

## PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Executive Division

RESOLUTION M-4864

December 1, 2022

R E S O L U T I O N**RESOLUTION M-4864: AUTHORIZING PACIFIC GAS AND ELECTRIC COMPANY TO EXIT STEP 1 OF THE “ENHANCED OVERSIGHT AND ENFORCEMENT PROCESS” ADOPTED IN DECISION 20-05-053.**

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## PROPOSED OUTCOME:

- Authorizes Pacific Gas and Electric (PG&E) exit from Step 1 of the Enhanced Oversight and Enforcement Process as specified in Resolution M-4852 in accordance with Commission Decision (D.) 20-05-053.

## SAFETY CONSIDERATIONS:

- Proper vegetation management focused on mitigating the highest wildfire risk first is essential to public safety and mitigation of catastrophic wildfire.

## ESTIMATED COST:

- There are no costs associated with this resolution.

SUMMARY

This Resolution addresses safety in Pacific Gas and Electric Company’s (PG&E) operations and the California Public Utilities Commission’s (CPUC or Commission) and the Office of Energy Infrastructure Safety’s (Energy Safety)<sup>1</sup> joint enhanced oversight of PG&E's operations in California’s high-wildfire-threat areas in 2021 and 2022. This Resolution is issued to PG&E in accordance with Commission Decision (D.) 20-05-053 approving PG&E’s bankruptcy plan of reorganization with conditions and modifications. The decision established a new Enhanced Oversight and Enforcement (EOE) Process that

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<sup>1</sup> The Wildfire Safety Division (WSD) transitioned to the Office of Energy Infrastructure Safety within the California Natural Resources Agency on July 1, 2021.

facilitates the Commission's ability to respond quickly and effectively to safety performance problems at PG&E.<sup>2</sup>

The Commission issued Resolution M-4852 on April 15, 2021, placing PG&E into Step 1 of the EOE Process, based on findings that PG&E made insufficient progress with regards to risk-driven wildfire mitigation efforts, meeting the threshold for a Step 1 Triggering Event. The findings that supported this Triggering Event included the following:

PG&E is not sufficiently prioritizing its Enhanced Vegetation Management (EVM) based on risk. PG&E ranks its power line circuits by wildfire risk, but the work performed in 2020 demonstrates that PG&E is not making risk-driven investments. PG&E is not doing the majority of EVM work – or even a significant portion of work – on the highest risk lines.

In 2020, PG&E conducted more work in 2020 on lower risk power lines than high risk lines if one examines the 161 power lines on which PG&E performed EVM. Less than five percent of the EVM work PG&E completed was on the 20 highest risk power lines according to PG&E's own risk rankings.

Resolution M-4852 ordered PG&E to submit a Corrective Action Plan (CAP) within 20 days, and every 90 days thereafter, to explain in detail how it will both perform risk modeling and use the results of risk modeling to ensure the highest risk power lines are prioritized for vegetation management under its 2021 EVM program before working lower risk lines. The resolution also required PG&E to proactively and accurately report to the Commission changes to its risk modeling, report the location of where it intends to engage in EVM, and demonstrate that it is prioritizing high risk power lines for EVM work.

We find that PG&E has met the Commission's requirements for the 14 Corrective Action Plan Elements (CAP Elements), has demonstrated that in 2021 and 2022 it is prioritizing high-risk distribution lines for EVM, is meeting all of the Step 1 conditions imposed by Resolution M-4852, and is authorized to exit Step 1 of the EOE Process.

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<sup>2</sup> The EOE Process supplements the Commission's existing enforcement authority. It specifies increasing severe consequences for safety-related triggering events in a series of six steps, ranging from Step 1, which contains enhanced reporting and oversight requirements, to Step 6, involving the potential revocation of PG&E's ability to operate as a California electric utility. Resolution M-4852, at 1.

The Commission led the joint enhanced oversight of PG&E's operations in California's high-wildfire-threat areas in 2021 and 2022. Energy Safety assesses PG&E's EVM program and prioritization issues and will continue its established monitoring of PG&E's EVM work progress when the Commission removes PG&E from Step 1 of Enhanced Oversight and Enforcement.

