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**VIA ELECTRONIC FILING**

Shannon O'Rourke, Deputy Director  
Office of Energy Infrastructure Safety  
California Natural Resources Agency  
715 P Street, 20<sup>th</sup> Floor  
Sacramento, CA 95814

Re: PG&E's 2024 Change Order for the 2023-2025 Wildfire Mitigation Plan (WMP)  
(Docket #2023-2025 WMPs)

Dear Deputy Director O'Rourke:

Pursuant to the 2023-2025 WMP Process and Evaluation Guidelines, Pacific Gas and Electric Company (PG&E) respectfully submits this change order for our 2023-2025 Wildfire Mitigation Plan (WMP), in accordance with the guidance provided by the Office of Energy Infrastructure Safety (Energy Safety) in the 2023-2025 WMP Process and Evaluation Guidelines.<sup>1</sup> The submission consists of the following:

- Summaries of the proposed changes for 2024;
- A summary table of proposed mitigation changes in redline format;
- Explanations of the proposed changes; and
- An updated Quarterly Data Report (QDR) Table 12 with 2024 quarterly updates in redline format.

Please note that there are additional proposed revisions to our 2023-2025 WMP that we believe would make our WMP better reflect the improvements we have made to our processes and the way our mitigation work is, or will be, performed. However, due to the restrictions on what is allowed to be submitted as a change order, these proposed revisions have not been included here.<sup>2</sup> We look forward to making these updates at the appropriate time and in accordance with Energy Safety direction.

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<sup>1</sup> 2023-2025 WMP Process and Evaluation Guidelines, pp. 25-26 ("Electrical corporations must submit change order requests related to their approved WMP or WMP Update no later than 5:00 p.m. on November 1 of the year prior to which the changes are being requested, or within 10 days of Energy Safety's approval of their WMP or Update for that year, if the approval is issued after November 1."). PG&E received final approval of our 2023-2025 WMP on December 29, 2023, 10 days prior to this filing.

<sup>2</sup> For a discussion of how the change order criteria may impact our ability to revise our WMP so that it better matches the wildfire mitigation work being performed, please see Joint IOU Comments on Draft 2025 WMP Update Guidelines (Dec. 6, 2023) at 1-2 and PG&E Comments on Energy Safety Draft 2023-2025 WMP Guidelines (Oct. 26, 2022) at 3.

We appreciate Energy Safety's consideration of this 2024 Change Order. Please do not hesitate to reach out should you need any clarifications or additional materials.

Sincerely,

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Jay Leyno

Director, Wildfire Mitigation PMO

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## 1.0 2024 Change Orders

PG&E seeks to update 19 of 82 initiative mitigations for the year 2024, per Energy Safety's 2023-2025 WMP Process Guidelines.<sup>3</sup> A table outlining PG&E's proposed target changes, and how each meets guideline criteria, is provided in [Section 1.1](#) below. We are also submitting an amended version of our QDR, Table 12 (included here as Attachment A) as a comprehensive redlined view of the requested quarterly target changes.

The change orders requested by PG&E are categorized into two major groups based on the primary driver of the change being proposed. The first group is composed of three initiative mitigations which are being revised to align PG&E's WMP with the units and funding levels authorized by the California Public Utilities Commission (CPUC) in its final decision regarding PG&E's 2023 General Rate Case (GRC).<sup>4</sup> Further explanation of these changes can be found in [Section 1.2](#) below.

The second group is composed of changes to 16 initiative mitigations which are primarily driven by changes to PG&E's strategy to address wildfire risk and updates to the planned execution of existing strategies. This group can further be divided into five key themes: (1) increasing PG&E's use of aerial (drone) inspections; (2) streamlining substation supplemental inspections; (3) updating targets based on changes to the number of PG&E substations; (4) expanding the number of mitigation options available under certain targets; and (5) revising quarterly targets to account for updated execution plans. An explanation of each of these changes can be found in [Section 1.3](#) below.

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<sup>3</sup> 2023-2025 WMP Process and Evaluation Guidelines (Dec. 6, 2022), pp. 22-28.

<sup>4</sup> Decision (D.) 23-11-069 (Nov. 16, 2023).

## 1.1 Summary Table of Proposed Changes to Initiative Mitigations

Below is a summary table showing proposed changes to PG&E’s 2024 wildfire mitigation initiatives, with the proposed changes to the initiative target language marked in red.

For initiatives where there is no red text below, the proposed change to the initiative does not impact the target language or risk impact percentage. For example, mitigation initiatives that only have changes to quarterly targets are included in the list below but do not have any redline changes. These timing changes to quarterly targets can be found in Attachment A to this change order request. Additionally, some proposed changes represent a shift in strategic direction based on an updated understanding of risk for how PG&E plans to perform certain work in 2024, but this shift in strategy may not change the description of the work that is reflected in the target language. For initiatives where the target language doesn’t change, we have included representative redline language from the WMP reflecting how the WMP narrative would be revised to support this change.

