

## PUBLIC UTILITIES COMMISSION

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May 4, 2021

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Pacific Gas and Electric Company  
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**Subject: The Wildfire Safety Division Issuance of Revision Notice for Pacific Gas and Electric Company's 2021 Wildfire Mitigation Plan Update and Notice of Extension of WSD Determination Per Public Utilities Code 8389.3(a)**

To Meredith Allen and Spencer Olinek,

Attached is a Revision Notice issued in conjunction with the Wildfire Safety Division's (WSD) review of Pacific Gas and Electric Company's (PG&E) 2021 Wildfire Mitigation Plan (WMP) Update. This Revision Notice outlines critical issues that must be addressed by PG&E before the WSD can issue a determination on the PG&E 2021 WMP Update. For each identified critical issue, the WSD sets forth the remedy that PG&E must employ.

By June 3, 2021, PG&E must submit via email to the Director of the Division a Revision Notice Response resolving the identified critical issues. The Revision Notice Response must be submitted to [WildfireSafetyDivision@cpuc.ca.gov](mailto:WildfireSafetyDivision@cpuc.ca.gov) and distributed to the service list of Rulemaking 18-10-007. Parties will have seven days for comments and six days for reply comments, due on June 10, 2021, and June 16, 2021, respectively.<sup>1</sup>

The WSD finds the critical issues to be of significant enough importance such that an extension of the three-month statutory deadline is necessary for the WSD to adequately determine that PG&E's 2021 WMP Update satisfies the information requirements as set out in WSD-011 and, when implemented, will sufficiently reduce utility-related wildfire risk and impacts to public safety.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Thomas Jacobs".

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

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<sup>1</sup> WSD's April 27, 2021 Action Statement Extending Deadline set four days for reply comments. The reply comment deadline has been extended to six days to provide stakeholders sufficient working days to address opening comments.

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
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May 4, 2021

## **Wildfire Safety Division's Revision Notice for Pacific Gas & Electric Company's 2021 Wildfire Mitigation Plan Update**

### **1. INTRODUCTION**

Pursuant to Public Utilities Code (Pub. Util. Code) Section 8386.3(a), before approval of an electrical corporation's (hereafter utility) Wildfire Mitigation Plan (WMP), the Wildfire Safety Division (WSD) may require modification of the WMP. This Revision Notice provides notice to Pacific Gas and Electric Company (PG&E) that the WSD requires the utility to remedy the critical issues set forth in Table 1, below, before the WSD can consider issuing an approval of the 2021 WMP Update.

Within 30 days of issuance of this Revision Notice, PG&E must submit via email to the Director of the Division a Revision Notice Response resolving the identified critical issues. The Revision Notice Response must be submitted to [WildfireSafetyDivision@cpuc.ca.gov](mailto:WildfireSafetyDivision@cpuc.ca.gov) with service to the service list of Rulemaking 18-10-007. The WSD sets forth below in Table 1 the information PG&E must provide or the remedy that PG&E must employ for each identified critical issue.

Remedies require PG&E to submit a revised version of its 2021 WMP Update. PG&E must provide a single updated WMP and auxiliary Excel file that incorporates all required changes across all critical issues listed below. For the revised version of the 2021 WMP Update, PG&E must provide both a redlined and clean version of this document. For the updated auxiliary Excel file, PG&E must provide a clean version of the file and a change log that documents all adjustments to the file.

Stakeholders may submit comments on PG&E's Revision Notice Response within seven days. Reply comments may be submitted within six days following submission of comments.<sup>1</sup> All comments must be submitted to [WildfireSafetyDivision@cpuc.ca.gov](mailto:WildfireSafetyDivision@cpuc.ca.gov) with service to the service list of Rulemaking 18-10-007.

Pursuant to Pub. Util. Code 8386.3(a), the WSD must issue a written determination on a utility's WMP or WMP Update within three months of submission, unless the WSD makes a written determination, including reasons supporting the determination, that the three-month deadline cannot be met. This Revision Notice serves as the WSD's notice of an extension of the three-month deadline to issue its determination on PG&E's 2021 WMP Update. In order to provide PG&E sufficient time to address the critical issues set forth in Table 1 and revise its 2021 WMP

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<sup>1</sup> WSD's April 27, 2021 Action Statement Extending Deadline set four days for reply comments. The reply comment deadline has been extended to six days to provide stakeholders sufficient working days to address opening comments

Update accordingly, the WSD herewith provides PG&E 30 days to submit its Revision Notice Response. The 30-day response time will necessarily delay the WSD’s evaluation of PG&E’s 2021 WMP Update. In addition, the WSD has granted stakeholders the opportunity to provide comments and reply comments on the utility’s Revision Notice Response, further delaying the WSD’s evaluation. The WSD finds the critical issues to be of significant enough importance such that an extension of the three-month statutory deadline is necessary for the WSD to adequately determine that PG&E’s 2021 WMP Update satisfies the information requirements as set out in WSD-011 and, when implemented, will sufficiently reduce wildfire risk and impacts to public safety.

## 2. SUMMARY OF CRITICAL ISSUES AND REQUIRED REMEDIES

Table 1 provides a high-level summary of the critical issues associated with PG&E’s 2021 WMP Update and identifies associated remedies sought by the WSD to address each critical issue. More information on each of these critical issues is provided in Section 3 of this document.

*Table 1: Summary of Critical Issues and Required Remedies*

<b>Critical Issue No.</b>	<b>Critical Issue Title</b>	<b>Critical Issue Explanation</b>	<b>Summary of Remedy Sought by WSD</b>
PGE-01	Omission of Quantitative Targets for Reduction in Public Safety Power Shut-off (PSPS) Scale, Scope, and Frequency	PG&E omitted inclusion of quantitative targets for reducing the scale, scope, and frequency of PSPS events; it does not fully explain how its programmatic commitments over the next WMP cycle will reduce PSPS events; and it projects an increase in customer planned outage hours for 2021 and 2022 despite the implementation of mitigation measures over this time period.	PG&E shall provide quantitative targets for reducing PSPS events and update PSPS protocols to reflect all current information; provide expected quantitative reduction for programmatic commitments; provide details on how major programs affect PSPS projections.
PGE- 02	Inadequate Justification of Significant Changes to High Priority Circuit Segments	PG&E does not adequately justify its significant re-prioritization of circuit segments targeted for mitigation. PG&E relies on the results of its 2021 Wildfire Distribution Risk Model (“2021 Risk Model”) to justify these changes. However, PG&E does not provide adequate	PG&E shall provide its internal validation report, its 3 <sup>rd</sup> -party review and validation, and any other available supporting materials that review and/or validate its 2021 Risk Model. PG&E shall provide an explanation and timeline for how and when it intends to

Critical Issue No.	Critical Issue Title	Critical Issue Explanation	Summary of Remedy Sought by WSD
		validation of its 2021 Risk Model.	address any and all recommendations provided by these reports, reviews, and validations. PG&E shall provide detailed descriptions of and justification for modeling assumptions, choice of inputs, and accuracy of outputs.
PGE- 03	Unacceptable Aggregation of System Hardening Risk-Spend Efficiencies (RSEs)	PG&E does not provide individual RSE estimates for its system hardening initiatives and instead provides one RSE for distribution system hardening.	PG&E shall provide the detailed costs, miles treated, RSE estimates, and any other relevant information and data for each of the following mitigations: covered conductor installation, undergrounding, and remote grid. PG&E shall submit this information as a revised Table 12 in the format of the attached Excel file named "PG&E Revision Table 12 Template.xlsx" (also see PG&E-05). In addition, the WSD recommends that PG&E provide the requested information above to as many mitigation initiatives as feasible.
PGE- 04	Equivocating Language in Asset Inspection QA/QC Process Descriptions	PG&E continues to use vague, noncommittal, and equivocating language to describe its processes for quality assurance and quality control (QA/QC) of distribution and transmission asset inspections.	PG&E shall revise its 2021 WMP Update to describe its QA/QC processes for its asset inspections using specific, measurable, quantifiable, and verifiable language and to describe its internal plans to address QA/QC issues related to asset inspections.