### **BACKGROUND**

PG&E served on the service lists of Investigation (I.) 19-09-016 (the proceeding resulting in D.20-05-053), Rulemaking (R.) 18-10-007 (a formal wildfire-related proceeding), the Wildfire Safety Division (now Energy Safety), the Safety and Enforcement Division (SED), and the Commission's Executive Director its first CAP on May 6, 2021 and updates every 90 days thereafter, in accordance with Resolution M-4852. Resolution M-4852 directed PG&E's CAP reporting to include information under fourteen specific categories, as follows:

1. A detailed description of the circumstances that contributed to PG&E's failure to adequately prioritize the highest risk lines, as described in this Resolution and the WSD's EVM Audit, in its EVM in 2020;
2. A detailed description of its risk model(s) for determining where to target EVM in the next 90 days, including the specific data sets and vegetation management records PG&E is using as inputs to the risk model, and the data modeling program(s) that make up PG&E's risk model;
3. A detailed list of the EVM projects for the calendar year of the reporting date and the EVM plan for the subsequent calendar year, when available;
4. A description of how the list in item 3 above ensures PG&E is prioritizing the power lines with highest risk first;
5. A description of PG&E's decision-making that leads to the list in item 3: how the list is developed, evaluated, revised in terms of projects that are added to or dropped from the list, finalized, and communicated to EVM work crews, and PG&E's internal documentation of the decision-making process;
6. An explanation of the rationale for any planned EVM work that does not target the power lines with highest risk first;
7. Any changes to the 2021 Wildfire Distribution Risk Model, the Wildfire Consequence Model, or the Vegetation Risk Model occurring over the prior 90 days or planned for the subsequent 90 days;

8. A detailed description of the circumstances that contributed to PG&E management's inconsistent reporting on the details of its risk modeling and risk ranking lists;
9. Verification by a senior officer of PG&E that the risk model, including underlying data sets and vegetation management records, it is using to prioritize EVM is as set forth in its report;
10. Verification by a senior officer of PG&E that it will target a substantial majority of EVM to the highest risk circuit protection zones first, as shown by its risk model or other ranking, in the next 90 days for EVM;
11. Verification by a senior officer of PG&E that it targeted a substantial majority of EVM to the highest risk circuit protection zones first, as shown by its risk model or other ranking, in the prior 90 days;
12. Verification by a senior officer of PG&E that the company has communicated information and internal decisions in items 3, 4 and 9 above to personnel of PG&E's EVM programs and that such personnel is aware of where to target EVM in the subsequent 90 days.
13. A proposed timeline for ending the required reporting, with a detailed explanation of why the proposal ensures PG&E is in compliance with the requirement that it prioritize high risk circuits in its EVM work. The timeline shall include milestone goals for June 1, 2021, September 1, 2021, and December 31, 2021. These goals shall include a targeted percentage of high risk power line circuits to be completed by those dates.
14. A description of how the Corrective Action Plan proposed in response to this Resolution will complement and not undermine PG&E's compliance activities ordered in D.20-05-019.<sup>3</sup>

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<sup>3</sup> D.20-05-019 adopted a settlement agreement among PG&E, the Safety and Enforcement Division and other parties which required several actions by PG&E with regard to its vegetation management, including 1) a Tree Crew Training and Certificate Program; 2) a Pre-Inspector Training and Certificate Program; 3) a Vegetation Management Oversight Pilot; 4) Semi-Annual Wildfire Mitigation Meetings among PG&E and local government planning, public works, emergency services, and fire leadership to exchange feedback and information regarding ongoing wildfire safety activities; 5) Independent Wildfire Safety Audits; 6) Quarterly Reports on Electric Maintenance Work; 7) Fuel Reduction Funding; 8) Local Government Vegetation Management Data Sharing; and 9) a PG&E shareholder-funded Independent Study of PG&E's Distribution and Transmission System.

On November 1, 2021, the Executive Director of the Commission issued a letter to PG&E stating that it had complied with M-4852 by:

- Submitting its CAP on May 6, 2021.
- Presenting its CAP to CPUC Commissioners, the California Governor’s Office of Emergency Services (Cal OES), the California Department of Forestry and Fire Protection (CAL FIRE), and the public on June 23, 2021.
- Submitting its first 90-Day Report on August 4, 2021.
- Providing an update during a Commission workshop on November 8, 2021 on its progress under the CAP. Particularly, PG&E detailed its progress toward its December 31, 2021 risk-driven EVM target of treating 1,800 distribution line miles.<sup>4</sup>

Commission staff, in consultation with Energy Safety, reviewed PG&E’s CAP, the subsequent 90-day updates, each of which included the 14 Corrective Action Plan Elements (CAP Elements), and provided feedback. The Commission held two workshops (on June 23, 2021 and November 8, 2021) to discuss and obtain public feedback on PG&E’s CAP and the subsequent 90-day updates. Commission staff submitted 12 data requests and analyzed PG&E’s responses, and conducted a field visit to PG&E’s EVM and Wildfire Command Center. Commission and Energy Safety staff also interviewed managers from PG&E’s vegetation management program, EVM staff, and contractors to understand how PG&E schedules, assigns work, and communicates priorities to EVM work crews. Commission and Energy Safety staff also attended PG&E’s Daily Operating Reviews between EVM contractors and PG&E staff to assess how PG&E tracked EVM work progress, targets, and set schedules for work.