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">GH-01: System Hardening – Distribution</a> (8.1.2.1)	Complete <del>470</del> 280 circuit miles of system hardening work which includes overhead system hardening, undergrounding, and removal of overhead lines in HFTD, HFRA, or buffer zone areas except for any mileage being undergrounded and tracked separately as part of our Butte County Rebuild and other Community Rebuild efforts.	<del>4%</del> 2.0%	Decrease in scale	12.2.A: Grid design, operation, and maintenance  12.2B: 25% Change in Initiative Risk;  Change in Strategic Direction	Yes	396

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">GH-04: 10K Undergrounding</a> (8.1.2.2)	Complete <del>450</del> 250 circuit miles of undergrounding work. The <del>450</del> 250-circuit mile target includes: (1) undergrounding taking place as part of System Hardening, (2) undergrounding taking place as part of the Butte County Rebuild program (including a small volume of previously hardened overhead lines that are being placed underground) or other Community Rebuild programs, and (3) any other undergrounding work performed in HFTD, HFRA, Buffer Zone, or fire rebuild areas.	<del>3%</del> 1.8%	Decrease in scale	12.2.A: Grid design, operation, and maintenance  12.2B: 25% Change in Initiative Risk;  Change in Strategic Direction	Yes	400
<a href="#">PS-07: Reduce PSPS Impacts to Customers</a> (9.1.5)	<del>18,000</del> 9,980 customer events [mitigated] based on Wildfire mitigation projects including but not limited to MSO replacements and Undergrounded miles planned for <del>2023</del> -2024.	N/A	Decrease in scale	12.2.A: Public Safety Power Shutoff (PSPS)  12.2B: Change in Strategic Direction	Yes	918

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">AI-07: Detailed Ground and Aerial Inspections – Distribution</a>  (8.1.3.2.1)	Complete detailed inspections on approximately <del>233,504</del> 220,016 distribution poles, which will be identified in PG&E’s asset registry as of December 27, 2022. Please note that this projected target may require modification based on changes in the risk output. The final inspection target units will be identified in PG&E’s asset registry and updated in accordance with section 12.3 of the 2023-2025 WMP Process and Evaluation Guidelines.	47% 53% (Eyes-on-Risk)	Nature of the work;  Decrease in scale	12.2.A: Grid design, operation, and maintenance  12.2B: Change in Strategic Direction  12.3: Quarterly Target		481

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">GM-09 : Asset Inspection – Quality Control</a>  (8.1.6.2)	<p>Perform system inspection QC audits and achieve the associated quality pass rates for each asset inspection program as specified below:</p> <p>System Inspection Transmission – HFTD (<del>Desktop</del>): <del>15,000</del> 16,300 audit locations*; 92 percent pass rate</p> <p><del>System Inspection Transmission – HFTD (Field): 1,300 audit locations*; 92 percent pass rate</del></p> <p>System Inspection Distribution – HFTD (<del>Desktop</del>): <del>140,000</del> 170,000 audit locations*; 88 percent pass rate</p> <p><del>System Inspection Distribution – HFTD (Field): 30,000 audit locations*; 88 percent pass rate</del></p> <p>*Audit locations are subject to change and dependent on completed execution work and constraints. The number of audit locations will be identified using a statistically valid approach with a 95 percent confidence level (CL) and 5 percent margin of error.</p>	N/A	Nature of the work	12.2.A: Grid design, operation, and maintenance  12.2B: Change in Strategic Direction		525



Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">GM-01: Asset Inspections – Quality Assurance</a>  (8.1.6.1)	<p>Perform system inspection QA audits on QC completed locations and achieve the associated quality pass rates for each asset inspection program as specified below:</p> <p>Transmission <b>Ground</b> Inspection – HFTD/HFRA  <del>(Field)</del>: 500 audit locations*; 94% pass rate</p> <p>Distribution <b>Ground</b> Inspections – HFTD/HFRA  <del>(Field)</del>: 1,500 audit locations*; 90% pass rate</p> <p>*Audit locations are subject to change and dependent on completed execution work and constraints. The number of audit locations will be identified using a statistically valid approach with a 95% confidence level (CL) and 5% margin of error.</p>	N/A	Nature of the work	12.2.A: Grid design, operation, and maintenance  12.2B: Change in Strategic Direction		523
<a href="#">AI-08: Supplemental Inspections – Substation Distribution</a>  (8.1.3.3.1)	<p>Complete supplemental inspections on <del>76-62</del> distribution substations. Co-located Hydroelectric substations and Transmission &amp; Distribution substations are counted separately as two distinct units.</p>	<del>TBD</del> <b>27%</b> (Eyes-on-Risk)	Nature of the work;  Decrease in scale	12.2.A: Grid design, operation, and maintenance  12.2B: Change in Strategic Direction  12.3: Quarterly Target		492

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">AI-09: Supplemental Inspections – Substation Transmission</a>  (8.1.3.3.1)	Complete supplemental inspections on <del>36</del> 35 transmission substations. Co-located Hydroelectric substations and Transmission & Distribution substations are counted separately as two distinct units.	<del>TBD</del> <b>26%</b> (Eyes-on-Risk)	Nature of the work;  Decrease in scale	12.2.A: Grid design, operation, and maintenance  12.2B: Change in Strategic Direction  12.3: Quarterly Target		492
<a href="#">AI-10: Supplemental Inspections – Hydroelectric Substations and Powerhouses</a>  (8.1.3.3.1)	Complete supplemental inspections on <del>46</del> 37 Hydroelectric Generation Substations and Powerhouses. Co-located Hydroelectric substations and Transmission & Distribution substations are counted separately as two distinct units.	<del>TBD</del> <b>31%</b> (Eyes-on-Risk)	Nature of the work;  Decrease in scale	12.2.A: Grid design, operation, and maintenance  12.2B: Change in Strategic Direction  12.3: Quarterly Target		492

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">VM-06 : Defensible Space Inspections – Transmission Substation</a> (8.2.2.3.1)	Complete defensible space inspections in alignment with the guidelines set forth in <del>LAND-4001P-01</del> LAND 5201P-01 at <del>55</del> 54 transmission substations. Co-located Hydroelectric substations and Transmission & Distribution substations are counted separately as two distinct units.	22% (Eyes-on-Risk)	Decrease in scale; Quarterly Change	12.3: Quarterly Target		675
<a href="#">VM-07: Defensible Space Inspections – Hydroelectric Substations and Powerhouses</a> (8.2.2.3.1)	Complete defensible space inspections in alignment with the guidelines set forth in LAND 5201P-01 at <del>64</del> 59 Hydroelectric Generation Substations and Powerhouses. Co-located Hydroelectric substations and Transmission & Distribution substations are counted separately as two distinct units.	<del>25%</del> 24% (Eyes-on-Risk)	Decrease in scale; Quarterly Change	12.3: Quarterly Target		675