<b>Critical Issue No.</b>	<b>Critical Issue Title</b>	<b>Critical Issue Explanation</b>	<b>Summary of Remedy Sought by WSD</b>
PGE- 05	Unresolved Discrepancies in Vegetation Management Expenditure Data and Their Effect on the WMP	PG&E continues to provide inconsistent data for its vegetation management program since 2019.	PG&E shall submit a revised Table 12 <sup>2</sup> and explain in full and complete detail why spend information is so drastically different from previous submissions and what quality controls it has in place.
PGE- 06	Contradictory Reduction in Expenditure Allocation for Critical Vegetation Management Initiatives	PG&E significantly reduces budget allocations for initiatives considered critical to effective execution of its vegetation management programs.	PG&E shall explain in full and complete detail how it is ensuring it is still meeting its risk reduction targets from vegetation contact (as quantified in Tables 7.1 and 7.2 <sup>3</sup> ) considering PG&E’s modified percentage allocation and expenditure reduction, as compared to the 2020 WMP. PG&E shall also provide requested details on its vegetation management program.

**3. PG&E 2021 WMP UPDATE CRITICAL ISSUES AND ASSOCIATED REMEDIES**

**PGE-01**

Omission of Quantitative Targets for Reduction in PSPS Scale, Scope, and Frequency

**Critical Issue Description**

PG&E omits quantitative targets for reducing the scale, scope, and frequency of Public Safety Power Shut-off (PSPS) events in its 2021 WMP Update. PG&E also does not fully explain how its programmatic commitments over the next WMP cycle will reduce the scale, scope, and frequency of PSPS events.

Additionally, PG&E projects an increase in customer planned outage hours for 2021 and 2022, and it is unclear how its major mitigation programs have been factored into its projections nor

<sup>2</sup> All tables and sections referenced in this document are from the PG&E 2021 WMP Update

<sup>3</sup> PG&E 2021 WMP Update, Attachment 1 – All Data Tables Required by 2021 WMP Guidelines.xlsx

why major investments into mitigation measures do not result in lower projected customer outage hours.

## **Background**

PG&E states in its 2021 WMP Update that it is “taking substantial actions to make PSPS events in 2021 smaller, shorter, and smarter,”<sup>4</sup> yet PG&E does not set quantitative targets to track the reduction in PSPS scale, scope, and frequency in its 2021 WMP Update. PG&E asserts in its 2021 WMP Update that it is unable to set targets due to uncertainty surrounding proposed conditions in its federal probation case. However, PG&E’s commitment to the reduction of PSPS scale, scope, and frequency cannot be evaluated without quantitative goals or targets. PG&E must revise its 2021 WMP Update to describe its PSPS protocols for 2021 and provide quantitative PSPS targets, assuming no additional PSPS decision-making criteria will be implemented in 2021 as a result of PG&E’s federal criminal probation. PG&E must further specify if it currently plans to include any additional criteria for de-energizations in 2021 in light of the federal probation and, if so, specify how that would alter its quantitative PSPS targets. The CPUC has undertaken a separate process to assess PG&E’s implementation, if necessary, of additional PSPS decision-making criteria in light of its federal probation. WSD may request PG&E to provide additional updated information arising from the CPUC’s process.

In its 2021 WMP Update, PG&E provides a list of programmatic commitments it intends to complete during the 2021 WMP Update cycle<sup>5</sup> but does not explain how each commitment is expected to reduce the scale, scope, or frequency of PSPS. In its response to a data request (DR) issued by the WSD,<sup>6</sup> PG&E pointed to its response to Class B Actions PGE-11 through PGE-14.<sup>7</sup> In its response to Class B Action PGE-11,<sup>8</sup> PG&E included a table that provides quantitative values in reduction of PSPS scale, scope, or frequency for some commitments, but many were given a value of “0” across all columns, which fails to explain how these actions will reduce PSPS impact in 2021. PG&E must revise its 2021 WMP Update to explain, in full and complete how its 2021 programmatic commitments will reduce PSPS impact to customers.

PG&E projects a significant increase in customer outage hours for 2021 and 2022.<sup>9</sup> On March 17, 2021, PG&E submitted errata to its 2021 WMP Update.<sup>10</sup> In the errata, PG&E corrected a calculation error that reduces the customer outage hour projections from the original 2021 WMP Update submission.<sup>11</sup> Even when taking the correction into account, PG&E’s projected outage hours are still more than 2020 recorded planned outage hours. PG&E’s stated goal “to

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<sup>4</sup> PG&E 2021 WMP Update p. 861

<sup>5</sup> PG&E 2021 WMP Update, Tables 8.3-1, 8.3-2, and 8.3-3, p. 906-911

<sup>6</sup> Data Request WSD-009 (March 12, 2021), Question 3.

<sup>7</sup> PG&E Supplemental Filing (February 26, 2021) p. 11-30

<sup>8</sup> PG&E Supplemental Filing (February 26, 2021) p. 11-26

<sup>9</sup> PGE&E 2021 WMP Update, Table 11 Row 2.a.

<sup>10</sup> PG&E 2021 WMP Update Errata, Submitted March 17, 2021.

<sup>11</sup> PG&E 2021 WMP Update Errata (March 17, 2021) p. 17

make PSPS events in 2021 smaller, shorter, and smarter”<sup>12</sup> along with large investments into mitigation programs creates an expectation for fewer customer outage hours in 2021 and 2022 from PSPS events. The WSD pursued conversations with PG&E to examine the increase in projected customer outage hours. In the conversations, PG&E asserted that uncertainty in predicting future weather events, along with the projection methodology, lead to the projected increase. This subject received significant attention from stakeholder comments<sup>13</sup> and PG&E should document, in writing, the reasoning for the projected increase. In its revised 2021 WMP Update, PG&E must explain in full and complete detail how its major mitigation programs are factored into its PPS projections and why its projected customer outage hours for 2021 and 2022 increase over 2020 recorded customer outage hours.

**Required Remedies**

Critical Issue No.	Critical Issue Title	Required Remedies
PGE-01	Omission of Quantitative Targets for Reduction in PPS Scale, Scope, and Frequency	<ol style="list-style-type: none"> <li>1. PG&amp;E shall describe any changes to its PPS Protocols (2021 WMP Update Section 8.2) to reflect all current information.</li> <li>2. PG&amp;E shall provide quantitative targets for reducing the scale, scope, and frequency of PPS:               <ol style="list-style-type: none"> <li>a. Assuming no additional PPS decision-making criteria will be implemented in 2021 as a result of PG&amp;E’s federal criminal probation.</li> <li>b. If PG&amp;E currently plans to include any additional criteria for de-energizations in 2021 in light of the federal probation, specify how that would alter its quantitative PPS targets and provide the revised quantitative PPS targets.</li> </ol> </li> <li>3. PG&amp;E shall fully describe the methodology that supports its quantitative PPS targets, for 2.a and 2.b, and provide any supporting calculations.</li> <li>4. For each programmatic commitment listed in Tables 8.3-1, 8.3--2, and 8.3-3 of its 2021 WMP Update, PG&amp;E shall provide the expected quantitative reduction of PPS scale, scope, and/or frequency. For commitments where the quantitative reduction of PPS scope, scale, and frequency is zero or unobtainable, PG&amp;E must justify why the values are zero or unobtainable and explain how the commitment is otherwise expected to reduce PPS impact.</li> </ol>

<sup>12</sup> PG&E 2021 WMP Update p. 861

<sup>13</sup> Opening Comments on PG&E’s 2021 WMP Update of: Cal Advocates, ATC, Kevin Collins, GPI, MGRA, RCRC, SCC, Valley Women’s Club for the San Lorenzo Valley, Professor Sandoval, and TURN.