As noted in Resolution M-4852, D.20-05-053 provides:

PG&E shall exit from Step 1 of the Process upon issuance of a Commission Resolution finding that PG&E has met the conditions of its Corrective Action Plan within the required timeframe.<sup>5</sup>

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<sup>4</sup> The letter also noted that work remained to be done and PG&E must continue to make progress against the 1,800-mile target PG&E had set for December 31, 2021. Executive Director's Letter to PG&E re: Corrective Action Plan, November 1, 2021, available at: [Enhanced Oversight and Enforcement of PG&E \(ca.gov\)](#).

<sup>5</sup> Resolution M-4852 at 5, available at [Enhanced Oversight and Enforcement of PG&E \(ca.gov\)](#); D.20-05-053, Appendix A, at 2, available at [Enhanced Oversight and Enforcement of PG&E \(ca.gov\)](#).

The Commission finds that PG&E has met the requirements of the CAP approved by the Executive Director, as set forth in Resolution M-4852. The Commission accordingly authorizes PG&E to exit Step 1 of the EOE Process. This Resolution does not affect the Commission's existing compliance or enforcement authority.

## **DISCUSSION**

### **Summary of PG&E's CAP Reporting**

Of PG&E's 99,000 circuit miles of electric distribution and transmission system approximately 25,500 distribution circuit miles are located within Commission designated High Fire Threat Districts.<sup>6</sup> The EVM program is one of PG&E's major strategies in mitigating wildfire risks attributed to overhead distribution equipment in PG&E's High Fire Threat Districts areas<sup>7</sup> and the goal of completing 1,800 high-risk circuit miles represents one of PG&E's commitments in its 2021 WMP.<sup>8</sup>

PG&E's goal was to perform more than 80 percent of its EVM work in the top 20 percent highest risk Circuit Protection Zones<sup>9</sup> in 2021. Table 1 below shows that in 2021 PG&E completed 98 percent of its 2021 EVM work in the top 20 percent highest risk Circuit Protection Zones and met its quarterly target.

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<sup>6</sup> [PG&E Revised 2022 WMP, July 26, 2022](#), at 101.

<sup>7</sup> [PG&E Revised 2022 WMP, July 26, 2022, at Section 7.3.5.](#)

<sup>8</sup> PG&E, 2021 Wildfire Mitigation Plan - Revised, June 3, 2021, Table PG&E-5.2.1, at 263, available at [2021-Wildfire-Safety-Plan-Revised-060321.pdf \(pge.com\)](#).

<sup>9</sup> PG&E defines a Circuit Protection Zone as a segment of a distribution circuit between two protection devices. May 6, 2021 CAP, Footnote 9, at 7, available at [pge-corrective-action-plan\\_050621.pdf \(ca.gov\)](#).

**Table 1: EVM Progress Through December 31, 2021**

<b>Risk Tranche</b>	<b>Work Verified Miles<sup>10</sup></b>	<b>% of Total Work Verified Miles</b>
<b>&lt; = 10%</b>	1,910	96%
<b>&gt; 10 – 20%</b>	31	2%
<b>&gt; 20 – 30%</b>	21	1%
<b>&gt; 30 – 40%</b>	6	0.3%
<b>&gt; 40 – 50%</b>	9	0.4%
<b>&gt; 50%</b>	7	0.3%
<b>Total</b>	<b>1,983</b>	<b>100.0%</b>

**Source:** PG&E, February 2, 2022 CAP Update

Table 2 below shows that PG&E completed 99.9 percent of its EVM work in the top 20 percent highest risk Circuit Protection Zones by June 30, 2022.

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<sup>10</sup> PG&E noted that the data is rounded and may result in an approximate one-mile variance. PG&E, February 2, 2022 CAPUpdate, at 3, available at [pge-90-day-report\\_02022022.pdf](https://www.pge.com/~/media/Files/2022/02/02/20220202_pge-90-day-report_02022022.pdf) ([ca.gov](https://www.ca.gov)).

**Table 2: EVM Progress Through June 30, 2022**

<b>Risk Tranche</b>	<b>Work Verified Miles</b>	<b>% of Total Work Verified Miles</b>
<b>Highest 10%</b>	905.5 7	96.97 %
<b>&gt;10% to 20%</b>	27.07	2.9%
<b>&gt;20% to 30%</b>	0.5	0.05%
<b>&gt;30% to 40%</b>	0	0%
<b>&gt;40% to 50%</b>	0.51	0.05%
<b>&gt;50% to 100%</b>	0.22	0.02%
<b>Total</b>	<b>933.8</b>	<b>100%</b>
<b>1</b>	<b>7</b>	

**Source:** PG&E, August 1, 2022 CAP Update

Based on PG&E's progress in 2021, information provided in the August 1, 2022, CAP Update, and information submitted during data requests, interviews, and field visits, PG&E demonstrated that it sufficiently improved its risk-based prioritization of EVM work in 2021 and met its CAP goals. PG&E has also demonstrated progress in establishing communication channels between its contractors and PG&E staff. PG&E utilizes Daily Operating Reviews, which are bottom-up cascading meetings between PG&E vegetation management staff and PG&E executive management to monitor EVM progress and targets and produce associated reports.<sup>11</sup> PG&E documents EVM decision-making under its Wildfire Risk Governance Steering Committee and change control processes approved by the Vegetation Management Board.<sup>12</sup>

Based on the May 6, 2021 CAP and the subsequent 90-day updates, and the information gathered during Commission workshops, data requests, field visits, and interviews, PG&E has met the requirements set forth in Resolution M-4852.