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">VM-04: Tree Removal Inventory (TRI)</a>  (8.2.2.2.4)	Mitigate 20,000 trees identified from the legacy EVM Program.	<1%	Nature of the work	12.2.A: Vegetation management and inspections  12.2B: Change in Strategic Direction  12.3: Quarterly Target		672

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">PS-06: Provide 12,000 cumulative new or replacement portable and permanent batteries to PG&amp;E customers at risk of PSPS or EPSS, focusing on but not limited to AFN, MBL, and self-identified vulnerable populations</a>  (8.5.3)	Provide 4,000 cumulative new or replacement portable <b>and permanent</b> batteries to PG&E customers.	N/A	Nature of the work	12.2.A: Public Safety Power Shutoff (PSPS)  12.2B: Change in Strategic Direction		892
<a href="#">VM-01: LiDAR Routine Inspections – Transmission</a>  (8.2.2.1.1)	Collect LiDAR data of the Transmission System (17,500 circuit miles). The Transmission System circuit miles include both HFTD / HFRA and non-HFTD Transmission circuit miles.	N/A	Quarterly Target	12.3: Quarterly Target		655
<a href="#">VM-03: Focused Tree Inspection (FTI)</a>  (8.2.2.2.5)	Within Areas of Concern (AOC) locations, complete 1,500 circuit miles of FTI inspection which includes performing a level 2 inspection on all potential strike trees.	<1%	Quarterly Target	12.3: Quarterly Target		673

Target Name & Initiative	2024 Target & Unit Update	X% Risk Impact 2024	Type of Change	Change Order Criteria Met	GRC Driven	WMP Page #
<a href="#">VM-13: Routine Ground – Transmission</a> (8.2.2.1.1)	Complete Routine Transmission Ground Inspection of 17,740 circuit miles as defined by Transmissions Routine LiDAR detection point data systemwide.	100% (Eyes-on-Risk)	Quarterly Target	12.3: Quarterly Target		655
<a href="#">VM-16 : Routine Patrol – Distribution</a> (8.2.2.2.1)	Complete Distribution Routine Annual Patrol Inspection of 78,650 overhead circuit miles system wide.	<1%	Quarterly Target	12.3: Quarterly Target		664
<a href="#">VM-17: Second Patrol – Distribution</a> (8.2.2.2.2)	Complete Distribution Second Patrol Inspection of 25,685 circuit miles in HFTD and HFRA locations.	<1%	Quarterly Target	12.3: Quarterly Target		667
<a href="#">VM-05: Defensible Space Inspections – Distribution Substation</a> (8.2.2.3.1)	Complete defensible space inspections in alignment with the guidelines set forth in <del>LAND-4001P-01</del> <b>LAND 5201P-01</b> at 131 distribution substations. Co-located Hydroelectric substations and Transmission & Distribution substations are counted separately as two distinct units.	<b>53%</b> <b>54%</b> (Eyes-on-Risk)	Quarterly Change	12.3: Quarterly Target		675

(a) “WMP Page #” refers to the narrative sections in PG&E’s 2023-2025 Wildfire Mitigation Plan R4 in which these mitigations are discussed.

## **1.2 Changes to Initiative Mitigations Driven by PG&E's General Rate Case**

### **1.2.1 Align System Hardening and Undergrounding Programs to GRC Decision**

PG&E proposes a necessary change in strategic direction that will update the circuit miles and risk impact of our distribution system hardening program in 2024. The driver of this change is the need to align PG&E's WMP with the system hardening and undergrounding mileage targets, risk reduction targets, and associated cost recovery amounts authorized in PG&E's final 2023 GRC decision.

For targets GH-01 and GH-04, the updated miles for 2024 are based on PG&E's current business planning estimates. For target PS-07, the target is based on the work to be completed for target GH-04 and must necessarily change when target GH-04 changes.

This change to the 2024 work plan is part of a larger update that PG&E is making to our 2023-2026 system hardening and undergrounding work plan to align to the GRC requirements. The projects included in the revised work plan: (1) will align to the GRC requirements regarding the number of overhead and underground circuit miles (aligned with the System Hardening portfolio in GH-01); (2) will be designed to achieve the 18% risk reduction target for the 2023-2026 GRC period; and (3) will meet the definition of high-risk miles that the CPUC ordered in the final GRC decision.

By the time of the GRC approval in November 2023, PG&E had already completed the vast majority of work for 2023 projects and significant project development work on 2024 projects. In response to the GRC Decision, PG&E has updated our 2024 work plan as much as possible without abandoning projects that are further along in development. PG&E has also significantly updated our 2025 and 2026 work plans to achieve the requirements adopted in the final GRC decision. PG&E will describe these changes and provide the final 2025 target miles for GH-01 and GH-04 in our 2025 WMP Update.

#### **GH-01: System Hardening – Distribution**

Given the level of funding provided in the final GRC decision, PG&E must align target GH-01 with the GRC decision by reducing the number of planned system hardening circuit miles from 470 miles to 280 miles in 2024. This will necessitate a further change to target GH-01 of reducing the forecasted wildfire risk impact in 2024 from approximately 4% to approximately 2%.<sup>5</sup> In order to achieve the GRC cumulative risk reduction requirement of 18% by 2026, the work planned in 2025-2026 will be scheduled to compensate for this lower risk impact in 2024.