Critical Issue No.	Critical Issue Title	Required Remedies
		<p>5. PG&amp;E shall describe in full and complete detail how the major programs in the following initiative categories are factored into its PSPS projections for 2021 and 2022 (Table 11).</p> <ul style="list-style-type: none"> <li>a. Risk Assessment and Mapping</li> <li>b. Situational Awareness and Forecasting</li> <li>c. Grid Design and System Hardening</li> <li>d. Asset Management and Inspections</li> <li>e. Vegetation Management and Inspections</li> <li>f. Grid Operations and Operating Protocols</li> <li>g. Emergency Planning and Preparedness</li> <li>h. Stakeholder Cooperation and Community Engagement</li> </ul> <p>6. PG&amp;E shall explain in full and complete detail why its projected planned customer outage hours for 2021 and 2022 (Table 11, Row 2.a) are an increase over its 2020 actual customer outage hours.</p>

**PGE-02**

Inadequate Justification of Significant Changes to High Priority Circuit Segments

**Critical Issue Description**

PG&E does not adequately justify its significant re-prioritization of circuit segments targeted for mitigation. PG&E relies on the results of its 2021 Wildfire Distribution Risk Model (“2021 Risk Model”) to justify these changes. However, PG&E does not provide adequate validation of its 2021 Risk Model.

**Background**

In its 2021 WMP Update, PG&E prioritizes circuit segments for mitigation efforts based on the outputs of its 2021 Risk Model. PG&E significantly changes its high priority circuit segments from its 2020 WMP filing to its 2021 WMP Update filing. Only one of PG&E’s 500 highest risk circuit segments from its 2020 WMP filing remains in the 500 highest risk circuit segments in PG&E’s 2021 model, with no circuit segments overlapping in the top 100 highest risk circuit segments.<sup>14</sup>

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<sup>14</sup> "2021 Wildfire Mitigation Plan Workshop Grid Design and System Hardening" presented February 23, 2021, p. 4

PG&E makes significant changes to its risk model between its 2020 WMP filing and its 2021 WMP Update filing.<sup>15</sup> For example, PG&E shifts its input data set from the outage data used in the past (with close to 16,000 available data points)<sup>16</sup> to ignition data (with 464 data points).<sup>17</sup> The outputs from PG&E's 2021 Risk Model differ significantly from its previous model. To demonstrate the difference in model outputs, PG&E presented a graph during the WSD workshop on grid design and system hardening held on February 23, 2021.<sup>18</sup> The graph shows that the highest-risk circuit-segments under the new model were all ranked relatively low by the old model, and vice versa. Therefore, as a result of its 2021 Risk Model outputs, PG&E places system hardening projects on hold for some circuit segments that it had previously scoped for mitigation in 2021<sup>19</sup> and changes which circuit segments are prioritized for mitigation.

Such a dramatic change in risk ranking of distribution circuit segments from PG&E's 2020 WMP to its 2021 WMP Update raises concern about the validity of PG&E's modeling practices. In Opening Comments submitted on March 29, 2021, multiple stakeholders questioned a variety of PG&E's assumptions utilized to determine its inputs to its 2021 Risk Model.<sup>20</sup> PG&E does not provide any validation of its 2021 Risk Model in its 2021 WMP Update. In the absence of such validation, it is unclear whether the new 2021 Risk Model is truly more accurate than the previous model in determining which circuit segments are highest risk. It may be that PG&E's 2021 Risk Model more accurately and comprehensively identifies risk than its previous model. However, this remains to be proven.

Additionally, it is pertinent to note that PG&E is still developing its models to include additional data, including equipment failures, inspection results, and other parameters in 2022 and beyond.<sup>21</sup> These future changes may result in differing outputs than the outputs from the current version of the model. Future changes could result in yet another reprioritization of high priority circuit segments in the future. The WSD recognizes the necessity of and value in ongoing model improvements. The WSD also recognizes that other IOUs have also modified model inputs and assumptions in 2021 WMP Updates, resulting in changes in circuit segment prioritization. However, compared to PG&E, the other IOUs have not proposed as drastic

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<sup>15</sup> PG&E 2021 WMP Update, Section 4.3 "Change in Ignition Probability Drivers," p. 94-103

<sup>16</sup> PG&E response to Data Request WSD\_010 Q16a.4

<sup>17</sup> PG&E response to Data Request WSD\_010 Q16a.2

<sup>18</sup> "2021 Wildfire Mitigation Plan Workshop Grid Design and System Hardening" presented February 23, 2021, p. 4

<sup>19</sup> PG&E states in response to Data Request WSD\_010 Q15 that if projects were "within the top 20% of the 2021 Wildfire Distribution Risk Model or had "broken ground" (i.e., poles installed), the project was approved to move forward in 2021." PG&E states in the same Data Request Response that all in-flight projects that did not meet these requirements have been placed on hold.

<sup>20</sup> Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Updates of the Large Investor-Owned Utilities pp. 31-33, Mussey Grade Road Alliance Comments on 2021 Wildfire Mitigation Plans of PG&E, SCE, and SDG&E pp. 32-39, and Comments of The Utility Reform Network on 2021 Wildfire Mitigation Plan Updates pp. 15-18

<sup>21</sup> 2021 Wildfire Distribution Risk Model Overview p. 36

changes in circuit segment prioritization. Significant changes in circuit segment prioritization result in delays to system hardening efforts (as demonstrated by PG&E’s predicted reduction in circuit segments hardened in 2021)<sup>22</sup> and/or unnecessary expenditures of ratepayer dollars spent to harden circuit segments that are not in fact high priority. It is therefore critical that PG&E provide adequate justification for its current significant changes in circuit segment prioritization to avoid future delays and unnecessary expenditures.

The WSD held multiple meetings with PG&E to gain greater understanding of its 2021 Risk Model as well as to obtain additional information on its assumptions, input data sets, and its justification for the reprioritization of circuit segments.<sup>23</sup> The WSD and other stakeholders also sent multiple data requests and follow-up data requests to PG&E on these subjects. PG&E’s verbal and written responses provided additional information and justification that are useful for understanding its 2021 Risk Model and should therefore be included in its 2021 WMP Update.

Additionally, as discussed in its 2021 WMP Update, PG&E has contracted Energy and Environmental Economics, Inc., to perform a review and validation of its modeling methodology, code, model results and application for its 2021 Risk Model.<sup>24</sup> The review is scheduled to be completed on May 7, 2021.<sup>25</sup> The results of this review should also be included in PG&E’s 2021 WMP Update.