<sup>11</sup> PG&E may also include contractors in the Daily Operating Reviews.

<sup>12</sup> PG&E's change control process is the process it uses to update the EVM Scope of Work, which requires approval by the Vegetation Management Board and the Wildfire Risk Governance Steering Committee. PG&E, May 6, 2021 CAP, at 15-17, available at [pge-corrective-action-plan\\_050621.pdf \(ca.gov\)](https://www.pge.com/content/dam/pge-ca/documents/2021/05/06/2021-CAP-15-17.pdf).



*Assessment of the Fourteen CAP Elements***CAP Element 1: A detailed description of the circumstances that contributed to PG&E's failure to adequately prioritize the highest risk lines, as described in this Resolution and the WSD's EVM Audit, in its EVM in 2020.**

PG&E's May 6, 2021 CAP described three primary reasons for why it did not adequately prioritize the highest risk distribution lines for EVM work in 2020, including addressing carry-over work from 2019, using the Risk Value Overlay model, and PG&E's goal of performing 50 percent of its work on the highest 50 percent risk of its circuits did not result in PG&E sufficiently addressing the highest risk circuits. First, PG&E explained that when it entered 2020 there was a substantial amount of EVM work that was in progress as carry-over from 2019. By the time the 2020 EVM workplan was finalized in April 2020, a substantial amount of the 2019 carry-over work had been done and was not exclusively risk focused. Second, the 2020 EVM workplan was based on the Risk Value Overlay, which considered five factors: wildfire, capacity, reliability, public power safety shutoff, and safety. As a result of equally weighing these five factors, the Risk Value Overlay did not exclusively focus on wildfire risk as the basis for determining where EVM work was to be performed in 2020. PG&E noted that it no longer uses the Risk Value Overlay.<sup>13</sup> Third, PG&E's EVM work goal was to perform 50 percent of the work on the top 50 percent of the highest risk circuits. PG&E noted that it redefined its 2021 goals to focus 80 percent of its EVM work on the top 20 percent of the highest risk Circuit Protection Zones rather than 50 percent of the work in the top 50 percent of the highest risk lines.<sup>14</sup>

Based on the information PG&E provided, the Commission finds that PG&E has provided sufficient information to satisfy CAP Element 1.

**CAP Element 2: A detailed description of its risk model(s) for determining where to target EVM in the next 90 days, including the specific data sets and vegetation management records PG&E is using as inputs to the risk model, and the data modeling program(s) that make up PG&E's risk model.**

PG&E's May 6, 2021 CAP provided a description of how it targeted EVM for the next 90 days. PG&E explained that its Tree-Weighted Prioritization List,<sup>15</sup> forms the basis of its 2021 EVM Scope of Work (i.e., work to be completed through December 31,

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<sup>13</sup> PG&E, May 6, 2021 CAP, at 7, available at [pge-corrective-action-plan\\_050621.pdf \(ca.gov\)](https://www.pge.com/content/dam/pge-ca/documents/2021CAP/050621.pdf).

<sup>14</sup> PG&E, May 6, 2021 CAP, at 7, available at [pge-corrective-action-plan\\_050621.pdf \(ca.gov\)](https://www.pge.com/content/dam/pge-ca/documents/2021CAP/050621.pdf).

<sup>15</sup> The Tree-Weighted Prioritization list is a list of Circuit Protection Zones risk-ranked from 1-99, with 1 representing the highest risk. The 2021 EVM Scope from the May 6, 2021 CAP amounted to 99 Circuit Protection Zones (Attachment E), the February 2, 2022 CAP Update amounted to 109 Circuit Protection Zones (Attachment A).

2021). PG&E described that it develops its Tree-Weighted Prioritization List by applying a tree-weighted factor, which accounts for tree density, to its Wildfire Distribution Risk Model. EVM staff use the annual Tree-Weighted Prioritization List to schedule pre-inspection, tree work, and work verification on each listed Circuit Protection Zone. In 2021, PG&E's 90-day work plans confirmed that PG&E prioritized the highest risk Circuit Protection Zones on an annual basis as it worked from the 2021 EVM Scope of Work.