This change also reflects that while PG&E requested \$6,389 million in funding for 2,285 miles of undergrounding and overhead covered conductor work (collectively referred to

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<sup>5</sup> PG&E's current workplan shows more miles than PG&E's 2024 target of 280 miles. The revised risk reduction forecast is based on completing approximately 210 miles of underground, 60 miles of overhead, and 10 miles of line removal. Additional miles are intentionally built into the work plan to account for unforeseen delays to individual projects such as access, weather, permitting, land rights acquisition, materials, or other constraints. The individual projects included in the workplan could change. Risk reduction calculations are based on PG&E's Wildfire Distribution Risk Model, version 3 (WDRM v3).

as system hardening miles) from 2023-2026, the GRC decision authorized \$4,723 million of funding for 1,230 undergrounding miles and 778 overhead miles.<sup>6</sup> Because of this lower authorized funding amount, PG&E is revising our System Hardening workplan, which results in a reduction of both undergrounding and overhead hardening miles in 2024.

The change in system hardening miles will result in an overall decrease in the number of distribution miles hardened between 2023 and 2026, as described in our 2023-2025 WMP—from 2,285 miles<sup>7</sup> to approximately 2,000 miles. The change includes an increase in the number of overhead hardened miles from 360<sup>8</sup> miles to 778 miles, and a reduction in the number of undergrounding miles from 2,000<sup>9</sup> miles to 1,230 miles. While the current WMP is focused on PG&E's wildfire mitigation plans from 2023 through 2025, PG&E has consistently provided information about our system hardening plans from 2023 through 2026 at Energy Safety's request.

#### **GH-04: 10K Undergrounding**

PG&E must also align Target GH-04 with the final GRC decision by reducing the number of undergrounding circuit miles from 450 circuit miles in 2024 to 250 circuit miles. This will require a further change to Target GH-04 by reducing the forecasted wildfire risk impact in 2024 from approximately 3% to approximately 1.8%, and also reducing the PSPS risk impact mitigation from 18,000 customer events to 9,980 (see update to target [PS-07](#) below).

This change reflects the fact that, while PG&E requested \$5,926 million<sup>10</sup> in funding for 2,000 miles of system hardening undergrounding work from 2023-2026, the GRC decision authorized \$3,674 million<sup>11</sup> to complete 1,230 miles of system hardening undergrounding work.<sup>12</sup>

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<sup>6</sup> D.23-11-069, p. 273. Note, D.23-11-069 notes that the approved amount of \$4,723 million is \$1,720 million less than PG&E's original proposal which assumes an original forecast of \$6,443 million. The correct forecast is \$6,390 million. The difference is due to an error in the forecast for overhead covered conductor. The forecast for covered conductor on p. 271, Figure D, in D.23-11-069 is \$517million whereas the correct forecast is \$464 million (see PG&E's GRC Reply Brief, Table 4-12). With this correction, the correct forecast amount is \$5,926 + \$464 = \$6,390 million.

<sup>7</sup> PG&E's 2023-2025 WMP, R4, Table PG&E-8.1.2-1, p. 399.

<sup>8</sup> Includes 285 overhead covered conductor miles plus 75 line removal miles. PG&E's 2023-2025 WMP, R4, Table PG&E-8.1.2-1, p. 399.

<sup>9</sup> Includes System Hardening Undergrounding and Line Removal. PG&E's 2023-2025 WMP, R4, Table PG&E-8.1.2-1, p. 399.

<sup>10</sup> D. 23-11-069, Figure D, p. 271.

<sup>11</sup> D. 23-11-069, Conclusions of Law (COL) 92, p. 863.

<sup>12</sup> The GRC final decision confirmed that undergrounding work associated with the Butte Community rebuild should seek cost recovery through the Catastrophic Events Memo (CEMA) account and therefore the associated budget is not included here; however, these miles remain associated with the WMP Undergrounding target GH-04.



In response to the lower authorized funding amount, PG&E is reducing the total number of undergrounding miles while increasing the total number of miles of overhead hardening from 2023-2026, as discussed in relation to target GH-01 above.

### **PS-07: Reduce PSPS Impacts to Customers**

As stated above, PG&E must also update target PS-07 in alignment with the change made to [GH-04](#). The targeted number of customers being mitigated from PSPS events is directly tied to the number of miles of undergrounding completed; therefore, the decrease in miles undergrounded will result in the number of customer events mitigated being reduced from 18,000 to 9,980. However, please note that while the number of PSPS customer events mitigated for 2024 through undergrounding will decrease due to the final GRC decision, PG&E will continue to apply other mitigation measures, including the use of EPSS and covered conductor, to help reduce the impact of PSPS events on customers.

The 2023-2025 WMP target for PS-07 target was calculated based on the 2,100 miles of undergrounding that was submitted for the 2023–2026 GRC period, which is 770 miles more than what the CPUC ultimately approved in the final GRC decision. PG&E must adjust the number of customers mitigated through the undergrounding program to account for this overall reduction in authorized miles. Thus, the number of undergrounding miles for 2024 is being adjusted from 450 miles to 250 miles. This 45% decrease in underground miles corresponds to the proposed 45% decrease in PS-07's targeted customer events reduced.<sup>13</sup>

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<sup>13</sup> The calculation methodology for PS-7 to determine customers mitigated remains the same.

## **1.3 Changes to Initiative Mitigations Based on Business Updates**

### **1.3.1 Increase Usage of Aerial (Drone) Inspections**

PG&E is proposing a change of strategy based on an updated understanding of risk to three initiative mitigations that will enable the company to use aerial (drone) inspection methods, consistent with peer utilities and feedback received from regulators. This change would be applied to the distribution asset inspection program and the downstream quality programs that audit it. The revised initiative mitigations are expected to increase the amount of eyes-on-risk while providing new data points for asset managers.