**Required Remedies**

<b>Critical Issue No.</b>	<b>Critical Issue Title</b>	<b>Required Remedies</b>
PGE-02	Inadequate Justification of Significant Changes to High Priority Circuit Segments	PG&E shall provide as Attachments to its 2021 WMP Update: <ol style="list-style-type: none"> <li>1. Additional information that validates its 2021 Risk Model assumptions, inputs, and outputs. The additional information shall include, but not be limited to:               <ol style="list-style-type: none"> <li>a. PG&amp;E’s internal validation report for its 2021 Risk Model;</li> <li>b. The results of the 3<sup>rd</sup>-Party review and validation of PG&amp;E’s 2021 Risk Model, including the evaluation of model inputs, assumptions, and findings;</li> <li>c. Any other available materials that review and/or validate PG&amp;E’s 2021 Risk Model, including peer review(s);</li> </ol> </li> <li>2. A list of all modeling components and model linkages.</li> </ol>

<sup>22</sup> PG&E 2021 WMP Update p. 9.

<sup>23</sup> The WSD had calls with PG&E to specifically discuss its 2021 Risk Model on February 10, 2021, March 10, 2021, March 12, 2021, and March 29, 2021.

<sup>24</sup> PG&E 2021 WMP Update p. 139

<sup>25</sup> PG&E Response to WSD\_013-Q01 p. 2

		<p>3. A detailed description of and justification for the following items in its 2021 WMP Update:</p> <ul style="list-style-type: none"> <li>a. Assumptions for each modeling component;</li> <li>b. Assumptions for how each component links to other components, i.e. model interdependencies;</li> <li>c. Choice of input data sets for each modeling component;</li> <li>d. Weight of each component of the ignition and consequence models;</li> <li>e. Accuracy of outputs, including: <ul style="list-style-type: none"> <li>i. Source and range of uncertainty/confidence for each modeling component,</li> <li>ii. Range of uncertainty for the outputs of the model as a whole and the propagation of uncertainty through model linkages,</li> <li>iii. The relative differences in the model output due to the uncertainty in 3.e.i and 3.e.ii and how these affect the interpretation of the outputs;</li> </ul> </li> <li>f. Use of outputs to justify reprioritization of circuit segments.</li> </ul> <p>PG&amp;E shall revise its 2021 WMP Update to include:</p> <ul style="list-style-type: none"> <li>4. A summary of each of the reports, reviews, and additional information provided in response to Required Remedy 1.</li> <li>5. A table summarizing any and all findings and recommendations provided by the reviews and validations in Required Remedy 1.</li> <li>6. A detailed description of: <ul style="list-style-type: none"> <li>a. How PG&amp;E intends to address each of the findings and recommendations provided in Required Remedy 5;</li> <li>b. Which, if any, of the recommendations provided in Required Remedy 5 PG&amp;E does not intend to adopt, and why.</li> </ul> </li> <li>7. A timeline for when PG&amp;E intends to address each of the recommendations provided in Required Remedy 5.</li> </ul>
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## **PGE-03**

### Unacceptable Aggregation of System Hardening Risk-Spend Efficiencies

#### **Critical Issue Description**

PG&E does not provide individual Risk-Spend Efficiency (RSE) estimates for its system hardening initiatives and instead provides one RSE estimate for the entire grouping of distribution system hardening initiatives.

#### **Background**

RSE estimates are an essential part of a utility's mitigation initiative selection process. As set forth in the Safety Model Assessment Proceeding (S-MAP) Settlement Agreement, "For each of the mitigations, the utility will calculate the associated Risk-Spend Efficiency (RSE) by dividing the mitigation risk reduction benefit by the mitigation cost estimate."<sup>26</sup> This requirement enables the quantitative comparison of cost-effectiveness of various mitigation initiatives.

During the 2020 WMP evaluations, the WSD determined that PG&E aggregated initiatives into "programs," making it difficult to assess the cost of individual initiatives within a larger program.<sup>27</sup> While PG&E did increase the total number of RSE estimates calculated from 2020, PG&E failed to address the issue of aggregating multiple initiatives into a larger program. In Table 12 of its 2021 WMP Update, PG&E aggregates the RSE estimates of covered conductor installation (7.3.3.3), undergrounding of electric lines and/or equipment (7.3.3.16), and remote grid (7.3.3.17.5) into one initiative titled "updates to grid topology to minimize risk of ignition in HFTDs, System Hardening, Distribution" (7.3.3.17.1). RSE estimates provide a pathway to assess the relative risk reduction benefit provided by mitigation initiatives and inform the initiative selection process. While PG&E provides a qualitative description of its initiative selection process, without the RSE estimates of the individual initiatives, the qualitative approach to justify initiative selection is insufficient and lacks transparency. The Public Advocates Office (Cal Advocates), The Utility Reform Network (TURN), and Mussey Grade Road Alliance (MGRA) all commented on the need for PG&E to provide RSE estimates for individual hardening initiatives instead of providing one RSE estimate for distribution system hardening.<sup>28</sup>

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<sup>26</sup> CPUC Decision 18-12-014 p. 23

<sup>27</sup> Resolution WSD-003, June 11, 2020, p. 7

<sup>28</sup> Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Update of Pacific Gas and Electric Company p. 43, Comments of The Utility Reform Network on 2021 Wildfire Mitigation Plan Updates p. 18, Mussey Grade Road Alliance Comments on 2021 Wildfire Mitigation Plans of PG&E, SCE, and SDG&E p. 67

## Required Remedies

Critical Issue No.	Critical Issue Title	Required Remedies
PGE-03	Unacceptable Aggregation of System Hardening Risk-Spend Efficiencies (RSEs)	PG&E shall provide the detailed costs, miles treated, RSE estimates, and any other relevant information and data for each of the following mitigations: covered conductor installation, undergrounding, and remote grid. PG&E shall submit this information as a revised Table 12 in the format of the attached Excel file named "PG&E Revision Table 12 Template.xlsx" (also see PG&E-05). In addition, the WSD recommends that PG&E provide the requested information above to as many mitigation initiatives as feasible.

### **PGE-04**

Equivocating Language in Asset Inspection Quality Assurance and Quality Control Process Descriptions

#### **Critical Issue Description**

PG&E uses vague, noncommittal, and equivocating language to describe its processes for Quality Assurance and Quality Control (QA/QC) of distribution and transmission asset inspections.

#### **Background**

WSD Guidance-8 to the IOUs' 2020 WMPs<sup>29</sup> specifically addressed use of equivocating language and failure of commitment as a deficiency in PG&E's 2020 WMP. Resolution WSD-002<sup>30</sup> states, "A continuing issue from 2019 that persists in 2020 WMPs is the extensive use of non-committal equivocating language. The prevalent use of equivocating language results in sparse commitment from utilities for achieving the intended goal of WMPs – reducing the risk of catastrophic wildfire posed by electrical lines and equipment."<sup>31</sup> Resolution WSD-002 further states, "[c]ontinued use of equivocating language may result in denial of future WMPs."<sup>32</sup>

In its 2021 WMP Update, PG&E continues to use vague, noncommittal, and equivocating language to describe its processes for QA/QC of distribution and transmission asset inspections. For example, PG&E states, "Among other things, quality assurance *could mean* establishing

<sup>29</sup> Resolution WSD-002 Guidance Resolution on 2020 Wildfire Mitigation Plans Pursuant to Public Utilities Code Section 8386, issued June 16, 2020

<sup>30</sup> Ibid.