PG&E's work-priority process allows PG&E to retain a year-round workforce. Energy Safety assesses PG&E's EVM program, prioritization issues, and will continue its established monitoring of PG&E's EVM work progress when the Commission removes PG&E from Step 1 of Enhanced Oversight and Enforcement.

PG&E also provided data sets, vegetation management records it uses as inputs to the risk model, and the data modeling program that make up its risk model. E3 Consulting,<sup>16</sup> in its evaluation of PG&E's 2021 Wildfire Distribution Risk Model, requested that PG&E compare geographic targeting in the new versus the old model to show evidence of improvements in situational awareness. Although E3 observed that PG&E did not demonstrate and compare model impact after EVM work completion, E3 was satisfied with PG&E's description of its implementation of the model process for the 2021 Wildfire Distribution Risk Model Version 2.<sup>17</sup> Similarly, while SED staff found that PG&E did not document and compare the Wildfire Distribution Risk Model output before and after 2021 EVM work was completed to show evidence of improvements of the 2021 EVM work in reducing wildfire risk, SED also found that PG&E adequately describes the risk model.

PG&E has been using the same Wildfire Distribution Risk Model and Tree-Weighted Prioritization List from 2021 in implementing its 2022 EVM Scope of Work. For 2022, PG&E has been using the subsequent risk-ranked set of Circuit Protection Zones from 101 – 253 from the 2021 Tree-Weighted Prioritization List as the 2022 EVM Scope of Work.

Based on the information it provided, the Commission finds that PG&E provided sufficient information to satisfy CAP Element 2.

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<sup>16</sup> PG&E hired E3 Consulting to evaluate the Wildfire Distribution Risk Model.

<sup>17</sup> E3, Review of 2021 Wildfire Distribution Risk Model, May 2021 at 7, available at [E3\\_Review\\_of\\_PGEs\\_2021\\_Wildfire\\_Distribution\\_Risk\\_Model.pdf \(ethree.com\)](https://www.ethree.com/E3_Review_of_PGEs_2021_Wildfire_Distribution_Risk_Model.pdf).

**CAP Element 3: A detailed list of the EVM projects for the calendar year of the reporting date and the EVM plan for the subsequent calendar year, when available.**

In its May 6, 2021 CAP and the subsequent 90-day updates, PG&E provided a detailed list of the EVM projects targeted for 2021.<sup>18</sup> PG&E provided the 2022 EVM Scope of Work in its February 2, 2022 CAP Plan Update. PG&E indicated it would target Circuit Protection Zones 101 – 253 from the 2021 Tree-Weighted Prioritization List, covering an additional 2,635 miles. The February 2, 2022 CAP Update also stated that PG&E would continue to work on uncompleted segments from Circuit Protection Zone 1 – 100 from the 2021 EVM Scope of Work.<sup>19</sup>

Based on the information it provided, the Commission finds that PG&E provided sufficient information to satisfy CAP Element 3.

**CAP Element 4: A description of how the list in item 3 above ensures PG&E is prioritizing the power lines with highest risk first.**

PG&E's May 6, 2021 CAP states that on an annual basis PG&E prioritizes its work on the highest risk Circuit Protection Zones as it works from the 2021 EVM Scope of Work, which is developed from the Wildfire Distribution Risk Model and the tree-weighted risk factor.<sup>20</sup> The Tree-Weighted Prioritization List indicates the highest risk Circuit Protection Zones in the High Fire Threat Districts. PG&E's use of the list to conduct EVM work ensures that it is prioritizing work within the highest risk areas.

The tree-weighted risk ranked 2021 EVM Scope of Work is based on the risk-based Wildfire Distribution Risk Model output and is modified by a tree-weighted factor. (PG&E uses Light Detection and Ranging (LiDAR) and inspection data to count trees in work areas).<sup>21</sup> Thus, PG&E is aligning the output of the risk model with areas with a high density of trees.

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<sup>18</sup> PG&E, May 6, 2021, CAP, Attachment E available, at [pge-corrective-action-plan\\_050621.pdf \(ca.gov\)](https://www.pge.com/content/dam/pge-ca/documents/2021/05/06/050621.pdf).

<sup>19</sup> PG&E, February 2, 2022, CAPUpdate, at 8, available at [pge-90-day-report\\_02022022.pdf \(ca.gov\)](https://www.pge.com/content/dam/pge-ca/documents/2022/02/02/02022022.pdf).

<sup>20</sup> In its May 6, 2021 CAP, PG&E states that it intends to perform EVM work starting with the highest risk rank Circuit Protection Zones in what it refers to Tree-Weighted Prioritization List" or "1-n" ranking approach. PG&E, May 6, 2021 CAP, at 11, available at [pge-corrective-action-plan\\_050621.pdf \(ca.gov\)](https://www.pge.com/content/dam/pge-ca/documents/2021/05/06/050621.pdf).