#### **AI-07: Detailed Ground Inspections – Distribution**

PG&E proposes changing our inspection target to include both ground and aerial methods for wildfire consequence-based inspections. This significant shift in strategic direction is based on our updated understanding of risk and will make our inspections more effective and our system safer. As part of ACI PG&E-22-20, PG&E performed a 2023 aerial inspection pilot. We confirmed that the program could operate on a larger scale (37,000 structures) while continuing to deliver a better view of pole tops and equipment. This change will continue to maintain our distribution HFTD inspection program above and beyond the requirements of the CPUC General Orders (GOs).

Including aerial inspections in our distribution inspections targets is appropriate given the critical findings of this new inspection method and its growth in scale and importance in HFTD locations. The 2023 aerial pilot confirmed that aerial inspections can identify priority A and B conditions that should be addressed, but that are challenging to see from the ground. As part of the 2023 aerial pilot, we compared results from roughly 12,000 structures that received both a ground and an aerial inspection. Roughly 900 B tags were found on these structures of which 84% were identified using aerial inspections. Ground inspections of the same structures identified only 34% of these conditions. Similarly, the aerial inspections identified 92 priority A conditions on the pilot structures, while the ground inspections identified only 64 such conditions.<sup>14</sup>

These results corroborate findings from previous aerial pilots, which indicate that scaling aerial inspections will enable PG&E to find more urgent conditions on our system, including conditions that would not be identified via ground inspections. We anticipate aerial inspections would be particularly impactful in HFTDs because although we have repeatedly performed ground inspections in HFTD locations between 2019 and 2023, the vast majority of HFTD area structures have never received aerial inspections. Furthermore, shifting towards a reliance on risk-based, aerial inspections in HFTD locations will also better align PG&E's distribution inspection program with the inspection programs of the other California utilities.

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<sup>14</sup> However, please note that because A tags are repaired immediately, there is little or no overlap in the A tag findings between the two inspection types because these conditions do not typically remain on the system after discovery.

PG&E's updated target number of 220,016 maintains the wildfire consequence-based inspection frequency framework, with: (1) all extreme and severe consequence plat maps being inspected annually; (2) high consequence plat maps being inspected every other year; and (3) medium and low consequence plat maps being inspected once every three years. This inspection program also includes structures that constitute the top 10% of wildfire risk, but which are not already included based on the wildfire consequence of their plat map, as well as a limited number of structures in HFTD and HFRA locations that are due for inspection for GO 165 compliance purposes and will receive a detailed ground inspection. Despite this slight reduction to the target volume, this combined ground and aerial plan achieves an eyes-on-risk of 53%, more than the original ground-only eyes-on-risk score of 47%. Because of higher level B tag find rates for aerial relative to ground inspection, we expect the shift to aerial inspections in HFTD locations to generate more level B tag findings that will need to be addressed through our maintenance program.

PG&E's inclusion and emphasis on aerial inspections for this target in 2024 should not be interpreted as a movement away from utilizing ground inspections. Rather, we recognize that both methods provide a unique and useful perspective and therefore have included both methods in the AI-07 target. The emphasis on aerial inspections in 2024 is driven by the heavy reliance on ground inspections in prior years and PG&E's desire to gather new data by using this method on more of our distribution assets.

#### **GM-09: Asset Inspections - Quality Control**

To align our Quality Control (QC) program with the proposed improvements to our asset inspection programs described above, PG&E seeks to remove the specificity of desktop versus field QC reviews from this target. Our current 2024 target for GM-09 specifies how many asset inspection QC audits will take place and exactly how many will be desktop audits versus field audits. Results for aerial inspections are performed via a desktop review, including the QC review, as opposed to an in-field review. As such, and to ensure valid statistical sampling methods are adhered to, we propose performing the same amount of QC reviews of inspections but removing specificity around desktop vs. in-field validation. This change is dependent on the outcome of the proposed changes to our inspection programs above. Inspection methods eligible for audit may include, but are not limited to: ground, aerial, desktop, and climbing (Section 7.2.1). Asset Inspection programs are executing aerial (drone) inspections on a larger scale to align with PG&E's overall inspection strategy and revised [AI-07](#) target. The total volume of assets which will be audited by QC will not be impacted, and recognizing inspection methodologies of all types in QC sampling allows PG&E greater insight into opportunities for improvement and greater ability to reduce overall system risk before issues arise.

#### **GM-01: Asset Inspections - Quality Assurance**

Similar to the change requested for QC target GM-09 above, PG&E seeks to expand Quality Assurance (QA) audit-eligible locations to include all inspection types performed by System Inspections Transmission and Distribution. The total volume of assets which will be audited by QA will not be impacted, but this change will allow us to reduce the overall risk on our system while simultaneously identifying additional opportunities for

continued improvement.

### **1.3.2 Streamline Substation Supplemental Inspections**

PG&E proposes changes to the three initiative mitigations that cover our substation supplemental inspection program. These changes seek to update the targeted number of supplemental inspections based on updated risk data and to streamline the supplemental inspections process by removing duplicative inspection methods. An explanation of these changes is provided in AI-08 below and is similarly applicable to AI-09 and AI-10.

#### **AI-08: Supplemental Inspections - Substation Distribution**

PG&E proposes making two updates to our distribution substation supplemental inspection target: (1) updating the number of supplemental inspections from 76 to 62 substations based on updated risk data; and (2) transitioning to aerial focused methods for these supplemental inspections. These updates will streamline supplemental inspections for 62 of 131 distribution substations within HFTD/HFRA locations, improve the efficiency of our inspection processes, and maintain the overall eyes-on-risk.

##### **1. Completion of Defensible Space Mitigation Work**

PG&E's proposed revision to the targeted number of substations from 76 to 62 is based on an annual re-assessment of each substation's risk using updated 2023 risk data of defensible space and wildfire consequence. Updating the number of supplemental inspections to align with the most recent risk information will make our inspection processes more efficient and allow us to reallocate these resources to other critical risk mitigation work.

