, provide this roadmap. B. If not, provide a timeline for establishing this roadmap. C. If PG&E does not intend to establish this roadmap, explain why it does not intend to do so. c. Provide completion dates and/or expected completion dates (at a minimum, quarter and year) for each of the elements discussed in PG&E's response to data request OEIS-P-WMP_2025-PG&E-002, Question 18.		Nathan Poon	4/22/2025	5/1/2025			No	5	Risk Methodology and Assessment	5.4
135	OEIS	005	OEIS_005	7	No	OEIS_005_Q7	Regarding Reliability and Public Safety Risk Models In response to data request OEIS-P-WMP_2025-PG&E-002, Question 13 regarding Reliability and Public Safety risk models, PG&E states that the components — Insulator Contamination Update, Public Safety Risk Model v2, Reliability Risk Model v1, Public Safety Consequence v2, and Reliability Consequence V1 — "are not currently used for wildfire mitigation planning" and are "developed to help inform internal investment planning primarily outside of HFTD." a. Provide documentation that captures and discusses these components, as previously requested in data request OEIS-P-WMP_2025-PG&E-002, Question 13. If such documentation does not exist, explain how these models are documented. b. Describe why these components are separate for wildfire mitigation planning, and what models do capture reliability and public safety components for the sake of wildfire mitigation planning. c. Provide a list of projects informed by these models within the HFTD, if applicable.		Nathan Poon	4/22/2025	5/6/2025			No	5	Risk Methodology and Assessment	5.4
136	OEIS	005	OEIS_005	8	No	OEIS_005_Q8	Regarding Climate-Driven Extreme Risk Figure PG&E-5.3.2-1 (p. 90, PG&E's 2026-2028 Base WMP) shows scenarios involving climate-driven risk as part of extreme event evaluation. However, in PG&E's response to data request OEIS-P-WMP_2025-PG&E-001, Question 24, PG&E discusses conflagration risk as part of its extreme scenarios. a. Provide a description of what PG&E is planning on implementing changes related to climate-driven risk as it relates to the research paper in Figure PG&E-5.3.2-1. b. Provide a timeline, with dates (at a minimum, quarter and year) for when PG&E is planning on implementing changes related to climate-driven risk as it relates to the findings from the research paper referenced in Figure PG&E-5.3.2-1. c. If no such changes are planned relative to the figure, describe why no such changes are planned.		Nathan Poon	4/22/2025	5/1/2025			No	5	Risk Methodology and Assessment	5.3.2
137	OEIS	005	OEIS_005	9	No	OEIS_005_Q9	Regarding Top-Risk Transmission Circuit Table 5-5 (p. 103 and pp. 770-773, PG&E's 2026-2028 Base WMP) shows only distribution-level circuits. a. Provide similar tables to Table 5-5, Table 6-1, and Table 6-4 for the top-risk transmission-level circuit segments based on WTRM v2 output. b. Provide the total overall utility risk score for transmission-level circuits.		Nathan Poon	4/22/2025	5/6/2025			No	5	Risk Methodology and Assessment	5.5.2
138	SPD	003	SPD_003	1	No	SPD_003_Q1	On page 180 of PG&E's 2026-2028 WMP, PG&E mentions the Line Elimination Incentive Plan a. Describe the plan, including when it would be used. b. Page 183 shows the decision tree with the LEIP screening process – describe the screening process and provide the criteria for evaluation of LEIP, including an example of when the LEIP mitigation would be chosen versus when it would not be chosen. c. What is the average cost of LEIP per customer and what is the expected future cost per customer? i. What is the average cost per circuit mile? d. Why is this not included as a WMP initiative considering it is in the decision tree? e. How many customers are PG&E targeting for this plan over the course of the 2026-2028 Wildfire Mitigation Plan? f. How many customers did the LEIP (or a similar customer buyout programs) remove from the PG&E's system in each year from 2017 through 2024, and is expected to remove in 2025? g. List out options available to customers that do not wish to participate in LEIP. i. If there are no options, explain why? h. How does LEIP relate to line removal as defined GH-12? i. What is the cost-benefit ratio of the LEIP program? Provide a workpaper that demonstrates how the ratio was	This response contains confidential material provided pursuan to the accompanying confidential	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	1	No	8	Grid Design, Operations, and Maintenance	8.2.1
139	SPD	003	SPD_003	2	No	SPD_003_Q2	PG&E's Figure-6.1.3.2-1 states EPSS combined with PSPS removes 81.7% (16.012/19.578=81.7%) wildfire risk. Separately, PG&E's response in the first figure in part a of "WMP-Discovery2026-2028_DR_OEIS_001-Q023" implies that PSPS/EPSS is closer to 90% effective at mitigating wildfire risk. Table PG&E-6.1.3-1 also states PSPS reduces 84% of the wildfire risk. Why is there an apparently discrepancy between the response of Part a of "WMP-Discovery2026-2028_DR_OEIS_001-Q023" and Table PG&E-6.1.3-1 compared to PG&E's Figure-6.1.3.2-1?		Henry Sweat	4/23/2025	5/7/2025			No	6	Wildfire Mitigation Strategy Development	6.1.3.2
140	SPD	003	SPD_003	3	No	SPD_003_Q3	In Figure 6-1, what are the projected mileages for each resiliency mitigation for each year through 2033? a. How were the projected mileages, especially those beyond 2028, for the resiliency mitigations established?		Henry Sweat	4/23/2025	5/7/2025			No	6	Wildfire Mitigation Strategy Development	6.2.1
141	SPD	003	SPD_003	4	No	SPD_003_Q4	For Figure 6-1 and the figures in Part a of "WMP-Discovery2026-2028_DR_OEIS_001-Q023," what are the actual percentage values for each year? a. What are the baseline 2023 values for Wildfire Risk, PSPS Risk and EPSS Risk? b. Provide the three figures in Part a of "WMP-Discovery2026-2028_DR_OEIS_001-Q023," using absolute values of monetized risk in dollar values. c. What is the assumed risk reduction from operational mitigations for each year for wildfire risk (the first figure in the response to part (a) of "WMP-Discovery2026-2028_DR_OEIS_001-Q023.")?		Henry Sweat	4/23/2025	5/7/2025			No	6	Wildfire Mitigation Strategy Development	6.2.1
142	SPD	003	SPD_003	5	No	SPD_003_Q5	Compute the as-built conversion factor for projects in 2023 and 2024 between overhead lines to underground lines. Provide an explanation of the computation. See the computation provided in PG&E's response to "WMP-Discovery2023_DR_SPD_005-Q006" for an example.	Please see attachment "WMP-Discovery2026-2028_DR_SPD_003-Q005Atch01.xlsx". This includes undergrounding subprojects 100% completed in 2023 and 2024. Note, this is the same subset of data provided in response to "WMP-Discovery2026-2028_DR_TURN_003-Q004Atch01.xlsx", and with the conversion factor appended. The primary overhead miles removed and replaced by undergrounding reflect actual overhead miles removed on undergrounding subprojects, where data is available; otherwise, where data is not yet available, we used the adopted1 overhead to undergrounding conversion factor of 1 mile of overhead to 1.25 miles of undergrounding.	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	1	No	8	Grid Design, Operations, and Maintenance	8.2.2
143	SPD	003	SPD_003	6	No	SPD_003_Q6	For GH-04, provide a definition of the miles target and compare the definition to the target in the 2026-2028 WMP. For instance, is the target some combination of: "the miles of primary overhead line to be replaced by undergrounding," "the miles of overhead (primary, secondary and service) line to be replaced by undergrounding," "the miles of undergrounded primary lines to be installed" or "the miles of undergrounded (primary, secondary and service) lines to be installed." a. PG&E proposes two forms of undergrounding (underground primary, and underground all). Provide the number of miles for each undergrounding type planned for 2026, 2027, and 2028. b. Page 181 of the PGE's 2026-2028 WMP states: "While PG&E will choose either overhead hardening or undergrounding as the primary mitigation, PG&E often implements a hybrid mitigation solution that consists of both overhead hardening and undergrounding on portions of the same circuit segment." i. If a hybrid solution is implemented, how will the mileage be recorded in GH-04 and GH-12? ii. If undergrounding is the primary mitigation, but some covered conductor is installed on the project because undergrounding is infeasible for a small section of the line – how will the mileage be recorded in GH-04 and GH-12? iii. Provide the number of miles where PG&E expects a hybrid solution will be implemented and recorded in GH-04 and/or GH-12.	a. While PG&E's WMP references the effectiveness of Undergrounding All (primary, secondary and service lines) and of Underground Primary, the undergrounding mileage commitments for GH-04 listed in table 8.1.1 for this WMP period are specifically for the undergrounding of primary distribution lines. WMP-Discovery 2026-2028_DR_SPD_003-Q006 Page 2 b. i. For any project with a combination of undergrounding and overhead hardening and/or line removal, undergrounding mileage will be recorded in GH-04 and overhead hardening and line removal mileage will be recorded in GH-12. ii. For any project with a combination of undergrounding and overhead hardening and/or line removal, undergrounding mileage will be recorded in GH-04 and overhead hardening and line removal mileage will be recorded in GH-12. iii. Please reference "WMP-Discovery2026-2028_DR_SPD_003-Q006Atch01.xlsx" for a list of all circuit segments that have been identified for undergrounding and overhead hardening and/or line removal. For 2026 work, subprojects have been scoped and the miles associated the multiple mitigation types have been included at the subproject-level. For 2027 and 2028 work, the miles associated with hybrid solutions will be determined once they are fully scoped. A summary of the miles is included in the "Summary" tab and below for reference:	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	1	No	GH-04	GH-04	GH-04
144	SPD	003	SPD_003	7	No	SPD_003_Q7	Explain how PG&E calculates the risk reduced when there is a combination of undergrounding and covered conductor on a particular circuit segment. Clarify if there is a difference in how the risk reduction is calculated if a primary covered conductor project, primary undergrounding project or a hybrid project is chosen.	Risk reduction is based on the unique effectiveness values of each mitigation applied against the proportion of a circuit segment addressed by the corresponding mitigation. For example, for a segment with a wildfire mitigation effectiveness value of 67% for OH and 98% for UG, the risk reduction for that circuit segment containing 10 risk points prior to mitigation would be: 1. For OH: Risk Reduction = 10 risk points x 67% = 6.7 risk points 2. For UG: Risk Reduction = 10 risk points x 98% = 9.8 risk points 3. For a Hybrid Project (half of the segment mileage mitigated by OH and half mitigated by UG): Risk Reduction = (5 risk points x 67%) + (5 risk points x 98%) = 8.25 risk points This is a simplified example of the calculation detailed in PG&E's Advice Letter 7150-E.4	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.2