<sup>31</sup> Resolution WSD-002 p. 26

<sup>32</sup> Resolution WSD-002 p. 27

baseline metrics and measures of program performance to highlight outliers in any inspection process step. Quality controls *can be established* to identify inspection personnel who report abnormally high or low rates of corrective findings in the field. This *could also mean* identifying inspection personnel who experience abnormal rates of changes of their initial findings (increased or decreased priority of findings, rejection of findings)” (emphasis added).<sup>33</sup>

The phrases “could mean,” “can be established,” and “could also mean” are not measurable, quantifiable, or verifiable by the WSD. These terms are ambiguous and dilute PG&E’s commitments to its processes for QA/QC of its asset inspections. PG&E’s use of these phrases indicate a lack of commitment to a specific, actionable process to ensure that all inspections are performed adequately and that underperforming inspectors are retrained or removed from inspection work, as appropriate. This vague language also makes it nearly impossible for the WSD to hold PG&E accountable for its QA/QC processes.

The equivocating language regarding QA/QC processes for asset inspections is particularly troubling when considering the numerous oversights and process breakdowns in PG&E’s asset inspections in 2019 and 2020. The Federal Monitor in PG&E’s federal criminal probation case found significant shortcomings in PG&E’s asset inspections in 2019, stating, “The Monitor team found issues likely missed by PG&E’s inspectors on approximately 12 percent of the assets our team inspected, and [PG&E] inspectors failed to collect basic asset information for PG&E’s recordkeeping purposes on approximately one-third of assets inspected.”<sup>34</sup> The Cal Advocates’ comments<sup>35</sup> provide a litany of examples of oversights in PG&E’s asset inspections, including missed inspections, inability to produce inspection records, and failures to collect complete asset information.<sup>36</sup> These oversights include, but are not limited to:

- Out of 967 transmission towers in the HFTD that were scheduled for climbing inspections in 2020, PG&E failed to conduct any of those climbing inspections before its internal goal of the end of August 2020 and notably before the critical fall wildfire risk time period.<sup>37</sup>
- As of January 2021, PG&E could not confirm that it had performed intrusive pole inspections within the timeframes required by General Order 165 on more than 41,000 poles.<sup>38</sup>

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<sup>33</sup> PG&E 2021 WMP Update p. 618

<sup>34</sup> Letter from the Federal Monitor to Judge Alsup (Case No. 14-CR-00175-WHA Doc. No. 1247-1), October 16, 2020, p. 3

<sup>35</sup> Comments submitted on March 29, 2021.

<sup>36</sup> Comments of the Public Advocates Office at p. 28-30

<sup>37</sup> PG&E, Response to Order Regarding Monitor Letter (Case No. 14-CR-00175-WHA Doc. No. 1258), November 3, 2020, p. 3-4

<sup>38</sup> PG&E response to Data Requestion CalAdvocates-PGE-R1810007-32, Question 2, January 27, 2021.

- In March 2021, PG&E sent a letter to the Safety Enforcement Division and the WSD stating that it had neglected to properly identify 24 substations in the HFTD for enhanced inspections.<sup>39</sup>
- WSD and SED has received numerous inconsistent reports from PG&E regarding missed inspections of distribution poles in 2019 and 2020. A detailed account of the inconsistent reports dating from January through March of 2021 is provided in WSD and SED’s April 26, 2021 data request to PG&E.<sup>40</sup>

The existence of equivocating language in PG&E’s 2021 WMP Update could enable PG&E to avoid enforcement and consequences if its asset inspection failures continue to persist. This must be remedied.

**Required Remedies**

Critical Issue No.	Critical Issue Title	Required Remedies
PGE-04	Equivocating Language in Asset Inspection QA/QC Process Descriptions	<ol style="list-style-type: none"> <li>1. PG&amp;E shall revise section 7.3.4.14 of its 2021 WMP to describe its QA/QC processes for its transmission and distribution asset inspections using measurable, quantifiable, and verifiable language.</li> <li>2. In section 7.3.4.14, PG&amp;E shall describe its internal plans to address QA/QC issues related to asset inspections, including any changes to organization structure.</li> </ol>

**PGE-05**

Unresolved Discrepancies in Vegetation Management Expenditure Data and their Effect on The Entire WMP

**Critical Issue Description**

PG&E continues to provide inconsistent expenditure data for its vegetation management (VM) program since 2019.

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<sup>39</sup> PG&E letter to the Safety and Enforcement Division re: PG&E 2019 and 2020 Wildfire Mitigation Plan Update, March 4, 2021.

<sup>40</sup> SED/WSD Data Request Regarding Missed Go 165 Distribution Inspections and WMP Relevant Missed Inspections, April 26, 2021.

## Background

*Note: This analysis excludes expenditure for initiatives 7.3.5.17 and 7.3.5.18 as they were not included in the WSD\_010-Q19 (see WSD\_010-Q19, p. 4).*

On February 7, 2020, PG&E submitted its 2020 WMP and included Attachment 1, Table 25, detailing expenditure across VM initiatives. The 2020-2022 WMP cycle expenditure for VM initiatives in the High Fire Threat District (HFTD) (VM HFTD Cycle) was forecasted to be \$2,638,925,466.<sup>41</sup> On February 28, 2020, PG&E submitted a revised 2020 WMP that included an updated Attachment 1; despite the update, the VM HFTD Cycle expenditure remained constant at \$2,638,925,466.<sup>42</sup>

On September 9, 2020, PG&E submitted its First Quarterly Report and provided another new Attachment 1 (Tables 21-30) as a response to Condition Guidance-1 from Resolution WSD-002.<sup>43</sup> This submission forecasted VM HFTD Cycle expenditure at \$2,593,528,635,<sup>44</sup> a reduction of \$45,396,831 from previous submissions (i.e., both 2020 WMP submissions).

On February 5, 2021, PG&E submitted its 2021 WMP Update and reported VM expenditure across its entire service territory (i.e., HFTD and non-HFTD areas). For VM initiatives, PG&E's reports 2020-2022 WMP Cycle forecasted (VM Territory Cycle) expenditure as \$4,195,142,314,<sup>45</sup> which includes actual expenditure for 2020 and forecasted expenditure for 2021 and 2022.

To better compare expenditure reported in the 2020 WMP to the 2021 WMP Update (i.e., HFTD-only vs. territory-wide), the WSD submitted a data request (DR) to PG&E on February 18, 2021 (WSD\_006-Q01) that directed PG&E to provide information: "Given changes in WMP activity spending, report planned spend as detailed in the 2020 WMP under the reporting system of the 2021 WMP (i.e., activity spend in the HFTD and territory-wide)."<sup>46</sup>

On February 22, 2021, PG&E provided the requested data. The WSD completed an analysis of this data and produced the results of that analysis in a workbook titled "PGE - Table 12\_v2". Based on the WSD's analysis, the 2020 WMP VM Territory Cycle expenditure was

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<sup>41</sup> (=SUM(C104,C98,C86,C62,C56,C50,C44,C32,C20,C14))\*1000 of workbook titled "Attachment-1-Tables.xlsx", sheet "Table 25".

<sup>42</sup> (=SUM(C104,C98,C86,C62,C56,C50,C44,C32,C20,C14))\*1000 of workbook titled "Attachment-1-Tables-updated.xlsx", sheet "Table 25".

<sup>43</sup> Resolution WSD-002 p. 20

<sup>44</sup> (=SUM(C140,C134,C104,C98,C92,C86,C80,C74,C68,C62,C56,C50,C44,C38,C32,C26,C20,C14,C8))\*1000 of workbook titled "01. 2020WMP\_ClassB\_Guidance-1\_Atch01.xlsx", sheet "Table 25".