The method for the substation assessments, and the resulting frequency of supplemental substation inspections, is described in section 8.1.3.3.1 of the 2023-2025 WMP and remains unchanged.<sup>15</sup> PG&E originally estimated 76 supplemental inspections in 2024 based on 2022 risk data. In 2023, additional completion of defensible space work on 14 distribution substations has lowered the assessed risk at these locations. These 14 substations will continue to receive supplemental inspections under the three-year baseline but a supplemental inspection is no longer necessary at these locations in 2024 given the reduced risk present. A detailed description of how our wildfire risk scores are calculated is provided in Section 8.1.3.3.1 of our WMP.<sup>16</sup>

##### **2. Streamlining Supplemental Inspections to Remove Duplicative Ground and Infrared Inspection Methods**

PG&E originally planned the 2024 supplemental inspection targets by requiring three separate methods for each single supplemental inspection: ground, infrared, and aerial.<sup>17</sup> This 2024 change order proposes to continue with drone-based aerial

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<sup>15</sup> PG&E's 2023-2025 WMP, R3, pp. 492-495.

<sup>16</sup> See PG&E's 2023-2025 WMP, R3, pp. 493-494.

<sup>17</sup> PG&E's 2023-2025 WMP, R3, p. 493 ("The supplemental inspection program includes three methods of inspection: drone-based aerial inspection; ground-based visual inspection; and infrared inspection.").

inspection but to remove the duplicative ground and infrared inspections from the supplemental inspection program. This proposed change is expected to yield equivalent ignition risk detectability while streamlining the inspections programs to be more efficient.

The WMP substation supplemental inspection program was originally developed to focus on ignition risks independent from existing routine substation inspections. A comparative analysis of supplemental and routine inspections was completed in 2023. This analysis confirmed redundancy and equal effectiveness of two of the three methods – ground and infrared inspection methods. Furthermore, substation routine ground inspections are performed more frequently, monthly or bi-monthly, in comparison to the annual supplemental inspection. PG&E proposes to streamline target AI-08 by removing duplicative ground and infrared inspections, while retaining drone-based aerial inspections for the supplemental inspection. The drone-based aerial inspection provides unique risk detection perspectives not captured from the ground and infrared methods. The routine substation inspection program will continue to provide ground and infrared inspections to substations pursuant to GO 174.

Changing our inspections is expected to yield equivalent ignition risk detectability while streamlining the inspections programs and making them more efficient. This efficiency gain will provide PG&E the ability to apply saved resources toward other risk mitigation programs, improving the overall safety of our system. This change is not expected to adversely impact substation ignition risk or detection rates and is supported by the following characteristics of our system:

- A comprehensive comparison of the supplemental inspection and routine inspection program show equal effectiveness in identifying ignition-related risk;
- Routine inspections using both ground and infrared inspection methods will continue to be performed on all substations;
- Historical data showing no wildland fires resulting from substation equipment; and
- An effective substation defensible space program, described in WMP Sections 8.2.2.3.1 and 8.2.3.5, that identifies and removes vegetative fuels and achieves defensible space as described by California Public Resources Code Section 4291. This program inspects and mitigates vegetation at 100% of the substations located within HFTD/HFRA locations.

#### **AI-09: Supplemental Inspections - Substation Transmission**

Using the same rationale provided in [AI-08](#), PG&E proposes updating our transmission substation supplemental inspection target from 36 to 35 substations based on updated risk data, as well as a transition to aerial-focused method of supplemental inspections. In 2023, additional completion of defensible space work on one transmission substation has lowered the assessed risk at this location so that this location would receive routine inspections but need not a supplemental inspection in 2024. This substation would continue to receive supplemental inspections in the future under the three-year baseline but simply would not receive a supplemental inspection in 2024.

## **AI-10: Supplemental Inspections – Hydroelectric Substations and Powerhouses**

Using the same rationale provided in [AI-08](#), PG&E proposes updating our hydroelectric substation and powerhouse supplemental inspection target from 46 to 37 substations based on updated risk data, as well as a transition to aerial-focused method of supplemental inspection. In 2023, additional completion of defensible space work on nine substations/powerhouses has lowered the assessed risk at these locations. These substations/powerhouses would continue to receive supplemental inspections in the future under the three-year baseline but simply would not receive supplemental inspections in 2024.

### **1.3.3 Update Substation Count**

The two initiative mitigations within this group are being updated to account for the transferring, sale, or decommissioning of substations within PG&E's service territory. The total number of PG&E substations within HFTD/HFRA at the time of filing the base WMP was 247 and as of December 2023 has been reduced to 244. While the total number of substation has gone down, PG&E maintains our commitment to conduct defensible space inspections on all our remaining substations with HFTD/HFRA each year.

#### **VM-06: Defensible Space Inspections - Transmission Substation**

PG&E proposes updating our transmission substation defensible space inspection targets from 55 to 54 to align to the updated population of transmission PG&E substations in HFTD/HFRA.

The population was reduced from 55 to 54 due to the Belden PH substation ownership transferring to the Power Generation line of business within PG&E. Belden PH will receive a defensible space inspection in accordance with LAND-5201P-01 and will instead count toward the VM-07 target.

Furthermore, as forecasted in our WMP, we have made progress consolidating our procedures for defensible space inspections to ensure operational consistency. In 2023, PG&E performed defensible space inspections using separate, but similar, defensible space procedures at all HFTD/HFRA Electric Substation and Power Generation Powerhouses and Switchyards. The independent, but similar, procedures were both developed to meet criteria for identifying and removing vegetative fuels and achieving defensible space as described by California Public Resources Code section 4291.