145	SPD	003	SPD_003	8	No	SPD_003_Q8	Provide additional explanation on the discussion in section 8.2.2 under the heading, "Impacts on Likelihood and Consequence of Program Events." The questions below are posed under the assumption that the lines would not be subject to PSPS/EPSS conditions due to overhead lines upstream or downstream. a. For circuit segments where there are covered conductor miles interspersed among undergrounded miles, explain how PG&E will plan to use PSPS and EPSS for these circuit segments. i. Is there a threshold for the amount of covered conductor? (i.e. if there is a 5-mile undergrounded circuit segment that has only 100 feet of covered conductor and that circuit segment is subjected to PSPS conditions, would a PSPS event be triggered?) b. For undergrounded segments from the 2023-2025 WMP where only the primary conductor was undergrounded, explain how PG&E will use of PSPS and EPSS	Regarding PSPS, see "Impacts on Likelihood and Consequence of Program Events" of section 8.2.1 of the 2026-2028 WMP which further explains overhead and underground inclusion for PSPS events at a high level. There is no threshold for the amount of covered conductor to be exempt from PSPS. In the event primary conductor segments have been undergrounded, replacing all overhead primary exposure in High Fire Risk Areas (HFRA) and EPSS buffer areas, a circuit may be removed from EPSS program scope. If only a portion of a circuit is undergrounded, the portions of the overhead primary remaining in HFRA or EPSS buffer areas will continue to be protected by EPSS capable devices when criteria are met.	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	0	No	8	Grid Design, Operations, and Maintenance	8.2.2

146	SPD	003	SPD_003	9	No	SPD_003_Q9	The system target for GH-04 is 370 miles for 2026 whereas PG&E previously forecasted a target of 440 miles. a. Provide the breakdown for miles related to Butte County Rebuild in 2026. b. The WMP states the reduction is because the PG&E forecasts being able to achieve the risk reduction in the GRC with less miles than previously forecasted. Provide a high-level justification for this number. The justification should be desegregated by the amount of risk reduced per year by mitigation and by the risk model. c. Provide the risk reduced in part (b) but calculate the risk reduced based on the risk calculated in WDRM v4. d. In Advice Letter 7312-E submitted on July 1, 2024, PG&E presented its System Hardening Accountability Report. In the Baseline_Risk_Miles spreadsheet of Attachment B, PG&E forecasted 53.5 WDRM v2 miles and 575.1 WDRM v3 miles of hardening to be completed in 2026. Do these numbers account for the changed forecast in GH-04? i. If so, please provide how many WDRM v2 miles of undergrounding and how many WDRM v3 miles of undergrounding PG&E now forecasts as being completed in 2026 in order to satisfy the risk reduction target adopted in OP 22 of D.23-11-069. ii. If not, provide the new forecast of WDRM v2 miles and WDRM v3 miles of hardening to be completed in 2026. Also provide how much of the updated forecast of WDRM v2 miles and WDRM v3 miles of hardening that PG&E forecasts would be undergrounding to be completed in 2026.	a. As described in response to WMP-Discovery2026-2028_DR_OEIS_001-Q019, the GH-04 Undergrounding target of 370 reflects PG&E's forecast to complete approximately 10 miles of undergrounding as part of the Butte Community Rebuild effort in 2026. b. PG&E reduced the planned GH-04 mileage for 2026 based on the risk reduction achieved in 2023-2024 and forecasted for completion in 2025 in order to stay in compliance with the 2023 GRC risk reduction requirements. Please see Table 1 below with the 2023-2026 risk reduction achieved and forecasted (as of February 24, 2025) in accordance with PG&E Advice 7130 E-A, approved by the CPUC on May 30, 2024. Table 2 shows that the miles planned each year by mitigation type, which exceeds the four-year (2023-2026) 18% cumulative risk reduction target of the 2023 GRC. Note, the risk and miles included in the tables below exclude Community Rebuild work given it is not part of the 2023-2026 GRC System Hardening program. c. The estimated WDRM v4 risk values provided in this response represent the risk metrics for circuit segments sharing the same name as the legacy circuit segments on which each project was planned. The risk values from WDRM v4 may be different than risk values from legacy models. Actual circuit segmentation varies over time and there is no guarantee that a project originally targeted on a circuit segment will still lie within the bounds of that same circuit segment's namesake in the updated risk model. It is also possible the name of the circuit segment stays the same, even though the parameters of the circuit segment changes (e.g. segment splits into two upon installation of new protective devices, replacement of a protective device changes the name of the segment, customer load transfers take place). In some cases, the circuit segment's namesake may be entirely absent from the updated risk model. Acknowledging the aforementioned limitations of this analysis, please see a summary of estimated risk reduced by year and by mitigation type in the Table 3 below: d. The GRC Advice Letter 7312-E (SHAR) did not consider PG&E's 2026 undergrounding WMP mileage forecast being reduced from 440 miles to 370 miles	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	0	No	GH-04	GH-04	GH-04
147	SPD	003	SPD_003	10	No	SPD_003_Q10	In the 2024 QDR spatial data set, the polylines GH-01 and GH-04 are frequently overlaid on each other. Explain how to identify how many miles were undergrounded, covered conductored or removed, as well as how to understand the as-built configuration of the system. Additionally, answer the following: a. SPD assumed the feature in the data set which states "ugfeet" and "cofeet" would distinguish between undergrounding and covered conductor, but is finding that these numbers do not add up to the reported completed miles in a given WMP year. What is "ugfeet" and "cofeet" and why do they not add up to the completed miles? b. SPD found the length of the polylines added up to 291 miles for GH-01 (Status=Complete, Completion Date = All), but the reported actual number of miles completed in the tabular QDR is 348. Explain why the length of the polylines is not equal to the 348 miles. c. Some GH-01 data is in points instead of polylines – explain why polylines are not used since there is either a portion of a line being removed, cover conductored or undergrounded.	The DescriptionOfWork data field can be used to see the current planned removal feet, underground feet, and covered feet, which can then be converted into miles for each project. Please note, this is not a required field by Energy Safety, but rather an additional detail PG&E provides to help the user get additional information related to the work performed. PG&E started providing the feet and activity type to the DescriptionOfWork field since the Q2 2024 submission. As PG&E indicates in our metadata, as well as in previous data request responses to the CPUC and Energy Safety, data in the Spatial QDR represents a snapshot in time only. The data evolves as more work is performed against the projects. The quarterly reports are interim draft work products used to provide visibility to work performed. They are not final versions for initiative and should not be used for verification. Project work expands beyond a single quarter so the data about each project evolves. For complete details of work performed including schematics, job packages should be used and reviewed. As-built configuration of the system PG&E's Geographic Information System (GIS), Electric Transmission GIS, and Electric Distribution GIS mapping systems represent assets associated with construction work when that work has been received and mapped by electric GIS mapping technicians. Construction jobs that are partially complete or fully complete may be mapped in the GIS systems once construction "as-built" information has been submitted and accepted by the GIS Mapping Department. Prior to being received by the GIS Mapping Department, completed job packages must undergo several processing steps including clerical review, processing, and paperwork scanning. Sometimes, completed job packages require additional information from the field or post-estimating work. The processing steps take time to complete. Until a project is completed and mapped, detailed information remains in the design systems and paper job packages. When spatial quarterly reports are created, there will be varying levels of mapping available for each project. PG&E provides spatial data to the extent each job has been mapped. Please note, when a job status changes to "complete" in the GIS Data Standard submissions the GIS Mapping Department may still be undergoing processing steps to reflect the completed job package in GIS mapping systems. As such, construction field complete, does not mean mapping complete. As a visual aid, the DescriptionOfWork data field can be used to see the current	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	0	No	GH-04	GH-04	GH-04
148	SPD	003	SPD_003	11	No	SPD_003_Q11	Provide an update for full 2024 year data to "WMP-Discovery2023-2025_DR_SPD_019-Q012.pdf" and the supplemental response.	For the year 2024, PG&E confirms the average number of strike trees per mile of lines inspected on Focused Tree Inspection (FTI) prior to removal is 785.84. Please see the calculation below for how this number was determined: For the year 2024, PG&E confirms the average number of strike trees per mile of lines inspected after removals is 748.41. Please see the calculation below for how this number was determined: Please see the following data for the requested information for the year 2024: • Number of trees prescribed to be worked: 71,284 trees • Number of total trees worked: 55,342 trees • Number of total trees prescribed for removal: 58,689 trees • Number of total trees removed: 46,237 trees • Number of miles inspected: 1,568.1 miles • Number of strike trees per mile of lines inspected before removals: 785.84 trees/mile • Number of strike trees per mile after removals: 748.41 trees/mile • Number of trees harvested: 1,293,729 trees	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	0	No	9	Vegetation Management and Inspections	9