<sup>21</sup> E3 found that the model design of the 2021 Wildfire Distribution Risk Model was appropriate to predict ignitions from PG&E's own equipment. E3, *Review of PG&E's 2021 Wildfire Distribution Risk Model*, May 2021 at 3, available at: [E3\\_Review\\_of\\_PGEs\\_2021\\_Wildfire\\_Distribution\\_Risk\\_Model.pdf \(ethree.com\)](https://www.ethree.com/ethree/ethree-reviews/2021/05/03/2021-Wildfire-Distribution-Risk-Model.pdf)

Based on the information it provided, the Commission finds that PG&E provided sufficient information to satisfy CAP Element 4.

**CAP Element 5: A description of PG&E’s decision-making that leads to the list in item 3: how the list is developed, evaluated, revised in terms of projects that are added to or dropped from the list, finalized, and communicated to EVM work crews, and PG&E’s internal documentation of the decision-making process.**

PG&E’s May 6, 2021 CAP provides a description of the decision-making process that leads to its Tree-Weighted Prioritization List.<sup>22</sup> PG&E’s Tree-Weighted Prioritization List is developed by using the output from the Wildfire Distribution Risk Model and applying the tree-weighted factor. PG&E’s Vegetation Management Board evaluates its Tree-Weighted Prioritization List. The Wildfire Risk Distribution Model underlying the Tree-Weighted Prioritization List and the EVM Scope of Work is evaluated and approved by the Wildfire Risk Governance Steering Committee, which is chaired by PG&E’s Chief Risk Officer and includes management from PG&E’s Electric Operations, Risk, and Internal Audit.<sup>23</sup> The EVM Scope of Work and any revisions must also be approved by the Wildfire Risk Governance Steering Committee. PG&E’s change control process can be initiated by Vegetation Management stakeholders through PG&E’s Vegetation Management organization for approval by the Vegetation Management Board.<sup>24</sup> PG&E documents the EVM program decision-making through the Vegetation Management Board’s approval of the change control process and the Wildfire Risk Governance Steering Committee’s minutes of meetings and decisions.

PG&E describes its communication with EVM contract work crews in its November 4, 2021 and February 2, 2022 CAP Updates. PG&E communicates the information in its Tree-Weighted Prioritization List to work crews during Daily Operating Reviews that occur between contractors, senior management, and PG&E Vegetation Management staff. SED and Energy Safety staff also attended Daily Operating Reviews to assess how PG&E tracked EVM work progress and targets and set schedules for work. PG&E also provides work instructions to work crews via ArcGIS Collector software, which schedules, assigns, and tracks EVM work.

Based on the information it provided, the Commission finds that PG&E provided sufficient information to satisfy CAP Element 5.

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<sup>22</sup> PG&E, May 6, 2021 CAP, at 7-10 and 18, available at [pge-corrective-action-plan\\_050621.pdf](https://www.pge.com/content/dam/pge-na/cap/050621/pge-corrective-action-plan_050621.pdf) ([ca.gov](https://www.ca.gov)).

<sup>23</sup> PG&E, May 6, 2021 CAP, at 15-18, available at [pge-corrective-action-plan\\_050621.pdf](https://www.pge.com/content/dam/pge-na/cap/050621/pge-corrective-action-plan_050621.pdf) ([ca.gov](https://www.ca.gov)).

<sup>24</sup> PG&E, August 4, 2021 CAP, Update, at 8-11, available at [pdfa\\_planofreorganization011-2019\\_report-pge\\_20210804-public.pdf](https://www.pge.com/content/dam/pge-na/cap/20210804-public.pdf) ([ca.gov](https://www.ca.gov)).

**CAP Element 6: An explanation of the rationale for any planned EVM work that does not target the power lines with highest risk first.**

PG&E provides explanations of its rationale for planning EVM work outside of the highest-ranked Circuit Protection Zones in several CAP Updates. These explanations include: 1) carryover work from the previous year, 2) community commitments, 3) addressing ignition risk, and 4) a Circuit Protection Zone in the top 10 percent risk tranche that was initially missed due to a nomenclature issue.<sup>25</sup>

First, in 2021, PG&E planned to complete carryover work on 88 miles from the 2020 Scope of Work that were outside of the 2021's EVM Scope of Work.<sup>26</sup> Second, PG&E explained that between the submission of the May 6, 2021 CAP and the August 4, 2021 CAP Update it added four Circuit Protection Zones related to community commitments and permits added to the 2021 EVM Scope of Work.<sup>27</sup> Third, between the August 4, 2021 CAP Update and the November 4, 2021 CAP Update, PG&E added five Circuit Protection Zones where vegetation ignitions occurred in 2021, which fell within the top 20 percent of risk-ranked Circuit Protection Zones but were outside of the 2021 EVM scope.<sup>28</sup> Finally, during the November 8, 2021 Commission Workshop, PG&E explained that it added a Circuit Protection Zone that was ranked in the top 10 percent that was previously missed due to a nomenclature error.<sup>29</sup> PG&E explained that the San Joaquin#2 1103 circuit breaker Circuit Protection Zone was previously missed due to a nomenclature error.