<sup>45</sup> (=SUM(T83:T98,T103,T104,W83:W98,W103,W104,Z83:Z98,Z103:Z104))\*1000 of workbook titled "PGE 2021 update WMP Tables 1-12\_20210317\_updated.xlsx", sheet "Table 12".

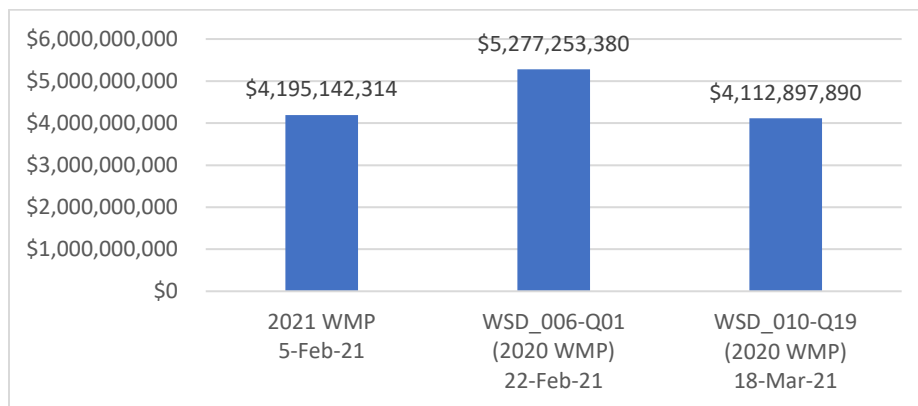
<sup>46</sup> DR WSD\_006-Q01, subpart b. Sent to PG&E February 18, 2021. Response received by WSD February 22, 2021.

\$5,277,253,380,<sup>47</sup> and the VM HFTD Cycle expenditure was \$2,593,528,635.<sup>48</sup> The VM HFTD Cycle expenditure matches expenditure reported in PG&E’s First Quarterly report. However, VM Territory Cycle expenditure is reduced by \$1,082,111,066 relative to the 2021 WMP (see Figure 1).

On March 9, 2021, PG&E responded to DR WSD\_008-Q01 and confirmed that calculations the WSD made in “PGE - Table 12\_v2”, analysis derived from PG&E’s response to WSD\_006-Q01, are correct. Following this confirmation, concerns arose regarding the nearly \$1.1 billion decrease in WMP cycle expenditure across PG&E’s territory for VM initiatives. Accordingly, the WSD sent another DR (WSD\_010-Q19) to PG&E requesting an explanation for the decrease.

On March 18, 2021, PG&E submitted “WildfireMitigationPlans\_DR\_WSD\_010-Q19Atch01.xlsx” in response to DR WSD\_010-Q19. In this response, PG&E reported the 2020 WMP VM Territory Cycle expenditure (as initially asked in WSD\_006-Q01) as \$4,112,897,890.<sup>49</sup> This value is \$1,164,355,491 less than previously reported in PG&E’s response to WSD\_006-Q01; *the WSD expects these figures to be the same, or very similar*. Variation in the VM Territory Cycle expenditure is illustrated by Figure 1.

Figure 1: PG&E’s Reported VM Territory Cycle Expenditure



Similarly, in response to WSD\_010-Q19, PG&E reported the 2020 WMP VM HFTD Cycle expenditure as \$1,326,981,802.<sup>50</sup> This value is \$1,266,546,833 less than previously reported in PG&E’s response to WSD\_006-Q01 and less than every other prior submission mentioned in this analysis: *these figures should be the same*. Variation in the 2020 WMP VM HFTD Cycle expenditure is illustrated by Figure 2.

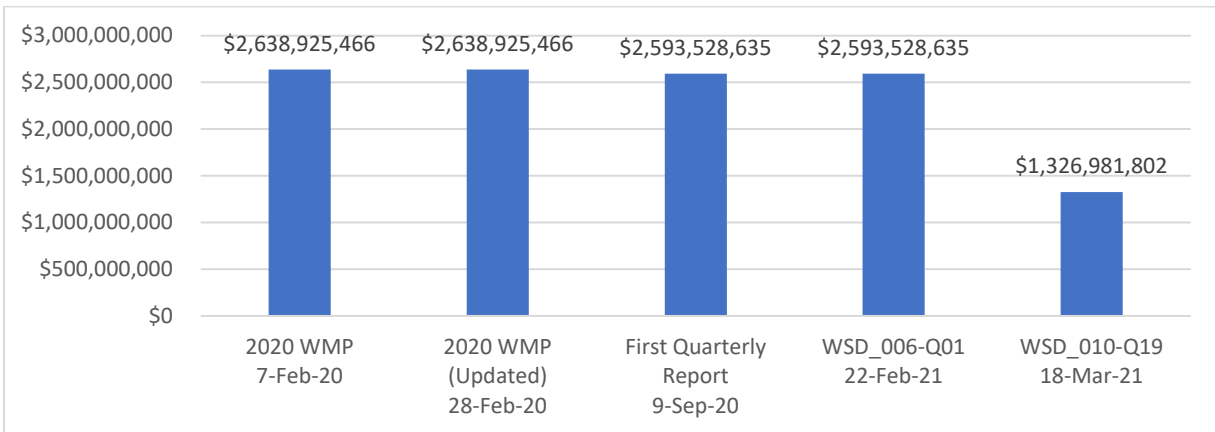
<sup>47</sup> =SUM(CB82:CB97 + CB102:CB103) of workbook titled “PGE - Table 12\_v2.xlsx” (WSD analysis of WSD\_006-Q01).

<sup>48</sup> =SUM(BT82:BT97 + BT102:BT103) of workbook titled “PGE - Table 12\_v2.xlsx” (WSD analysis of WSD\_006-Q01).

<sup>49</sup> Cell X79 of workbook titled “WildfireMitigationPlans\_DR\_WSD\_010-Q19Atch01.xlsx”

<sup>50</sup> Cell X57 of workbook titled “WildfireMitigationPlans\_DR\_WSD\_010-Q19Atch01.xlsx”

Figure 2: PG&E’s 2020 Reported WMP VM HFTD Cycle Expenditure



*Explanation from PG&E Regarding Expenditure Discrepancies*

PG&E previously explained the difference in HFTD forecasted expenditure (Figure 2) between the 2020 WMP and the First Quarterly Report/ WSD\_006-Q01 in its response to Condition Guidance-5 (Class B) from Resolution WSD-002. The response to Condition Guidance-5 and explanation of the “updated spend” can be found in PG&E’s First Quarterly Report.<sup>51</sup> In the “Wildfire Safety Division Evaluation of Pacific Gas and Electric Company’s First Quarterly Report,” published January 8, 2021, the WSD found PG&E’s response to Condition Guidance-5 to be Sufficient.<sup>52</sup>

The new values submitted on March 18, 2021 as part of its response to DR WSD\_010-Q19 have not yet been justified by PG&E.