149	SPD	003	SPD_003	12	No	SPD_003_Q12	Provide the data in Tables 1 through 3 for each of PG&E's 2023-2025 WMP planned Vegetation Management Programs and PG&E's 2026-2028 WMP Programs. There should be one spreadsheet for each of the Vegetation Management Programs listed in Tables 4 and 5. a. Discuss how PG&E's evaluation of Focused Tree Inspection, Tree Removal Inventory, and Vegetation Management for Operational Mitigations for consolidation into its distribution inspections may change the forecasts in Table 3. For the 2023-2025 WMPs, SPD expects the individual programs to be reported on to include: Table 4: List of Vegetation Management Programs 2023-2025 For the 2026-2028 WMPs, SPD expects the individual programs to be reported on to include: Table 5: List of Vegetation Management Programs 2026-2028		Henry Sweat	4/23/2025	5/7/2025			No	9	Vegetation Management and Inspections	9
150	SPD	003	SPD_003	13	No	SPD_003_Q13	Complete the Tables 1 through 3 at the systemwide and HFTD scale for all of PG&E's Vegetation Management work (ie, the total number of trees removed systemwide and separately the total number of trees removed in the HFTD).		Henry Sweat	4/23/2025	5/7/2025			No	9	Vegetation Management and Inspections	9
151	SPD	003	SPD_003	14	No	SPD_003_Q14	For each vegetation management program in the 2026-2028 WMP, specify if the Quality Assurance and Quality Controls assessments include verification of the height and distance to the conductor of each strike vegetation point specified for removal, and each vegetation strike point noted as an inventory tree.	Quality Assurance and Quality Controls assessments do NOT include verification of the height and distance to the conductor of each strike vegetation point specified for removal, and each vegetation strike point noted as an inventory tree.	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	0	No	9	Vegetation Management and Inspections	9
152	SPD	003	SPD_003	15	No	SPD_003_Q15	Provide PG&E's latest estimate for the number of strike trees in PG&E's HFTD with an explanation of how this estimate was obtained. Discuss PG&E's confidence in the estimate.	PG&E currently estimates approximately 5.6 million trees that have overhead electric system strike potential within HFTD only. This estimate is based on 2019 (distribution) and 2023 (transmission) aerial LiDAR data collection. Due to known limitations of aerial LiDAR associated with tree counts, especially in closed canopy environments, this is likely an underestimation. Due to these factors our confidence level is low.	Henry Sweat	4/23/2025	4/29/2025	4/29/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-SPD_003.zip	0	No	9	Vegetation Management and Inspections	9
153	MGRA	005	MGRA_005	1	No	MGRA_005_Q1	Follow-ups to Data Request Responses: WMP-Discovery 2026-2028_DR_OEIS_001-Q022 MGRA-5-1 For the three technologies listed in PG&E's response to the OEIS data request EFD, DFA, Gridscope), please provide a per-year estimate of the deployment of these devices for 2026, 2027, and 2028 in the HFRA+HFTD: a. The number of devices to be deployed. b. The miles of overhead conductor to be monitored by these technologies in the HFTD in miles. c. The fractional coverage of the overhead conductor system. d. The estimated cumulative risk reduction due to the deployment of that technology.		Joseph Mitchell	4/25/2025	5/13/2025			No	10	Situational Awareness and Forecasting	10.4/10.31
154	MGRA	005	MGRA_005	2	No	MGRA_005_Q2	Suppression MGRA-5-2 During a meeting of the Risk Mitigation Working Group, I recall one of the PG&E team stating that they had looked at the CalFire ignition database to determine whether weather local conditions affected the probability of successful initial attack. a. Did PG&E ever perform an analysis similar to that described? a) If the answer is yes, please provide the results. b. Is the PG&E FPI model available through a public interface? I.e. If a latitude, longitude, and time is provided can a corresponding FPI value be retrieved? c. If the answer to b) is no, what is the approximate volume of PG&E's FPI history, could it potentially be exported, and how much time (days) and effort (personhours) would it require? d. As PG&E's FPI algorithm has changed over time, has PG&E segregated historical periods with different FPI approaches? Or has it re-run its history with the most recent FPI version?		Joseph Mitchell	4/25/2025	4/30/2025	4/30/2025			No	Appendix D	Appendix D: Areas of Continued Improvement	ACI PG&E-23B-03
155	MGRA	005	MGRA_005	3	No	MGRA_005_Q3	Covered Conductor MGRA-5-3 In Table PG&E-8.2.1-4: COVERED CONDUCTOR AND UNDERGROUNDING IMPACTS ON THE LIKELIHOOD OF IGNITION, PG&E'S analysis of Wire-to- Wire contact lists the effectiveness of Covered Conductor as medium it reducing this risk source, whereas other parties rank this as a high effectiveness. a. Please justify why wire-to-wire contact is only reduced to a medium outage prevention. b. Please provide examples in which wire to wire contact between covered conductors resulted in an outage and under what conditions.		Joseph Mitchell	4/25/2025	4/30/2025	4/30/2025			No	8	Grid Design, Operations, and Maintenance	8.2.1
156	MGRA	005	MGRA_005	4	No	MGRA_005_Q4	Advanced Technolog MGRA-5-4 Please direct us to or provide the technical details of Gridscope a. Please provide the differences in action and function and purpose between Gridscope and EFD.		Joseph Mitchell	4/25/2025	4/30/2025	4/30/2025			No	10	Situational Awareness and Forecasting	10.3.1
157	MGRA	005	MGRA_005	5	No	MGRA_005_Q5	Weather MGRA-5-5 Provide a list of the 571 worst weather days, along with a. geographic limits associated with the designation (polygon, counties, etc.), b. FPI, c. Diablo wind event classifier, d. associated catastrophic wildfire e. any other notes or comments added by the meteorological team		Joseph Mitchell	4/25/2025	4/30/2025	4/30/2025			No	Appendix D	Appendix D: Areas of Continued Improvement	ACI PG&E-23B-03
158	OEIS	006	OEIS_006	1	No	OEIS_006_Q1	Regarding PSPS Impact In response to data request OEIS-P-WMP_2025-PG&E-003, Question 3, PG&E states that "the criteria for determining whether a circuit protection zone is affected by PSPS is binary and PG&E considers the distinction of whether there is PSPS impact or not." Provide the following based on the CPZs in which there is PSPS impact: a. The percentage by total circuit mileage b. The associated total circuit mileage impacted c. The percentage by total number of CPZs in the HFRA d. The associated number of CPZ's impacted		Nathan Poon	4/25/2025	4/30/2025	4/30/2025			No	8	Grid Design, Operations, and Maintenance	8.2.1

159	OEIS	006	OEIS_006	2	No	OEIS_006_Q2	Regarding the Wildfire Risk Bow Tie Figure PG&E-5.1.1-2 shows the risk bow tie for wildfire risk on page 47 of the 2026-2028 Base WMP. a. Provide two updated versions of this figure for distribution-only risk and transmission-only risk. b. The figure shows that equipment/facility failure and vegetation contact make up 49% and 23%, respectively, o the risk events per year based on frequency. However, it shows that both make up 39% of the risk. i. Provide the timeframe used to determine the number of events per year within the figure. ii. Provide a definition for what qualifies as an "event" within the figure (i.e. outage, ignition). iii. Given the lower likelihood based on frequency of risk event, provide a detailed description of the factors that led to vegetation contact having a similar risk percentage to equipment/facility failures (i.e., proportionally higher consequence or cost) after accounting for the lower frequency.		Nathan Poon	4/25/2025	4/30/2025	4/30/2025				No	5	Risk Methodology and Assessment	5.1.1
160	OEIS	006	OEIS_006	3	No	OEIS_006_Q3	Regarding Weather Model Validation a. Page 57 of the 2026-2028 Base WMP states that "The models use PSPS guidance criteria to perform a back- cast using our 30+ year climatological dataset." i. Provide documentation describing this climatological dataset ii. Provide a list of the variables contained within the dataset iii. Provide a detailed description of the validation performed on the dataset and results of the validation, as well as documentation similar in technical detail to the operational weather modeling presented in (https://doi.org/10.3390/atmos15101244). b. Table 5-1 on page 82 of the 2026-2028 Base WMP includes a description of FPI and IPW models, stating that the weather model forecasts are "skillful and well validated." i. Provide documentation describing these weather model forecasts ii. Provide a list of variables that these weather models forecast iii. Provide a detailed description of the validation performed on the weather model forecasts and results of the validation, as well as documentation similar in technical detail to the operational weather modeling presented in (https://doi.org/10.3390/atmos15101244).		Nathan Poon	4/25/2025	4/30/2025	4/30/2025				No	Appendix D	Appendix D: Areas of Continued Improvement	ACI PG&E-23B-03
161	OEIS	006	OEIS_006	4	No	OEIS_006_Q4	Regarding EPSS Risk On page 65 of the 2026-2028 Base WMP, PG&E states that the EPSS outage risk model "considers the fraction of failures that turn into sustained outages when EPSS is not enabled so that the baseline outage risk can be subtracted from the EPSS enabled risk." a. Provide the number of outages that are within that fraction, including the number of customer minutes interrupted associated with those outages. b. Provide the number of outages used prior to the removal of baseline outages discussed in part (a), including the associated customer minutes interrupted		Nathan Poon	4/25/2025	5/14/2025					No	Appendix D	Appendix D: Areas of Continued Improvement	ACI PG&E-25U-06