Based on the information it provided, the Commission finds that PG&E provided sufficient information to satisfy CAP Element 6.

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<sup>25</sup> PG&E Presentation, "Enhanced Vegetation Management," California Public Utilities Commission 2<sup>nd</sup> Public Workshop on PG&E Enhanced Oversight and Enforcement Process, November 8, 2021, at slide 7-8, available at [Enhanced Oversight and Enforcement of PG&E \(ca.gov\)](https://www.cpuc.ca.gov/ohse/Pages/Enhanced-Oversight-and-Enforcement-of-PG&E.aspx).

<sup>26</sup> PG&E states that 63 of the 88 miles are within the top 20 percent highest risk areas. PG&E, February 2, 2022 CAP Update, Table 2, available at [pge-90-day-report\\_02022022.pdf \(ca.gov\)](https://www.pge.com/en/about/Pages/90-day-report_02022022.pdf).

<sup>27</sup> PG&E, August 4, 2021 CAP Update, Table 5, at 14-15, available at [pdfa\\_planofreorganizationii-2019\\_report-pge\\_20210804-public.pdf \(ca.gov\)](https://www.pge.com/en/about/Pages/2021-08-04-public-report-pge-20210804-public.pdf).

<sup>28</sup> PG&E, November 4, 2021 CAP, at 13-14, available at [corrective-action-plan\\_november-90-day-report\\_110421.pdf \(ca.gov\)](https://www.pge.com/en/about/Pages/corrective-action-plan_november-90-day-report_110421.pdf).

<sup>29</sup> PG&E Presentation, "Enhanced Vegetation Management," California Public Utilities Commission 2<sup>nd</sup> Public Workshop on PG&E Enhanced Oversight and Enforcement Process, November 8, 2021, at slide 7-8, available at [Enhanced Oversight and Enforcement of PG&E \(ca.gov\)](https://www.cpuc.ca.gov/ohse/Pages/Enhanced-Oversight-and-Enforcement-of-PG&E.aspx).

**CAP Element 7: Any changes to the 2021 Wildfire Distribution Risk Model, the Wildfire Consequence Model, or the Vegetation Risk Model occurring over the prior 90 days or planned for the subsequent 90 days.**

PG&E reported changes to the 2021 Wildfire Distribution Risk model in the 90 days prior to submitting the May 6, 2021 CAP.<sup>30</sup> PG&E explained that it revised the methodology to develop the Tree-Weighted Prioritization List from March 2021 by updating a LiDAR source data snapshot and utilizing the Tree-Weighted Prioritization List, rather than multiple lists.<sup>31</sup>

Although PG&E reported planned changes to the Wildfire Distribution Model in its May 3, 2022 CAP Update, those changes did not affect its planned EVM Scope of Work for the subsequent 90 days. Instead, PG&E continues to use the 2021 Tree-Weighted Prioritization List in 2022 but it is now targeting Circuit Protection Zones 101-253.

The Vegetation Management Board and the Wildfire Risk Governance Steering Committee will continue to evaluate PG&E's planned changes to the Wildfire Distribution Risk Model through its EVM work process and decision-making, which is similar to PG&E's process in 2021 and 2022. PG&E also provides the status of its EVM work and goals in bi-weekly compliance check-ins with Energy Safety on the implementation of its WMP.

Based on the information it provided, the Commission finds that PG&E provided sufficient information to satisfy CAP Element 7.

**CAP Element 8: A detailed description of the circumstances that contributed to PG&E management's inconsistent reporting on the details of its risk modeling and risk ranking lists.**

In the May 6, 2021 CAP, PG&E provided the timeline of its communications with Wildfire Safety Division (from April 6, 2020 – December 4, 2020) that resulted in the inconsistent reporting of its risk modeling. PG&E acknowledged that it too narrowly answered the Wildfire Safety Division's questions and failed to communicate the use of the 2019-2020 Wildfire Risk Model, the Risk Value Overlay, and how both informed its 2020 EVM work. PG&E also acknowledged that it failed to provide the proper context alongside each piece of information being shared in each response and respond in a timely manner.

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<sup>30</sup> PG&E, May 6, 2021 CAP, at 18-19, available at [pge-corrective-action-plan\\_050621.pdf](https://www.pge.com/content/dam/energy-and-utilities/documents/default/PGE_Corrective_Action_Plan_050621.pdf) ([ca.gov](https://www.ca.gov)).