<sup>51</sup> PG&E First Quarterly Report, filed September 9, 2020, p. 29-30

<sup>52</sup> Wildfire Safety Division Evaluation of Pacific Gas and Electric Company’s First Quarterly Report, published January 8, 2021, p. 1

## Required Remedies

Critical Issue No.	Critical Issue Title	Required Remedies
PGE-05	Unresolved Discrepancies in Vegetation Management Expenditure Data and their Effect on the Entire WMP	<ol style="list-style-type: none"> <li>1. PG&amp;E shall submit a revised Table 12 in the format of the attached Excel file named “PG&amp;E Revision Table 12 Template.xlsx.” This includes:               <ol style="list-style-type: none"> <li>a. Annual expenditure, split by capital expenditure and operating expenditure, for each WMP initiative in HFTD and in its total territory (HFTD + non-HFTD), as forecasted in 2020 and reported in 2021;</li> <li>b. Columns K-AB require 2020 WMP forecasted expenditure for the 2020-2022 WMP cycle;</li> <li>c. Columns AC-AT require 2021 WMP Update forecasted expenditure for the 2020-2022 WMP cycle (actual expenditure for 2020 + forecasted expenditure for 2021 and 2022).</li> </ol> </li> <li>2. PG&amp;E shall explain in full and complete detail why the expenditure information in WSD-006-Q01 is so drastically different from previous submissions.</li> <li>3. PG&amp;E shall explain in full and complete detail what quality controls it has in place to ensure accurate and consistent reporting of expenditure.</li> <li>4. PG&amp;E shall explain in full and complete detail how it will ensure accuracy and consistency of the information contained within its future WMP submissions (particularly in relation to expenditure) going forward.</li> </ol>

### **PGE-06**

Contradictory Reduction in Expenditure Allocation for Critical Vegetation Management Initiatives

#### **Critical Issue Description**

In its 2021 WMP Update, PG&E significantly reduces budget allocations for initiatives considered critical to execution of its vegetation management programs.

#### **Background**

PG&E’s response to the WSD’s DR (WSD\_010-Q19) shows that for several initiatives PG&E has modified “the percentage allocation from PG&E’s Vegetation Management programs (titles

listed in row 5) assigned to each WSD-defined initiative.”<sup>53</sup> The WSD understands that for some initiatives PG&E’s Subject Matter Experts (SMEs) determined that “it was not accurate to segregate several activities into separate WSD-defined initiatives as the below initiatives are truly managed and tracked as one function or activity.”<sup>54</sup> However, several initiatives remain “segregate[d]” and have significantly reduced “percentage allocation[s].”

“Percent allocation[s]” for the 2020 WMP and 2021 WMP Update were “based an [sic] assessment of the 2019 actual spend” and “based upon an updated assessment of the 2020 actual spend,” respectively.<sup>55</sup> The WSD postulates that due to mismatched 2020 forecast and actual expenditure, in its 2021 WMP Update PG&E modified the percentage allocation for the 2020-2022 WMP cycle for VM initiatives to reflect 2020 actual expenditure (compared in columns H and I in Table 2 on page 22 below).

The initiatives with significantly reduced “percentage allocation,” including improvement of inspections, quality assurance/quality control, and recruitment and training of vegetation management personnel (see Table 2), are considered critical by the WSD to the effective execution of PG&E’s VM programs and continued reduction of PG&E’s wildfire risk due to contact from vegetation. Moreover, the WSD’s concerns are amplified by the fact that these initiatives, which show significant reductions in funding from what PG&E reported in its 2020 WMP, are precursors to issues that its VM programs have come under scrutiny for in recent years.

#### *PG&E’s Oversight by U.S. Probation Court and the Federal Monitor*

Oversight of PG&E by U.S. Probation Court and the Federal Monitor stems from criminal proceedings for the San Bruno gas explosion on September 9, 2010.

In an October 16, 2020 letter to U.S. District Court Judge Alsup, who oversees PG&E’s criminal probation, the Federal Monitor alerted the court that “the Monitor team has not seen a meaningful improvement in the quality of [PG&E’s] work from late 2019 to 2020.”<sup>56</sup>

The letter outlines vegetation related issues the Federal Monitor has found: “the Monitor team is finding more missed trees...in 2020 than we did in the later part of 2019... although there were meaningful improvements within 2019, that improvement appears to have, at best, plateaued, and perhaps actual regression has occurred.”<sup>57</sup>

Ultimately, the letter concludes that PG&E “failed to adhere to its risk models in its work execution and could have done better under its own chosen metrics and approaches. The

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<sup>53</sup> PG&E response to WSD\_010-Q19, March 28, 2020, p. 5. Quote refers to rows 17-35 of “DR\_WSD\_010-Q19Atch01.xlsx”

<sup>54</sup> PG&E response to WSD\_010-Q19, March 28, 2020, p. 5

<sup>55</sup> PG&E response to WSD\_010-Q19, March 28, 2020, p. 4

<sup>56</sup> Letter from Federal Monitor to U.S. District Court Judge Alsup, October 16, 2020, p. 1

<sup>57</sup> Letter from Federal Monitor to U.S. District Court Judge Alsup, October 16, 2020, p. 1

Monitor team has identified these shortcomings to PG&E leadership and will monitor progress towards meeting past and current PG&E goals.”<sup>58</sup>

*Enhanced Vegetation Management Audit by the WSD and Enhanced Oversight and Enforcement*

On February 8, 2021, the WSD published an audit of PG&E’s 2020 Enhanced Vegetation Management (EVM) program which resulted in seven findings:

1. PG&E failed to communicate its use of a new Risk Overlay Model and has provided the WSD with conflicting information regarding when different risk prioritization models were utilized.
2. The WSD has received three different EVM prioritization models from PG&E (in September 2020, December 2020, and January 2021) and finds that these three data submissions contain inconsistencies and conflicting information.
3. The WSD has identified concerns in the methodology used to arrive at the final risk score rankings provided in the December model.
4. PG&E appears to not be sufficiently prioritizing or reducing the risk of wildfire ignition in its implementation of its EVM initiative.
5. PG&E’s January 13, 2021, data request response does not provide confidence that PG&E’s risk prioritization activities are being effectively operationalized.
6. The WSD documented four EVM defects through inspections, three of which remain open/unresolved.
7. PG&E has not communicated adequately with the WSD regarding defect resolution (PG&E has corrected seven WSD-identified defects that were documented as disputed/unresolved without notifying the WSD), data requests, or large-scale clearing projects.

As a result of these findings, the CPUC passed Resolution M-4852 on April 15, 2021. The Resolution confirms that PG&E failed to make sufficient risk-driven investments in its vegetation management practices and places PG&E into the first step of an enhanced oversight and enforcement process (EOE).

*PG&E’s VM Quality Improvements- Expansion of PG&E’s Workforce*

An additional concern with PG&E’s reduced allocation of spending on VM initiatives is that the reduction in expenditure coincides with PG&E’s plans to simultaneously and significantly increase its VM workforce. In its 2021 WMP Update, PG&E “anticipates more than tripling our work verification workforce by adding more than 200 inspectors to increase our ability to verify that vegetation management was completed to meet state and federal standards and PG&E’s own expectations.”<sup>59</sup> Therefore, it is apparent that as PG&E is hiring more VM staff, it is also

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<sup>58</sup> Letter from Federal Monitor to U.S. District Court Judge Alsup, October 16, 2020, p. 6

<sup>59</sup> PG&E 2021 WMP p. 48

planning on allocating less funds to oversee the quality and improve the performance of the very inspections the new staff will conduct.