162	OEIS	007	OEIS_007	1	No	OEIS_007_Q1	Regarding Distribution Hazard Patro Page 367 of the 2026-2028 Base WMP states: "PG&E is transitioning the Distribution Hazard Patrol Program scope from focusing on all HFTD and HFRA locations to focusing on areas categorized by risk, which may represent a subset of HFTD miles." PG&E includes the following figure describing inspection methods used with the HFTD/HFRA: a. Provide footnotes (1), (2), and (3) for the figure above. b. Provide the number of vegetation-caused ignitions that have occurred on the miles identified in the Inspection Selection Matrix above for 2020-2024. Provide a value for each combination of Consequence and Wildfire Risk as shown in the Inspection Selection Matrix. Provide this data in tables with the same x- and y-axes as the Inspection Selection Matrix (see example below). Provide a separate table for each year 2019-2024 and a summary table with 5-year totals (six tables total). c. Provide the number of vegetation-caused outages that have occurred on the miles identified in the Inspection Selection Matrix above for 2020-2024. Provide a value for each combination of Consequence and Wildfire Risk as shown in the Inspection Selection Matrix. Provide this data in tables with the same x- and y-axes as the Inspection Selection Matrix (see example above). Provide a separate table for each year 2019-2024 and a summary table with 5-year totals (six tables total). d. Provide a GIS file showing the miles identified in the Inspection Selection Matrix above color-coded to show the circuits that will be inspected by "Routine" only, by "Routine/Hazard" only, and by "Routine/Hazard/Remote Sensing." Include the following attributes: i. CircuitID (as defined by the Energy Safety Data Guidelines) ii. CircuitName (as defined by the Energy Safety Data Guidelines) iii. Inspection category (i.e., Routine only, Routine/Hazard only, and Routine/Hazard/Remote Sensing) iv. Consequence category (i.e., Low, Medium, High, Severe, and Extreme) v. Wildfire Risk category (i.e., Low, Medium, High, Severe, and Extreme) e. Explain PG&E's decision-making process for defining the Consequence categories in the Inspection Selection Matrix above. Include the Consequence score range for each category as a percentile of scores from within the HFTD and HFRA. f. Explain PG&E's decision-making process for defining the Wildfire Risk categories in the Inspection Selection Matrix above. Include the Wildfire Risk score range for each category as a percentile of scores from within the HFTD and HFRA. g. Explain PG&E's decision-making process for choosing to limit the scope of Hazard Patrol to 75.14% of its risk Provide the underlying data supporting this decision (e.g., geographic workforce resources effectiveness of		Nathan Poon	4/29/2025	5/2/2025					No	9	Vegetation Management and Inspections	9.2.2
163	OEIS	007	OEIS_007	2	No	OEIS_007_Q2	Regarding PG&E's Pole Clearing Program target (VM-02) On page 356 of its 2026-2028 Base WMP, PG&E sets cumulative quarterly targets for Q4 in 2026, 2027, and 2028 of 70,000 distribution poles, and states that "the target will be adjusted as determined by inspections in the previous year and may additionally be impacted by changes to facilities or based on other utility risk mitigation reasons." Table 1 of PG&E's Q4 2024 non-spatial QDR submission indicates that PG&E completed pole clearing work at 79,988 distribution poles in 2024. The delta between PG&E's targets in the 2026-2028 Base WMP and PG&E's 2024 pole clearing work is nearly 10,000 poles. a. Provide justification and details of planned activities which support that the volume of pole clearing work PG&E will execute will decrease by nearly 10,000 poles between 2024 and 2026.		Nathan Poon	4/29/2025	5/2/2025					No	VM-02	VM-02	VM-02
164	OEIS	007	OEIS_007	3	No	OEIS_007_Q3	Regarding Previous Overhead Assessment Job Aid Revisions a. Provide TD-2305M-JA02 Overhead Assessment revisions 9, 10, 11 and 13.		Nathan Poon	4/29/2025	5/2/2025					No	8	Grid Design, Operations, and Maintenance	8.3.12.3
165	SPD	004	SPD_004	1	No	SPD_004_Q1	List the locations in the 2026-2028 Base WMP where PG&E's risk scaling function has been applied to the calculation of a value or risk, consequence, risk reduction, or CBR. a. If the values are in a figure, list the Figure number. b. If the values are in a table, list the Table Number. c. If the values are in the text of the 2026-2028 Base WMP, provide the sentence and the page number. d. SPD is aware that PG&E used a risk scaling function in its RAMP A.24-05-008. For each of a-c, describe if the risk scaling function used is the same as that described in the RAMP. If it is different, describe how the risk scaling function is different.		Eddie Schmitt	4/30/2025	5/6/2025						5	Risk Methodology and Assessment	5
166	SPD	004	SPD_004	2	No	SPD_004_Q2	In an Administrative Law Judge Ruling dated April 22 2025 in the PG&E 2024 RAMP Proceeding (A.24-05-008), PG&E was directed to conduct a parallel risk evaluation using a risk-neutral, linear scaling function in preparation for PG&E's 2027 GRC Rate Case. For each of the locations listed in 1a.-1c. provide a new calculation without applying PG&E's risk scaling function. a. If the values are in a figure, recreate the figure without the scaling function applied to the calculation that generated the value(s) in the figure. b. If the values are in a table, recreate the table without the scaling function applied to the calculation that generated the value(s) in the table. c. If the values are in the text of the 2026-2028 Base WMP, provide the sentence with the new value that was generated without the scaling function being applied to the calculation.		Eddie Schmitt	4/30/2025	5/6/2025						5	Risk Methodology and Assessment	5
167	SPD	004	SPD_004	3	No	SPD_004_Q3	List the locations in the 2026-2028 Base WMP where PG&E applied a territory-wide monetized value of electric reliability generated by the ICE (Interruption Cost Estimator) Calculator 1.0 to calculate a value or risk, consequence, risk reduction, or CBR. a. If the values are in a figure, list the Figure number. b. If the values are in a table, list the Table Number. c. If the values are in the text of the 2026-2028 Base WMP, provide the sentence and the page number.		Eddie Schmitt	4/30/2025	5/6/2025						5	Risk Methodology and Assessment	5
168	SPD	004	SPD_004	4	No	SPD_004_Q4	In an Administrative Law Judge Ruling dated April 22 2025 in the PG&E 2024 RAMP Proceeding (A.24-05-008), PG&E was directed to provide a parallel reliability cost calculation using the disaggregated approach recommended in the SPD Evaluation Report on PG&E's 2024 RAMP Application in preparation for PG&E's 2027 GRC Rate Case. For each of the locations listed in 3a.- 3c. provide a new calculation by applying the disaggregated approach recommended in the SPD Evaluation Report. a. If the values are in a figure, recreate the figure by applying the disaggregated approach recommended in the SPD Evaluation Report to the calculation that generated the value(s) in the figure. b. If the values are in a table, recreate the table by applying the disaggregated approach recommended in the SPD Evaluation Report to the calculation that generated the value(s) in the table. c. If the values are in the text of the 2026-2028 Base WMP, provide the sentence with the new value that was generated by applying the disaggregated approach recommended in the SPD Evaluation Report to the calculation.		Eddie Schmitt	4/30/2025	5/6/2025						5	Risk Methodology and Assessment	5
169	SPD	004	SPD_004	5	No	SPD_004_Q5	Fill in the data requested in the attached workbook titled "Decision Tree Results by Circuit Segment.xlsx". This workbook is modeled upon the PGE_2023_WMP_R0_Section_6A2_Atch01.xlsx workbook that was submitted with the PG&E 2023-2025 Base WMP and the PG&E response to a CalAdvocates Data Request that included the workbook titled WMP-Discovery2023- 2025_DR_CalAdvocates_041-Q005Atch01.xlsx. a. Follow the Field Descriptions in the "Instruction" spreadsheet to complete the corresponding cells in the "Primary", "S&S" and "DistTotal" spreadsheets. b. Responses in the "Primary" spreadsheet must be limited to the primary lines found on the corresponding "Circuit Segment Name" listed in Column A. c. Responses in the "S&S" spreadsheet must be limited to the secondary and service lines found on the corresponding "Circuit Segment Name" listed in Column A. d. Responses in the "DistTotal" spreadsheet must include both the primary, secondary and service lines found on the corresponding "Circuit Segment Name" listed in Column A. e. If any of the data requested in this dataset workbook would be impacted by the Administrative Law Judge Ruling described in Questions 1 and 3, provide a second version of this dataset using a risk-neutral, linear scaling function and using the disaggregated		Eddie Schmitt	4/30/2025	5/6/2025						5	Risk Methodology and Assessment	5.5.2
170	SPD	004	SPD_004	6	No	SPD_004_Q6	Per PG&E's response to Question 26c in SPD-PGE-WMP2026-001, where was Figure SRN-PG&E 23-05-06C from PG&E's 2023-2025 Base WMP published?		Eddie Schmitt	4/30/2025	5/6/2025						5	Risk Methodology and Assessment	5.4
171	SPD	004	SPD_004	7	No	SPD_004_Q7	Provide copies of Figures SRN-PG&E-23-05-06A, SRN-PG&E-23-05-06B, SRN-PG&E-23-05-06C from PG&E's 2023-2025 Base WMP in their native format. a. If the native format was not .pptx, convert all three figures into the .pptx format and provide them with this response. All objects and text in the figures must manipulatable in the .pptx format.		Eddie Schmitt	4/30/2025	5/6/2025						5	Risk Methodology and Assessment	5.4
172	SPD	004	SPD_004	8	No	SPD_004_Q8	Provide copies of Figures PG&E-5.2.1-1, PG&E -5.2-1; PG&E 5-2-2; PG&E-5-2-3; PG&E-5-2-4, PG&E-5-2-5; PG&E-5.2.2.2-1, PG&E-6.1.3.1-4, PG&E-8-1-1, PG&E-8-1-2; PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3 in the 2026-2028 Base WMP in their native format. a. If the native format was not .pptx, convert all thirteen figures into the .pptx format and provide them with this response. All objects and text in the figures must manipulatable in the .pptx format.		Eddie Schmitt	4/30/2025	5/6/2025						5	Risk Methodology and Assessment	5.2.1

173	SPD	004	SPD_004	9	No	SPD_004_Q9	Which bowtie workpaper was used to generate Figure PG&E-5.1.1-2 in the 2026-2028 Base WMP? a. Has this bowtie workpaper been updated since it was submitted with the 2024 RAMP Application? If so, explain how. b. If this bowtie workpaper was submitted with PG&E's 2024 RAMP Application and has been updated since the 2024 RAMP Application, provide SPD with a copy of the updated workpaper. c. Provide the exact settings that were used on the bowtie workpaper to generate Figure PG&E-5.1.1-2 in the 2026-2028 Base WMP. d. How did this bowtie workpaper inform mitigation selection in this WMP? Provide a step-by step example demonstrating how this bowtie workpaper informed and resulted in the mitigation selections on the circuit segment named CORNING 110185152. e. Figure 1-5 of the 2024 RAMP Application exhibited an exposure of 222,200 miles. Figure PG&E-5.1.1-2 of the 2026-2028 Base WMP exhibits an exposure of 472,475 miles. Explain why the number of miles increased from the 2024 RAMP to the 2026-2028 Base WMP. f. Does PG&E intend to update this bowtie workpaper, between now and when it submits its 2027 GRC? If so, explain how and why this bowtie workpaper will be updated between now and when PG&E submits its 2027 GRC?		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.1.1