For 2024, PG&E has combined the defensible space procedures into a single procedure in alignment with the statements made in WMP Sections 8.2.3.5 and is reflected in the redline of the target language above. The new procedure applicable to all PG&E substations and switchyards is LAND-5201P-01 Electric Substation and Power Generation Powerhouse and Switchyard Defensible Space procedure. This Revision is not expected to adversely impact ignition risk or consequence due to the independent procedures' alignment to meet PRC 4291 criteria.

#### **VM-07: Defensible Space Inspections - Hydroelectric Substations and Powerhouses**

PG&E proposes updating our hydroelectric substation and powerhouse defensible space inspection targets from 61 to 59 to align to the updated population of substations in HFTD/HFRA locations.

The hydroelectric substation and powerhouse population was reduced from 61 to 59, due to the divestiture of Deer Creek PH and Tule River PH, the ownership transfer of Hamilton Branch PH to substation distribution and the addition of Kilarc PH substation (three subtractions and one addition). Hamilton Branch PH will receive a defensible



space inspection in accordance with LAND-5201P-01 and will instead count toward the [VM-05](#) target.

### 1.3.4 Expanding PG&E's Mitigation Options to Better Address Risk

The two initiative mitigations in this section seek to expand the options available to PG&E and our customers to address risk more effectively and efficiently. The proposed expansions are aligned in part to ACIs PG&E has received and/or objectives approved by Energy Safety in the 2023-2025 WMP.

#### VM-04: Tree Removal Inventory (TRI)

Based on an updated understanding of risk, PG&E is proposing an expansion of the definition of a 'mitigated'<sup>18</sup> tree under this commitment to make the program more efficient and the system safer. This expansion would include trees that are removed completely (cut down) or partially (topped/limbs removed) to mitigate fall-in risk. The target of 20,000 trees mitigated will remain unchanged in 2024.

As an example of this proposed change, PG&E provides the following non-exclusive update to the language in the 2023-2025 WMP:<sup>25</sup>

We note that for purposes of Target VM-04, the term "Mitigate" is intended to refer to a tree identified from the legacy EVM Program that is either: (1) removed by the TRI program; (2) removed by another PG&E VM program and no longer present; ~~or~~ (3) no longer poses a threat to PG&E facilities because the facilities have been relocated; **or (4) trimmed (topped/limbs removed) to the point where the fall-in risk is mitigated.**

Expanding the mitigation options will allow PG&E to mitigate the fall-in risk of these trees sooner by providing additional mitigation options to customers. In 2023, roughly 10% of TRI vegetation points were faced with customers refusing to allow PG&E to remove these trees due to the impact it will have on their property. An example are trees that provide a roadside screen for customers. Providing this option allows PG&E to mitigate the risk by topping or removing large limbs that pose a fall-in risk while allowing the customer to retain the tree, which continues to provide screen protection. This also aligns with ACI PG&E-23-20, which encourages PG&E to explore opportunities to remove fewer healthy trees.

The goal of the TRI program is to mitigate the potential fall-in risk from identified trees, which is equally achieved through removing or pruning the tree to a point where it can no longer impact a powerline. This would grant Tree Risk Assessment Qualified (TRAQ) Vegetation Management Inspectors (VMIs) the ability determine the appropriate type of mitigation that meets both the risk reduction goals of PG&E and the needs of our customers after performing an on-site evaluation of the tree. This evaluation considers multiple factors including: tree species, topography, wind exposure, as well as other factors consistent with the International Society of Arboriculture's basic tree risk assessment form. PG&E estimates that approximately 2% of the TRI scope of work will fall into the Facility Protect Trim (FPT) work prescription.

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<sup>18</sup> PG&E's 2023-2025 WMP, R4, pp. 341 and 614.

## **PS-06: Provide batteries to customers at risk of PSPS or EPSS**

PG&E is seeking to implement a shift in strategic direction to the PS-06 objective so that it includes permanent battery solutions, in addition to portable battery deliveries. This change will improve our program and greatly benefit our customers. This change is in alignment with the PS-05 objective to evaluate the transition of the Portable Battery Program to permanent battery solutions for PG&E customers at risk of PSPS or EPSS, focusing on, but not limited to, AFN, MBL, and self-identified vulnerable populations.

PG&E recognizes that a portable battery might offer only a temporary solution for customers during wildfire safety outages and may not be the best choice for all customers. As a result, PG&E has recently implemented programs (such as the Residential Storage Initiative) that provide eligible customers who are experiencing EPSS outages with the option of obtaining a permanent battery if they meet the program qualification criteria, providing them with flexibility to find the appropriate solution for their needs.<sup>19</sup> PG&E has previously made statements in the WMP regarding the eligibility criteria for the programs related to the PS-06 objective and would like to clarify that we regularly update eligibility based on updated EPSS and PSPS outages to target customers impacted.

This proposed change would be an update to the strategic approach for this work and not to the target volume, which would remain the same. This change provides PG&E with the flexibility to provide customers with multiple options to meet their specific requirements and circumstances. For example, a portable battery might be a good solution for customers with small medical devices who experience shorter wildfire safety outages and are not interested in having, or are unable to have, a permanent battery installed in their homes. On the other hand, a permanent battery might offer a better solution for those who need whole-home generation and experience longer duration outages.

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<sup>19</sup> Note that multiple PG&E Customer Resiliency programs, including but not limited to the Portable Battery Program, Disability Disaster Access & Resources Program, and the newer Residential Storage Initiative program will contribute to achieving the updated PS-06 objective.

### **1.3.5 Revise Quarterly Targets**

PG&E seeks to update the quarterly targets for the six initiative mitigations within this group to account for adjustments to PG&E's quarterly execution plans. The total number of units addressed by these initiative mitigations remains unchanged from what was approved in the 2023-2025 WMP filing.