**Required Remedies**

Critical Issue No.	Critical Issue Title	Required Remedies
PGE-06	Contradictory Reduction in Expenditure Allocation for Critical Vegetation Management Initiatives	<ol style="list-style-type: none"> <li>1. Explain in full and complete detail how PG&amp;E is ensuring it is still meeting its risk reduction targets from vegetation contact (as quantified in Tables 7.1 and 7.2<sup>60</sup>) considering PG&amp;E’s modified percentage allocation and expenditure reduction, as compared to the 2020 WMP, for the following WMP initiatives:               <ol style="list-style-type: none"> <li>a. 7.3.5.6 Improvement of inspections (-\$18,777,398/ -83.87%);</li> <li>b. 7.3.5.13 Quality Assurance / Quality Control of vegetation inspections (-\$9,073,416/ -21.82%);</li> <li>c. 7.3.5.14 Recruiting and training of vegetation management personnel (-\$17,953,379/ -99.78%).</li> </ol> </li> <li>2. As part of section 7.3.5.13, PG&amp;E shall provide:               <ol style="list-style-type: none"> <li>a. An analysis comparing the number of circuit miles of VM inspections by individual contractors to the number of miles audited of said individual contractors. This analysis must be presented in tabular format and include, at a minimum, the following sortable attributes:                   <ol style="list-style-type: none"> <li>i. HFTD designation (i.e., Zone 1, Tier 2, Tier 3, Non-HFTD)</li> <li>ii. Circuit Protection Zone (CPZ)</li> <li>iii. County</li> <li>iv. VM inspection type (e.g., routine, EVM, and post-fire)</li> <li>v. Distribution/transmission</li> <li>vi. Name of company in VM auditing role</li> <li>vii. Name of company in VM inspection role</li> </ol> </li> <li>b. The number and percentage of inspections (of each type: routine, EVM, and post-fire) that failed Quality Assurance/</li> </ol> </li> </ol>

<sup>60</sup> PG&E 2021 WMP Update, Attachment 1 – All Data Tables Required by 2021 WMP Guidelines.xlsx

Critical Issue No.	Critical Issue Title	Required Remedies
		<p>Quality Verification<sup>61</sup> (QA/QV) on the first attempt in 2019 and 2020;</p> <p>c. The number of instances and percent of total instances in 2019 and 2020 in which an inspection QA/QV process has resulted in a reinspection;</p> <p>d. For each instance in subparts b and c, identify the companies in both the inspection role and audit (QA/QV) role;</p> <p>e. For each instance in subparts b and c, above, the immediate and longer-term corrective actions PG&amp;E has taken to remediate the issue(s).</p> <p>3. As part of section 7.3.5.14, PG&amp;E shall provide (for both internal and contracted personnel):</p> <p>a. The initial curriculum for VM training (i.e., training provided to those VM personnel identified in Table PG&amp;E-5.4-1<sup>62</sup>);</p> <p>b. Continuing education/ “refresher” curriculum.</p> <p>c. The timeframe for completing VM training (both initial and continuing) and how often continuing education is required;</p> <p>d. The expenditure on training per VM personnel per year by position classification;</p> <p>e. A detailed explanation of how PG&amp;E tracks and verifies VM training (both initial training and continuing education);</p> <p>f. Thresholds for passing/failing PG&amp;E’s VM training program initial training and continuing education;</p> <p>g. VM training pass/fail rates by year and quarter for initial and continuing education;</p> <p>h. If and how PG&amp;E tracks and measures recall and retention of VM training information after initial training is complete;</p>

<sup>61</sup> PG&E defines Quality Verification (QV) as “Reviews a sample of inspections and recently completed tree work to validate that all work was performed in accordance with PG&E standards. This process provides confirmation that requirements have or have not been met.” PG&E’s 2021 WMP Update p. 645

<sup>62</sup> PG&E 2021 WMP Update p. 240

Critical Issue No.	Critical Issue Title	Required Remedies
		<ul style="list-style-type: none"> <li>i. A detailed explanation of how PG&amp;E tracks, verifies, and encourages VM personnel to obtain certification from the International Society of Arboriculture (ISA);</li> <li>j. A description of any PG&amp;E-identified knowledge and training gaps in VM training curriculum for both employees and contractors and how PG&amp;E has or is planning to remedy those gaps;</li> <li>k. An explanation of how PG&amp;E ingrains expectations for VM quality, wildfire risk reduction, and safety in VM personnel training.</li> </ul>

Table 2: Reduction in WMP Cycle Percent Allocation for Specified Initiatives & Changes in Forecasted v. Actual Expenditure for PG&E's Territory in 2020

	A	B	C	D	E	F	G	H	I	J
1	Initiative	3/18 Territory, 2020 WMP, Cycle Total	Percent of Total VM Spend	3/18 Territory, 2021 WMP, Cycle Total	Percent of Total VM Spend	Δ in Spend (\$)	Δ in Spend (%)	3/18 Territory 2020 WMP 2020 Fcst	3/18 Territory 2020 WMP 2020 Actual	Δ in Spend (\$), Frst to Actual
2	7.3.5.6 Improvement of inspections	\$ 22,389,243	0.54%	\$ 3,611,845	0.09%	\$ (18,777,398)	-83.87%	\$ 7,243,600	\$ 1,299,391	\$ (5,944,209)
3	7.3.5.13 Quality assurance / quality control of vegetation inspections	\$ 41,580,023	1.01%	\$ 32,506,607	0.77%	\$ (9,073,416)	-21.82%	\$ 13,452,400	\$ 11,694,518	\$ (1,757,882)
4	7.3.5.14 Recruiting and training of vegetation management personnel	\$ 17,992,751	0.44%	\$ 39,372	0.00%	\$ (17,953,379)	-99.78%	\$ 5,877,008	\$ 14,395	\$ (5,862,613)
5	<b>Total</b>	\$ <b>81,962,017</b>	<b>1.99%</b>	\$ <b>36,157,824</b>	<b>0.86%</b>	\$ <b>(45,804,193)</b>	<b>-55.88%</b>	\$ <b>26,573,008</b>	\$ <b>13,008,304</b>	\$ <b>(13,564,704)</b>
6	Source in WSD_010-Q19	Column X, Rows 60-78	Total from Cell X79	Column AQ, Rows 60-78	Total from Cell AQ79	N/A	N/A	Column K, Rows 60-78	Column AD, Rows 60-78	N/A

#### 4. CONCLUSION

Pursuant to Public Utilities Code Section 8386.3(a), before approval of an electrical corporation's WMP, the WSD may require modification of the WMP. This Revision Notice provides notice to PG&E that the WSD requires the utility to remedy the critical issues set forth in Table 1 before the WSD can consider issuing an approval of its 2021 WMP Update. Remedies require PG&E to submit a revised version of its 2021 WMP Update. PG&E must provide a single updated WMP and auxiliary Excel file that incorporates all required changes across all critical issues listed above. For the revised version of the 2021 WMP Update, PG&E must provide both a redlined and clean version of this document. For the updated auxiliary Excel file, PG&E must provide a clean version of the file and a change log that documents all adjustments to the file. PG&E must submit via email to the Director of the Division a Revision Notice Response resolving the identified critical issues. The Revision Notice Response must be submitted to [WildfireSafetyDivision@cpuc.ca.gov](mailto:WildfireSafetyDivision@cpuc.ca.gov) with service to the service list of Rulemaking 18-10-007. PG&E sufficient time to respond and revise its 2021 WMP Update accordingly, the WSD has provided PG&E 30 days to submit its Revision Notice Response. The dates for this Revision Notice are:

Revision Notice issued by the WSD:	May 4, 2021
PG&E's Revision Notice Response due:	June 3, 2021
Party Comments due:	June 10, 2021
Reply Comments due:	June 16, 2021



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