174	SPD	004	SPD_004	10	No	SPD_004_Q10	Which bowtie workpaper was used to generate Figure PG&E-5.1.1-3 in the 2026-2028 Base WMP? a. Has this bowtie workpaper been updated since it was submitted with the 2024 RAMP Application? If so, explain how. b. If this bowtie workpaper was submitted with PG&E's 2024 RAMP Application and has been updated since the 2024 RAMP Application, provide SPD with a copy of the updated workpaper. c. Provide the exact settings that were used on the bowtie workpaper to generate Figure PG&E-5.1.1-3 in the 2026-2028 Base WMP. d. How did this bowtie workpaper inform mitigation selection in this WMP? Provide a step-by step example demonstrating how this bowtie workpaper informed and resulted in the mitigation selections on CORNING 110185152. e. Figure 1-8 of the 2024 RAMP Application exhibited an exposure of 1,208,023 customers. Figure PG&E-5.1.1-3 of the 2026-2028 Base WMP exhibits an exposure of 611,246 customers. Explain why the number of customers decreased from the 2024 RAMP to the 2026-2028 Base WMP. f. Does PG&E intend to update this bowtie workpaper, between now and when it submits its 2027 GRC? If so, explain how and why this bowtie workpaper must be updated between now and when it submits its 2027 GRC?		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.1.1
175	SPD	004	SPD_004	11	No	SPD_004_Q11	Which bowtie workpaper was used to generate Figure PG&E-5.1.1-4 in the 2026-2028 Base WMP? a. Has this bowtie workpaper been updated since it was submitted with the 2024 RAMP Application? If so, explain how. b. If this bowtie workpaper was submitted with PG&E's 2024 RAMP Application and has been updated since the 2024 RAMP Application, provide SPD with a copy of the updated workpaper. c. Provide the exact settings that were used on the bowtie workpaper to generate Figure PG&E-5.1.1-4 in the 2026-2028 Base WMP. d. How did this bowtie workpaper inform mitigation selection in this WMP? Provide a step-by step example demonstrating how this bowtie workpaper informed and resulted in the mitigation selections on CORNING 110185152. e. Figure 1-9 of the 2024 RAMP Application exhibited an exposure of 43,433 miles. Figure PG&E-5.1.1-4 of the 2026-2028 Base WMP exhibits an exposure of 43,506 miles. Explain why the number of miles increased from the 2024 RAMP to the 2026-2028 Base WMP. f. Does PG&E intend to update this bowtie workpaper, between now and when it submits its 2027 GRC? If so, explain how and why this bowtie workpaper must be updated between now and when it submits its 2027 GRC?		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.1.1
176	SPD	004	SPD_004	12	No	SPD_004_Q12	Question 11e. highlights a marginal change in exposure for EPSS risk between the 2024 RAMP and 2026-2028 Base WMP filings. Questions 9e and 10e highlight a significant change in exposure for Wildfire and PSPS risk between the 2024 RAMP and 2026-2028 Base WMP filings. Explain why exposure to EPSS risk exhibits a marginal change, despite significant changes in the exposure to Wildfire and PSPS risk. a. The significant decrease in exposure to PSPS risk highlighted in Question 10a resulted in a significant decrease in risk value between the 2024 RAMP and 2026-2028 Base WMP filings.1 The significant increase in exposure to Wildfire risk highlighted in Question 9e did not result in a significant increase in risk value between the 2024 RAMP and 2026-2028 Base WMP filings.2 Explain why the change in exposure to PSPS risk resulted in a corresponding change in risk value, but the change in exposure to Wildfire risk did not result in a corresponding change in risk value.		Eddie Schmitt	4/30/2025	5/6/2025					Appendix D	Appendix D: Areas of Continued Improvement	ACI PG&E-25U-06
177	SPD	004	SPD_004	13	No	SPD_004_Q13	Explain why the x% of Ignitions in HFTD/HFRA column in Table 3-1 in the PG&E 2026-2028 Base WMP does not total to 100%.		Eddie Schmitt	4/30/2025	5/6/2025					3	Overview of WMP	3.4
178	SPD	004	SPD_004	14	No	SPD_004_Q14	Table 4-1 in 6th Revision of the PG&E 2023-2025 Base WMP shows a ramp up in expenditures from 2020-2022 and from 2023-2025. Table 3-3 in the PG&E 2026-2028 Base WMP. shows a similar ramp up in expenditures. a. Explain what causes the low forecasts in the first year of each WMP. b. Explain what caused the significant variances in 2020-2022 in Table 4-1 from the 6th Revision of the PG&E 2023-2025 Base WMP. c. Provide an update to Table 4-1 from the 6th Revision of the PG&E 2023-2025 Base WMP that includes the actuals and variance for 2023 and 2024. d. Provide an explanation for any variances in the update created in response to Question 14c.		Eddie Schmitt	4/30/2025	5/6/2025					3	Overview of WMP	3.6
179	SPD	004	SPD_004	15	No	SPD_004_Q15	Pg. 135 explains each of the elements in the waterfall figure PG&E-6.1.3.2-1 in the 2026-2028 Base WMP. PG&E states that Wildfire (pre-EPSS/PSPS) is the "inherent wildfire risk based on the data from 2017 to 2024, absent of the use of PSPS and EPSS operational mitigations". a. Was the Wildfire (pre-EPSS/PSPS) calculated as a product of LoRE and CoRE? b. Explain why PSPS Consequence and EPSS Consequence were included in this figure, rather than PSPS Risk and EPSS Risk. c. Explain why PG&E did not use the product of LoRE and CoRE for PSPS and EPSS when generating this figure.		Eddie Schmitt	4/30/2025	5/6/2025					6	Wildfire Mitigation Strategy Development	6.1.3
180	SPD	004	SPD_004	16	No	SPD_004_Q16	Provide a copy of Figure 1-2 in PG&E-4 Chapter 1 of the PG&E 2024 RAMP without the scaling function (a neutral risk attitude). a. Explain any variances in the values displayed in the Figure 1-2 without the scaling function when compared with PG&E's response to WMP-Discovery2026-2028_DR_MGRA_003-Q007.		Eddie Schmitt	4/30/2025	5/6/2025					6	Wildfire Mitigation Strategy Development	6.1.3.2
181	SPD	004	SPD_004	17	No	SPD_004_Q17	In Question 1c of PG&E's data request response to titled WMP-Discovery2026-2028_DR_TURN_002-Q001, PG&E said that "The inclusion of PICs results in an increased risk associated with customers in locations where PSPS thresholds were not met in our historical lookback, but have exposure to PSPS risk based on HFTD/HFRA location and system configuration." a. What does HFTD/HFRA location mean in this sentence? i. Does PG&E mean that every customer living within the HFTD/HFRA was included in the historical lookback? ii. Does this include customers who might be downstream of circuit segment that is exposed to PSPS risk? b. Define "system configuration". c. Include a list of the components that were considered within the "system configuration" and explain their relationship to PSPS thresholds. d. List each procedural step used to determine whether customers were exposed to PSPS risk based on HFTD/HFRA location and system configuration. Provide an explanation for each step.		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology & Assessment	5.2.1
182	SPD	004	SPD_004	18	No	SPD_004_Q18	PG&E's Response to TURN-PG&E-3 Question 1 stated that with regard to the risk score in the attached datasets (e.g. WMP-Discovery2026-2028_DR_TURN_003-Q001Atch02CONF.xlsx), PG&E replaced the previously provided "mean risk score" with the "estimated wildfire risk reduction". Provide an example for a subproject where both the "mean risk score" and "estimated wildfire risk reduction" is calculated.		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology & Assessment	5.4
183	SPD	004	SPD_004	19	No	SPD_004_Q19	PG&E's Response to TURN-PG&E-3 Question 1 included the dataset titled WMP-Discovery2026-2028_DR_TURN_003-Q001Atch02CONF.xlsx. PG&E's Response to SPD-PGE-WMP2026-001 Question 2 included the same dataset titled WMP-Discovery2026-2028_DR_SPD_001-Q002Supp01Atch01CONF.xlsx. Why do these datasets include TBD Orders where the Applicable Risk Model is Version 2 and Version 3? a. Why do these TBD Orders exhibit a pre-scoping status? b. Why do these TBD Orders only report Forecast UG Miles in 2027? c. Will WDRM v2 and v3 be used to scope projects that are Forecasted for 2028? If so, explain why.		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology & Assessment	5.4
184	SPD	004	SPD_004	20	No	SPD_004_Q20	PG&E's Response to SPD-PGE-WMP2026-003 Question 9 included Tables 1, 2 and 3. Provide Excel versions of these tables. a. Confirm that the Advice Letter PG&E referred to in response to SPD-PGE-WMP2026-003 Question 9 was not "PG&E Advice 7130 E-A" but rather PG&E Advice 7150 E-A. b. Include the "Workplan Detail" Worksheet that was used to generate Tables 1 and 2 and is required by PG&E Advice 7150 E-A. c. Include the worksheet that PG&E used to generate Table 3. d. Ensure that all of the cells in Tables 1, 2 and 3 include formulas for calculating each number by referencing the worksheets requested in Questions 20b and 20c. e. Check the submitted Table 1 – some cells appear merged when in fact they should not be merged. For instance, for WDRM v2 total where Mitigation Type is listed as Line Removal the Total and 2026 are merged. Correct the table or explain why the cells are merged. f. Similarly, some cells appear to be split – for instance for 2023, there are two values for many of the ignition types.		Eddie Schmitt	4/30/2025	5/6/2025					GH-04	GH-04	GH-04
185	SPD	004	SPD_004	21	No	SPD_004_Q21	Figure PG&E-5-2-1 in the 2026-2028 Base WMP presents "Outage Probability Vegetation" as a Model. Section 3.5.2.3 Distribution Event Probability Models Version 4 (DEPM v4) Documentation is dedicated to describing "Vegetation Models". Pg. 60 presents "asset-based event models" and "contact from object" models but does not present "vegetations models." Does the "contact from object" description apply to "vegetation models?" If not: a. Why are vegetation models not discussed on pg. 60 of the 2026-2028 Base WMP? b. How are vegetation models integrated into the calculation of probability of ignition given outage? c. Compared with the Asset Equipment or Contact from Object models, are there any differences in how vegetation models are integrated into the calculation of probability of ignition? If so, list them and explain why there are differences.		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.2.1
186	SPD	004	SPD_004	22	No	SPD_004_Q22	Provide a description of each of the alphanumeric customer categories listed in Table PG&E 5.2.2.2 2 in the 2026-2028 Base WMP. a. Include in the description an explanation of how PG&E established each category. b. What justification did PG&E use to establish the relative customer weightings? PG&E explains that CC1 has higher consequence, but why is "Extreme" weighted 20x more than "Significant?"		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.2.2.2