#### **VM-01: LiDAR Routine Inspections - Transmission**

PG&E seeks to revise the quarterly targets for this commitment to better align with updated execution plans for 2024. Despite the change to the quarterly targets, the overall annual target would remain unchanged from what was approved in the 2023-2025 WMP final decision. A view of these quarterly adjustments can be found in Attachment A.

#### **VM-03: Focused Tree Inspection (FTI)**

PG&E seeks to revise the quarterly targets for this commitment to better align with updated execution plans for 2024. The overall annual target remains unchanged compared to what was approved in the 2023-2025 WMP final decision. A view of these quarterly adjustments can be found in Attachment A.

#### **VM-13: Routine Ground - Transmission**

PG&E seeks to revise the quarterly targets for this commitment to better align with updated execution plans for 2024. The overall annual target remains unchanged compared to what was approved in the 2023-2025 WMP final decision. A view of these quarterly adjustments can be found in Attachment A.

#### **VM-16: Routine Patrol – Distribution**

PG&E seeks to revise the quarterly targets for this commitment to better align with updated execution plans for 2024. The overall annual target remains unchanged compared to what was approved in the 2023-2025 WMP final decision. A view of these quarterly adjustments can be found in Attachment A.

#### **VM-17: Second Patrol – Distribution**

PG&E seeks to revise the quarterly targets for this commitment to better align with updated execution plans for 2024. The overall annual target remains unchanged compared to what was approved in the 2023-2025 WMP final decision. A view of these quarterly adjustments can be found in Attachment A.

#### **VM-05: Defensible Space Inspections - Distribution Substation**

PG&E proposes updating our distribution substation defensible space inspection quarterly targets to better align to our updated execution plan.

Furthermore, PG&E is consolidating and updating our procedures for defensible space inspections, as described above in [VM-06](#), in alignment with statements made in WMP Sections 8.2.3.5.

## **1.4 Impact to Planned Expenditures**

### **1.4.1 Percent of Planned Expenditures Already Spent**

PG&E has provided updated financial forecasts at the initiative activity level in alignment with Table 11 of the QDR. Based on this updated forecast, PG&E is estimated to have expended 30% of the total WMP forecast for these initiative activities by the end of 2023.

At the time of this filing PG&E, had not released full 2023 actuals aligned to the company's annual close process. The financials provided in the table in [Section 1.4.2](#) represent the 2023 end of year forecast provided by PG&E in our Q3 QDR. Updated financial figures will be provided in the Q4 QDR that align with PG&E's 2023 annual results.

Financial forecasts for 2024 and 2025 have been updated assuming Energy Safety's approval of PG&E's proposed change order. Further updates to the financial forecasts for 2024 and 2025 will be provided in PG&E's 2025 WMP Update.

#### 1.4.2 Planned Expenditures for the WMP Cycle (Thousands of Dollars)

WMP Initiative Category	WMP Initiative Activity	Utility Initiative Tracking ID	2023 CAPEX	2023 OPEX	2024 CAPEX	2024 OPEX	2025 CAPEX	2025 OPEX
Grid Design, Operations, and Maintenance	Asset Inspections	AI-01, AI-02, AI-03, AI-04, AI-05, AI-06, AI-07, AI-08, AI-09, AI-10	-	192,120	-	190,332	-	192,064
Grid Design, Operations, and Maintenance	Covered conductor installation	GH-01 <sup>(c)</sup> , GH-02, GH-03	67,504	-	103,300	-	243,000	-
Grid Design, Operations, and Maintenance	Undergrounding of electric lines and/or equipment	GH-04	1,175,308	-	983,900	-	1,235,500	-
Grid Design, Operations, and Maintenance	Quality assurance / quality control	GM-01, GM-09	-	33,809	-	57,475	-	57,475
PSPS	Other - PSPS	PS-01, PS-02, PS-05, PS-06, PS-07, PS-08, PS-09, PS-10, PS-11	3,963	93,112	2,827	88,262	2,953	90,070
Vegetation Management and Inspection	Vegetation Inspections - Transmission	VM-01, VM-13, VM-14, VM-15	-	35,443	-	100,368	-	100,319
Vegetation Management and Inspection	Fall-in mitigation	VM-04	-	123,997	-	72,770	-	72,540

<b>WMP Initiative Category</b>	<b>WMP Initiative Activity</b>	<b>Utility Initiative Tracking ID</b>	<b>2023 CAPEX</b>	<b>2023 OPEX</b>	<b>2024 CAPEX</b>	<b>2024 OPEX</b>	<b>2025 CAPEX</b>	<b>2025 OPEX</b>
Vegetation Management and Inspection	Substation defensible space	VM-05, VM-06, VM-07	-	4,836	-	3,500	-	3,488
Vegetation Management and Inspection	Vegetation Inspections - Distribution	VM-03, VM-16, VM-17, VM-18	-	795,246	-	1,138,818	-	1,134,772

- (a) 2023 CAPEX and OPEX align to PG&E's end of year forecast as presented in the Q3 QDR. Update figures for 2023 actuals will be provided in the Q4 QDR.
- (b) 2024 and 2025 CAPEX and OPEX represent updated initiative activity forecasts assuming approval of the 2024 Change Order by OEIS. An update to this forecast may be provided in the 2025 WMP Update based on new information.
- (c) The financial forecast associated with GH-01 represented in this table is specific to the overhead system hardening component and does not include the cost associated with underground mileage. Costs for underground mileage are shown in the undergrounding section of the table to avoid duplicative representation of financial forecasts.



### **1.4.3 Redeployment of Planned Expenditures**

There have been no formal redeployments of any unspent budget from these change order initiatives to any other initiatives. Moreover, there is often no targeted one to one reallocation of budgets across initiatives; instead, forecasted budget reductions in one or many initiatives are offset by one or many forecasted budget increases in other initiatives.