187	SPD	004	SPD_004	23	No	SPD_004_Q23	Related to Figure PG&E-5.2.2.3-1 in the 2026-2028 Base WMP, on pg. 72, PG&E states "...the two circuit segments share a common pixel, F6, and a that support structure (pole) asset also located in pixel F6. To keep the total sum of risk on the network constant, these shared risk results must be partially distributed to each of the circuit segments. The aggregation methodology, in this case, would assign half of the F6 pixel risk and half of the support structure risk to each of the circuit segments." a. Submit "RaDA Algorithms and Methodologies" b. If not explained in "RaDA Algorithms and Methodologies" please explain: i. Why, in this example, was the risk distributed to each of the circuit segments equally? ii. Are there instances where the risk is not distributed equally? a) If so, explain what those instances would be and how PG&E determines the proportion of risk that should be attributed to each circuit segment. Provide examples from a specific circuit segment. b) If not, explain why. c. Are there instances of a pixel sharing more than two circuit segments? i. If so, explain why a pixel can share more than two circuit segments. Provide examples by citing circuit segment names. [List of switching issues]		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.2.2.2
188	SPD	004	SPD_004	24	No	SPD_004_Q24	When discussing PSPS risk on pages 74-75 in the 2026-2028 Base WMP, PG&E states the "...PSPS likelihood and PSPS consequence are calculated by the probability and consequence of each individual customer service_point_ID (SPID)." Describe each step in the procedure that PG&E takes to estimate the PSPS likelihood and consequence of each individual customer service_point_ID. a. Explain how PG&E predicts where PSPS events will occur for customers that PG&E has not had a PSPS event. b. Explain how PG&E uses each of the Model Inputs listed in Figure PG&E-B-1.3 to estimate PSPS likelihood for each individual customer service_point_ID. c. Page 68 notes that the "combination of weather, switching, and restoration is represented as total CMI". Are the values associated with weather, switching and restoration measured in CMI and just added together? Additionally, explain the following: i. How does PG&E estimate the severity of an expected weather period in which a customer is expected to be de-energized? ii. How did PG&E come up with the estimate that patrol and restoration typically take 11 hours? iii. Why did PG&E not use Estimated Time of Restoration?		Eddie Schmitt	4/30/2025	5/6/2025					7	Public Safety Power Shutoff	7
189	SPD	004	SPD_004	25	No	SPD_004_Q25	In its description of CoRE on page 56 in the 2026-2028 Base WMP, PG&E states "Our perspective is that the Burn Probability is a deterministic assessment of local conditions at the time of an ignition event rather than a probabilistic outcome." There is no mention of Burn Probability in the Wildfire Consequence Model Version 4 (WFC v4) Documentation. Provide a step-by-step description of PG&E's deterministic assessment of Burn Probability. a. If PG&E's deterministic assessment of Burn Probability is conducted with SME judgement, list the criteria SME's are required to consider in their assessment. b. If PG&E's deterministic assessment of Burn Probability is conducted with SME judgement, explain how many SMEs participated in an estimation of Burn Probability based on the local conditions for each circuit segment.		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.4
190	SPD	004	SPD_004	26	No	SPD_004_Q26	What steps has PG&E taken to archive any data or models related to WDRM v3? a. Have any aspects of WDRM v3 not been archived? If so, explain why they were not archived. i. If any aspects of WDRM v3 were not archived, would this prevent a party from asking for data analysis using WDRM v3 in the future? b. How long will PG&E maintain its archive of the data or models related to WDRM v3? c. What data is PG&E maintaining of its previous asset data? What data would be missing if PG&E wanted to backcast the risk in pre-2023 years using WDRM v4? How is PG&E working to ensure that future models have the data necessary to backcast the risk to current system configurations?		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.4
191	SPD	004	SPD_004	27	No	SPD_004_Q27	List all the feasibility constraints that are relevant to the decision trees found in Figures PG&E-8.2.1 1, PG&E-8.2.1-2, and PG&E-8.2.1-3 in the 2026-2028 Base WMP. a. How are these feasibility constraints operationalized within these decision trees? b. How are these feasibility constraints quantified? c. How are these feasibility constraints addressed in PG&E's Cost Benefit Analysis?		Eddie Schmitt	4/30/2025	5/6/2025					8	Grid Design, Operations, and Maintenance	8.2.1
192	SPD	004	SPD_004	28	No	SPD_004_Q28	On page 124 in the 2026-2028 Base WMP, PG&E states that it has adopted a consistent treatment of risk tolerance in its risk assessment and mitigation strategies. In an Administrative Law Judge Ruling dated April 22 2025 in the PG&E 2024 RAMP Proceeding (A.24-05-008), PG&E was ordered to not refer to "risk tolerance" to justify risk mitigation activities in the 2027 GRC Rate Case. a. Explain which mitigations discussed in the 2026-2028 WMP will need to be reconsidered in light of this order. i. Explain how and why risk tolerance was used as a justification for selecting those mitigation strategies. b. Explain what role risk tolerance played in the decision trees found in Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3 in the 2026-2028 Base WMP. i. Explain how these three decision trees will change in light of the ALJ Ruling. c. Explain any other decision-making procedure, protocol, tool or other approach where a treatment of risk tolerance was integrated into PG&E's mitigation selection process. i. Explain how these approaches will change in light of the ALJ Ruling.		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5
193	SPD	004	SPD_004	29	No	SPD_004_Q29	Provide a detailed explanation of how PG&E addresses tail risk in its risk models presented in the 2026-2028 Base WMP? a. Is the EORM impacted by PG&E's approach to addressing wildfire tail risk? If so, how? If not, why not? b. Is the WORM impacted by PG&E's approach to addressing wildfire tail risk? If so, how? If not, why not? c. Is the WTRM impacted by PG&E's approach to addressing wildfire tail risk? If so, how? If not, why not?		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.4
194	SPD	004	SPD_004	30	No	SPD_004_Q30	Provide a detailed explanation of how PG&E applies the risk scaling function in its risk model presented in the 2026-2028 Base WMP? a. Is the risk scaling function applied to the EORM? If so, how? If not, why not? b. Is the risk scaling function applied to the WORM? If so, how? If not, why not? c. Is the risk scaling function applied to the WTRM? If so, how? If not, why not?		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.4
195	SPD	004	SPD_004	31	No	SPD_004_Q31	On page 124 in the 2026-2028 Base WMP, PG&E states "PG&E's Investment Planning group leverages the CBRs and the RDF to prioritize the proposed investments to achieve risk reduction at a reasonable cost as part of its GRC forecast." a. How does PG&E leverage CBRs to prioritize investments in risk reduction? Explain. b. List which non-CBR aspects of the RDF PG&E leverages to prioritize investments in risk reduction. i. Explain how PG&E leverages those non-CBR aspects of the RDF to prioritize investments in risk reduction. c. Define "reasonable cost". Explain how PG&E incorporates "reasonable cost" as a constraint in its risk models.		Eddie Schmitt	4/30/2025	5/6/2025					3	Overview of WMP	3.6
196	SPD	004	SPD_004	32	No	SPD_004_Q32	On page 125 in the 2026-2028 Base WMP, PG&E explains that SME judgement is integrate into the process of mitigation selection through "cross-functional working groups". Provide a detailed narrative description of how these cross-functional working groups operate. a. List each type of document or other kinds of information that is created at these cross functional working groups. i. How are these documents or other kinds of information retained? ii. Provide an example of each type of document or other kinds of information that was generated by the cross-functional working group when selecting mitigations on circuit segment CORNING 110185152. b. Do the working groups evaluate every asset within a circuit segment to determine which mitigation should be implemented? i. If so, explain how this is done. ii. If not, explain why not. c. List the inputs the SME's review to support the cross-functional working group's decision about which mitigation should be selected at a given circuit segment. i. Explain how the SME's use each of those inputs to support the cross-functional working group's decision about which mitigation should be selected at a given circuit segment?		Eddie Schmitt	4/30/2025	5/6/2025					6	Wildfire Mitigation Strategy Development	6.1.3
197	SPD	004	SPD_004	33	No	SPD_004_Q33	On page 125 in the 2026-2028 Base WMP, PG&E explains that the cross-functional working group leverage both quantitative risk assessments and qualitative operational insights. Provide a list of the qualitative operational insights. a. Describe how each of these qualitative operational insights can contribute to the mitigation selection. i. Provide an example. Explain how and why each of these qualitative operational insights either did or did not inform the selection of mitigations on circuit segment CORNING 110185152. b. Describe how each of these qualitative operational insights are integrated into the decision trees found in Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3 in the 2026-2028 Base WMP. i. Which of the steps in the decision-trees reviews these qualitative operational insights? How is that performed?		Eddie Schmitt	4/30/2025	5/6/2025					6	Wildfire Mitigation Strategy Development	6.1.3
198	SPD	004	SPD_004	34	No	SPD_004_Q34	On page 125 in the 2026-2028 Base WMP, PG&E explains that when selecting a mitigation it considers relevant local factors on a case-by-case basis. a. Provide a list of local factors that PG&E considers when selecting a mitigation. b. Describe how this list of local factors was established by PG&E. i. Were any other factors considered in this process but removed from the final list? If so, explain why. c. Describe how each of these local factors can inform mitigation selection. d. Describe how each of these local factors are integrated into the decision trees found in Figures PG&E-8.2.1-1, PG&E-8.2.1-2, and PG&E-8.2.1-3 in the 2026-2028 Base WMP. i. Which of the steps in the decision-trees reviews these local factors? How is that performed?		Eddie Schmitt	4/30/2025	5/6/2025					6	Wildfire Mitigation Strategy Development	6.1.3
199	SPD	004	SPD_004	35	No	SPD_004_Q35	On page 132 in the 2026-2028 Base WMP, PG&E states that it looks at its "highest risk circuit segments" to determine where to target the work included in the WMP. a. Within these "highest risk circuit segments", what aspects does PG&E consider in order to determine the timing of implementing mitigations on these "highest risk circuit segments"? i. Does PG&E consider the LoRE and CoRE values of these circuit segments when determining the timing of implementing mitigations on these "highest risk circuit segments"? If so, how? If not, why not?		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5.5.2
200	SPD	004	SPD_004	36	No	SPD_004_Q36	Throughout the 2026-2028 Base WMP, PG&E uses the terms system hardening, grid hardening, and resiliency mitigation activities to describe the same category of mitigations, namely undergrounding, covered conductor and distribution line removal. Explain why PG&E uses three different terms for this category of mitigations. a. Are there differences between these terms? If so, explain.		Eddie Schmitt	4/30/2025	5/6/2025					8	Grid Design, Operations, and Maintenance	8
201	SPD	004	SPD_004	37	No	SPD_004_Q37	On page 135 in the 2026-2028 Base WMP, PG&E states "Over time, undergrounding also has lower operations and maintenance expenses." Provide documentation that corroborates this statement. a. What is the time scale of the analysis that led to this statement? Why was that timescale used? b. How would the results of the analysis be different if an alternative time scale was used? Consider the possible results of the analysis if the following time scales were used: i. Annual, ii. Decadal, iii. Multi-decadal (this must include the decommissioning and replacement cost).		Eddie Schmitt	4/30/2025	5/6/2025					8	Grid Design, Operations, and Maintenance	8.2.2
202	SPD	004	SPD_004	38	No	SPD_004_Q38	On page 136 in the 2026-2028 Base WMP, PG&E states "For many of the mitigation programs, wildfire risk is the primary driver of prioritization." List the mitigation programs where wildfire risk is not the primary driver of prioritization. a. For each mitigation program in this list, explain what is the primary driver of prioritization and why.		Eddie Schmitt	4/30/2025	5/6/2025					5	Risk Methodology and Assessment	5

203	SPD	004	SPD_004	39	No	SPD_004_Q39	For Table 6-3 in the 2026-2028 Base WMP, PG&E provided an "Activity-Effectiveness-Wildfire Risk" value for each activity listed. However, for six of these activities PG&E did not provide Cost Benefit Ratios.3 a. Provide the Cost-Benefit Ratios for each of these activities as is required by D.22-12-027. b. If these calculations of CBR vary from what was submitted in PG&E's 2024 RAMP Application, explain how much they vary and why.4 c. Complete Table 6-3 for all activities listed in this WMP. Add the Initiative Activity Tracking ID as a column in the completed Table. Present this completed version of Table 6-3 in an Excel spreadsheet.		Eddie Schmitt	4/30/2025	5/6/2025						6	Wildfire Mitigation Strategy Development	6
204	SPD	004	SPD_004	40	No	SPD_004_Q40	On page 152 in the 2026-2028 Base WMP, PG&E provides an explanation for how it calculated Activity Effectiveness – Overall Utility Risk. The total value for Wildfire Risk (Dx, Tx, Sub) is $10,434 Million. Explain why this value is different from the $19,578 Million expressed in Figure 6.1.3-2-1. a. Explain why the PSPS and EPSS values here are presented as "Risk" but in Figure 6.1.3.2-1 these values are referred to as "Consequence". b. Explain why the value of Wildfire Risk (Dx, Tx, Sub) is different, but the values for PSPS and EPSS Risk on page 152 remain exactly the same as the values for PSPS and EPSS Consequence in Figure 6.1.3-2-1.		Eddie Schmitt	4/30/2025	5/6/2025						6	Wildfire Mitigation Strategy Development	6.1.3
205	SPD	004	SPD_004	41	No	SPD_004_Q41	On page 153 of the 2026-2028 Base WMP, PG&E describes the Activity Effectiveness – Wildfire Risk calculation and notes that a study was conducted with subject matter experts (SME) who were asked to "fill out a questionnaire about the effectiveness of these activities against roughly 2,000 failure modes". a. How many SMEs participated in this study? i. Provide a list of the expertise for each SME that participated in this study. b. How does the questionnaire compare with the mitigation effectiveness study submitted to SPD as "WMP-Discovery2026-2028_DR_SPD_001-Q01Atch01"? c. Provide a narrative explanation of the questionnaire and how SMEs were expected to fill it out. i. Describe what is meant by categorical level of effectiveness. ii. If a scale was used for SMEs to respond to the questionnaire, provide a detailed explanation of that scale and how it was established. iii. If a scale was used, was a variance and standard deviation calculated for the SME responses to each failure mode? If so, provide a table that displays the mean, variance and standard deviation for the SME's scaled responses to each of the failure modes. d. Provide a copy of the questionnaire about the effectiveness of these activities against the failure modes. e. Provide a copy of the results of the study PG&E notes on page 153 in the 2026-2028 Base		Eddie Schmitt	4/30/2025	5/6/2025						6	Wildfire Mitigation Strategy Development	6.1.3
206	SPD	004	SPD_004	42	No	SPD_004_Q42	Related to the explanation of the Cost Benefit Ratios described on pages 154-155 in the 2026-2028 Base WMP, provide an explanation of how PG&E addressed "discounting of inflation". a. Did PG&E use a discount rate scenario specified in D.24-05-064? i. If so, explain which scenario and why that was chosen. ii. If not, explain why not. Also explain how PG&E addressed discounting and why it chose that method.		Eddie Schmitt	4/30/2025	5/6/2025						3	Overview of WMP	3.6
207	TURN	004	TURN_004	1	No	TURN_004_Q1	Regarding Table 5-5 on page 103 and PG&E's risk prioritization, wh doesn't PG&E prioritize circuit by risk per mile rather than absolute risk? Does PG&E agree that risk per mile of each CPZ is a more accurate way to capture the risk of each CPZ relative to each other? Please explain why or why not		A Mirelle Fali-Fry	5/1/2025	5/6/2025						5	Risk Methodology & Assessment	5
208	TURN	004	TURN_004	2	No	TURN_004_Q2	Regarding Table 6.1.3-1 on page 128: a. Why does line removal with remote grid result in 98% effectiveness? Are all overhead lines removed in each of these instances or are lines undergrounded? Please provide an explanation using an example project to illustrate the mitigation effectiveness. b. Please provide the combined mitigation effectiveness of PSPS and EPSS. i. Please provide all supporting calculations/assumptions in Excel.		A Mirelle Fali-Fry	5/1/2025	5/6/2025						6	Wildfire Mitigation Strategy Development	6.1.3
209	TURN	004	TURN_004	3	No	TURN_004_Q3	Regarding Figure 6.1.3.2-1 on page 136: a. Please provide this figure in Excel with all supporting data, calculations, and assumptions. b. Please re-calculate this figure when implementing planned mitigations for PSPS and EPSS consequences in 2026. i. Please provide in Excel with all supporting data, calculations, and assumptions		A Mirelle Fali-Fry	5/1/2025	5/6/2025						6	Wildfire Mitigation Strategy Development	6.1.3
210	TURN	004	TURN_004	4	No	TURN_004_Q4	Section 8.2.1.2, page 150 states "The total number of miles within the HFTD and HFRA = 4,250 circuit miles." a. Shouldn't the total number of circuit miles be closer to 25,000? b. Please explain the 4,250 figure and what it represents.		A Mirelle Fali-Fry	5/1/2025	5/6/2025						6	Wildfire Mitigation Strategy Development	6.2.1.2
211	TURN	004	TURN_004	5	No	TURN_004_Q5	Section 8.2.1, page 181 states "PG&E will analyze the proposed CC route to determine if there are areas with tree strike risk or locations that could be subject to ingress/egress issues." a. Please define "tree strike risk." b. If "tree strike risk" is found to be present, does this mean the CC is ruled out? Please explain. c. Please define ingress/egress issues as used here.		A Mirelle Fali-Fry	5/1/2025	5/6/2025						8	Grid Design, Operations, and Maintenance	8.2.1
212	TURN	004	TURN_004	6	No	TURN_004_Q6	Regarding PG&E's System Hardening Project Process Decision Tree an Process Figures 8.2.1-1, 8.2.1-2, and 8.2.1-3 on pages 182–84: a. Does PG&E utilize project-specific unit costs for CC and UG as opposed to generic averages? Please explain.		A Mirelle Fali-Fry	5/1/2025	5/6/2025						8	Grid Design, Operations, and Maintenance	8.2.1
213	TURN	004	TURN_004	7	No	TURN_004_Q7	Regarding Table 8.2.1-2 on page 189, please explain whether mitigation effectiveness is calculated based on SME judgement. In each case where SME judgement is used, please explain why PG&E does not utilize data/riven methods to calculate mitigation effectiveness		A Mirelle Fali-Fry	5/1/2025	5/6/2025						8	Grid Design, Operations, and Maintenance	8.2.1
214	TURN	004	TURN_004	8	No	TURN_004_Q8	Regarding Table 8.2-19 on page 195: a. Please provide this table in Excel with supporting calculations. b. Please add the following information to the Excel table and include all data, calculations, and assumptions: i. Annual and cumulative number of overhead miles in each year from 2023 (recorded) to 2026 (forecast) for each activity separately (covered conductor and undergrounding). ii. Annual and cumulative costs in each year from 2023 to 2026 (including forecast years) for each activity separately (covered conductor and undergrounding). Please provide supporting calculations. iii. Annual and cumulative risk reduction from all other primary wildfire mitigations from 2023-2026 (including forecast years). iv. Annual and cumulative costs from all other primary wildfire mitigations from 2023-2026 (including forecast years). v. Annual and cumulative costs to implement EPSS and PSPS in each year (separately) from 2023-2026 (including		A Mirelle Fali-Fry	5/1/2025	5/6/2025						8	Grid Design, Operations, and Maintenance	8.2.1
215	TURN	004	TURN_004	9	No	TURN_004_Q9	Regarding Table 8-5-2 on page 321, please provide these figures on an annual basis, from December 31, 2015, through 2023. At a minimum, please provide the 181+ figures.		A Mirelle Fali-Fry	5/1/2025	5/6/2025						8	Grid Design, Operations, and Maintenance	8.5
216	TURN	004	TURN_004	10	No	TURN_004_Q10	Please provide a list of mitigations PG&E has examined for how to reduce the "consequence" (outages and outage time) of PSPS and EPSS. Please include the following: a. Mitigation effectiveness of each mitigation, including all workpapers and an explanation. b. Unit cost or other relevant metrics. c. All supporting data and workpapers.		A Mirelle Fali-Fry	5/1/2025	5/6/2025						7	Public Safety Power Shutoff	7
Pre Discovery 01	TURN	001	TURN_001	1	No	TURN_001_Q1	Please provide a contemporaneous copy of the pre-submission, and all supporting materials, submitted to the Office of Energy Infrastructure Safety on March 7, 2025.	PG&E objects to this request because the requested information is confidential Additionally, the document that TURN is seeking is an unfinished draft and will not facilitate TURN's ability to make an informed public comment. Furthermore, this request improperly seeks to conduct discovery outside of the Wildfire Mitigation Plan (WMP) review period, which begins for PG&E on April 4, 2025. See Energy Safety Policy Division Guidelines, dated February 24, 2025, at page 7. We will be happy to provide TURN with its 2026-2028 WMP on April 4, 2025, when it is finalized. Additionally, if TURN would like to meet and confer on this issue, please do not hesitate to reach out.	A Mirelle Fali-Fry	2/24/2025	3/7/2025	2/28/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_001.zip	0	No	N/A	N/A	N/A
Pre Discovery 01	TURN	001	TURN_001	1(a)	Yes	TURN_001_Q1(a)	Please provide a contemporaneous copy of the pre-submission, and all supporting materials, submitted to the Office of Energy Infrastructure Safety on March 7, 2025.	Pursuant to PG&E's agreement with TURN and the Non-Disclosure Agreement executed on March 7, 2025, and notwithstanding or waiving our objections, please see "WMP-Discovery2026-2028_DR_TURN_001-Q001Supp01Atch01CONF.zip," for our Wildfire Mitigation Plan (WMP) pre-submission that was provided to Energy Safety. Please note that this is not our final WMP submission and may be subject to revisions before the final WMP is submitted on April 4, 2025. Please note that this is not our final WMP submission and may be subject to revision before the final WMP is submitted on April 4, 2025. Please note that 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 only for Energy Safety's use in performing a pre-submission check and not for performing a substantive review of WMP content.	A Mirelle Fali-Fry	2/24/2025	3/7/2025	3/7/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-TURN_001.zip	1	No	N/A	N/A	N/A
Pre Discovery 02	CALPA	001	CALPA_001	1	No	CALPA_001_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 2026 that is related to your 2026-2028 WMP or WMP quarterly reports, unless the document is publicly available through Energy Safety's dockets. This request is limited to materials, data files, geodatabases, and documents that 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). Provide each document to Cal Advocates within one business day of the document's submittal to Energy Safety. (If you have submitted a document to Energy Safety prior to this data request, please provide within 10 business days from the issuance of this data request.)	or situation or set 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 sought within the requested timeframe. In these instances, we will provide the requested information as soon as it is reasonably possible. Additionally, with the exception of confidential and spatial data, please note that we post our WMP-related submissions on our website, www.pge.com/wildfiremitigationplan, on the same business day that the documents are provided to Energy Safety. WMP-Discovery2026-2028_DR_CalAdvocates_001-Q001 Page 2 Lastly, PG&E objects to the portion of this request that instructs the following: "[i]f you have submitted a document to Energy Safety prior to this data request, please provide within 10 business days from the issuance of this data request." This request is vague, ambiguous, overbroad, and unduly burdensome. This request is not limited in time or	Holly Wehrman	3/5/2025	3/10/2025	3/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-CalAdvocates_001.zip	0	No	N/A	N/A	N/A
Pre Discovery 03	CALPA	001	CALPA_001	2	No	CALPA_001_Q2	Please provide a copy of your WMP pre-submission within three business days of its submission to Energy Safety.	Please see "WMP-Discovery2026-2028_DR_CalAdvocates_001-Q002Atch01CONF.zip" for our Wildfire Mitigation Plan (WMP) pre-submission to Energy Safety. Please note, that this is not our final WMP submission and may be subject to revision before the final WMP is submitted in April 2025. Please note, 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	3/5/2025	3/10/2025	3/10/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-CalAdvocates_001.zip	1	No	N/A	N/A	N/A

Pre Discovery 04	MGRA	001	MGRA_001	1	No	MGRA_001_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 our 2024 Quarterly OEIS GIS Data Guidelines Submissions. PG&E is also providing non-confidential data from the Support Structure feature class. PG&E is not WMP-Discovery2026-2028_DR_MGRA_001-Q001 Page 2 providing data for the Fuse feature class as this data is confidential critical energy infrastructure information (CEII). Please see attachment "WMP-Discovery2026-2028_DR_MGRA_001-Q001Atch01.zip" for the data provided in response to this data request.	Joseph Mitchell	3/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_001.zip	1	No	N/A	GIS	N/A
Pre Discovery 05	MGRA	001	MGRA_001	2	No	MGRA_001_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, as delivered in our 2024 OEIS GIS Data Guidelines Submissions. Please see "WMP-Discovery2026-2028_DR_MGRA_001-Q001Atch01.zip". PG&E is not providing the Transmission Line feature class because it is confidential CEII. PG&E refers MGRA to review externally available datasets. Specifically, the California Energy Commission's (CEC) "California Electric Transmission Lines" dataset. 1	Joseph Mitchell	3/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_001.zip	0	No	N/A	GIS	N/A
Pre Discovery 06	MGRA	001	MGRA_001	3	No	MGRA_001_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. Data should include time, duration	In response to this request, PG&E is providing non-confidential data for the PSPS Event Line, PSPS Event Log, PSPS Event Polygon, PSPS Event Conductor Damage Detail, PSPS Event Damage Point, and PSPS Event Support Structure Damage Detail feature Classes, as delivered in our 2024 OEIS GIS Data Guidelines Submissions. Please see "WMP-Discovery2026-2028_DR_MGRA_001-Q001Atch01.zip". Please note, PSPS events took place during Q3 and Q4 2024 only.	Joseph Mitchell	3/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_001.zip	0	No	N/A	GIS	N/A
Pre Discovery 07	MGRA	001	MGRA_001	4	No	MGRA_001_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. Attributes should include location, time, and cause information.	In response to this request, PG&E is providing non-confidential data for the Wire Down, Ignition, and Unplanned Outage feature classes, as delivered in our 2024 OEIS GIS Data Guidelines Submissions. Please see "WMP-Discovery2026-2028_DR_MGRA_001-Q001Atch01.zip". The Office of Energy Infrastructure Safety changed their schemas in version 3.0 of the Data Guidelines released December 14, 2022, to no longer include Transmission Unplanned Outage, Distribution Unplanned Outage, Distribution Vegetation Caused Unplanned Outage, and Risk Event Asset Log feature classes, but rather consolidated these previous outage feature classes into a single Unplanned Outage feature class1. PG&E adopts and reports out against the required Data Guidelines as required to by Energy Safety. Please note, we have excluded the requested range data in the referenced attachment.	Joseph Mitchell	3/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_001.zip	0	No	N/A	GIS	N/A
Pre Discovery 08	MGRA	001	MGRA_001	5	No	MGRA_001_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.	In response to this request, PG&E is providing non-confidential data for the Grid Hardening Point and Grid Hardening Line feature classes, as delivered in our 2024 OEIS GIS Data Guidelines Submissions. Please see "WMP-Discovery2026-2028_DR_MGRA_001-Q001Atch01.zip". The Office of Energy Infrastructure and Safety changed their schema for version 3.0 of the Data Guidelines (released December 14, 2022) which removed the Grid Hardening Log feature class.1 PG&E adopts and reports out against the required Data Guidelines as required to by Energy Safety.	Joseph Mitchell	3/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_001.zip	0	No	N/A	GIS	N/A
Pre Discovery 09	MGRA	001	MGRA_001	6	No	MGRA_001_Q6	Under Other Required Data, please provide Red Flag Warning Day polygon data including dates and duration.	In response to this request, PG&E is providing the Red Flag Warning Day polygon feature class, as delivered in our 2024 OEIS GIS Data Guidelines Submissions. Please see "WMP-Discovery2026-2028_DR_MGRA_001-Q001Atch01.zip". Please see RedFlagWarningIssueDateTime field for the dates and the start time. Please note, duration is not a field included in Energy Safety's schema found in the Data Guidelines	Joseph Mitchell	3/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_001.zip	0	No	N/A	GIS	N/A
Pre Discovery 10	MGRA	001	MGRA_001	7	No	MGRA_001_Q7	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 our 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 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. In an effort to reach a middle ground on this issue, in previous years, in response to this request, we provided the requesting party with risk information at the circuit segment level in Excel format that does not include geospatial information. Please see attachment "WMP-Discovery2026-2028_DR_MGRA_001-Q007Atch01.xlsx" for that same information as it relates to our current WMP.	Joseph Mitchell	3/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_001.zip	1	No	N/A	GIS	N/A
Pre Discovery 11	MGRA	001	MGRA_001	8	No	MGRA_001_Q8	If PG&E maintains that providing specific data in response to the above requests would violate confidentiality as it has asserted it please provide a justification for each of the asserted violations. Likewise, if requested data cannot be provided for other reasons please provide justifications. Please expedite response to this data request to the extent required by applicable OEIS process documents.	Each individual response in this request identifies information that is being excluded o confidentiality grounds, if any, and the reason for the exclusion. CEII is defined as follows, in accordance with the definition created by the Federal government: CEII is specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure (physical or virtual) that: 1. Relates details about the production, generation, transmission, or distribution of energy; 2. Could be useful to a person planning an attack on critical infrastructure; 3. Is exempt from mandatory disclosure under the Freedom of Information Act; and 4. Gives strategic information beyond the location of the critical infrastructure.1	Joseph Mitchell	3/17/2025	4/25/2025	4/25/2025	https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/2026-2028-MGRA_001.zip	0	No	N/A	GIS	N/A