<sup>31</sup> PG&E, May 6, 2021 CAP, Attachment G, available at [pge-corrective-action-plan\\_050621.pdf](https://www.pge.com/content/dam/energy-and-utilities/documents/default/PGE_Corrective_Action_Plan_050621.pdf) ([ca.gov](https://www.ca.gov)).



Based on the information it provided, the Commission finds that PG&E has provided sufficient information to satisfy CAP Element 8.

**CAP Element 9: Verification by a senior officer of PG&E that the risk model, including underlying data sets and vegetation management records, it is using to prioritize EVM is as set forth in its report.**

In the May 6, 2021 CAP, PG&E's Chief Risk Officer verifies that the risk model, data sets, and vegetation management records that PG&E reports using to prioritize its 2021 EVM Scope of Work are accurate.<sup>32</sup>

Based on the information it provided, the Commission finds that PG&E has provided sufficient information to satisfy CAP Element 9.

**CAP Element 10: Verification by a senior officer of PG&E that it will target a substantial majority of EVM to the highest risk circuit protection zones first, as shown by its risk model or other ranking, in the next 90 days for EVM.**

CAP Elements 2 and 4 describe how PG&E uses the Tree-Weighted Prioritization List to conduct EVM, and by adhering to the list, PG&E ensures that its EVM work is performed within the highest risk Circuit Protection Zones. PG&E's August 1, 2022 CAP Update provides a verification from its senior officer that attests that PG&E will use the 2022 EVM Scope of Work to perform work in the next 90 days, which ensures that PG&E prioritizes the highest risk Circuit Protection Zones first by performing the majority of its EVM work on the Circuit Protection Zones from the Tree-Weighted Prioritization List (2022 EVM Scope of Work).<sup>33</sup>

Based on the information it provided, the Commission finds that PG&E has provided sufficient information to satisfy CAP Element 10.

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<sup>32</sup> PG&E, May 6, 2021 CAP, Attachment J, available at [pge-corrective-action-plan\\_050621.pdf \(ca.gov\)](https://www.pge.com/content/dam/pge-ca/documents/cap/050621.pdf).

<sup>33</sup> PG&E, August 1, 2022 CAP Update, Attachment B, B1, available at [cap-90-day-report\\_08-01-22.pdf](https://www.pge.com/content/dam/pge-ca/documents/cap/08-01-22.pdf).

**CAP Element 11: Verification by a senior officer of PG&E that it targeted a substantial majority of EVM to the highest risk circuit protection zones first, as shown by its risk model or other ranking, in the prior 90 days.**

In the August 1, 2022 CAP Update, PG&E provides a verification from its senior officer that attests that 99 percent of the EVM work through June 30, 2022 was performed on the top 20 percent of risk ranked circuits, per the 2022 EVM Scope of Work.<sup>34</sup>

Based on the information it provided, the Commission finds that PG&E has provided sufficient information to satisfy CAP Element 11.

**CAP Element 12: Verification by a senior officer of PG&E that the company has communicated information and internal decisions in items 3, 4 and 9 above to personnel of PG&E's EVM programs and that such personnel is aware of where to target EVM in the subsequent 90 days.**

The May 6, 2021 CAP and the subsequent 90-day updates attach a "Verification of the Senior Risk Officer."<sup>35</sup> The August 1, 2022 CAP Update states, "On information and my understanding, Element 5.b in the August Report describes the communications that PG&E has had with EVM personnel and contractors regarding EVM work."<sup>36</sup>

Based on the information it provided, the Commission finds that PG&E has provided sufficient information to satisfy CAP Element 12.

**CAP Element 13: A proposed timeline for ending the required reporting, with a detailed explanation of why the proposal ensures PG&E is in compliance with the requirement that it prioritize high risk circuits in its EVM work. The timeline shall include milestone goals for June 1, 2021, September 1, 2021, and December 31, 2021. These goals shall include a targeted percentage of high risk power line circuits to be completed by those dates.**

PG&E's May 6, 2021, CAP provides its 2021 EVM goal of 1,800 miles, which is based on its 2020 performance of 1,878 miles, but PG&E also relies on an internal contingency goal of 2,400 miles.<sup>37</sup> PG&E's 2021 WMP established an annual goal of

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<sup>34</sup> Ibid.

<sup>35</sup> PG&E, May 6, 2021 CAP, Attachment J, available at [pge-corrective-action-plan\\_050621.pdf](https://www.pge.com/content/dam/pge-ca/documents/cap-90-day-report_08-01-22.pdf) (ca.gov).

<sup>36</sup> PG&E, August 1, 2022 CAP Update, Attachment B, available at [cap-90-day-report\\_08-01-22.pdf](https://www.pge.com/content/dam/pge-ca/documents/cap-90-day-report_08-01-22.pdf).

<sup>37</sup> The 2021 EVM Scope of Work identifies 2,422.4 total miles. PG&E, May 6, 2021 CAP, 2021 EVM Scope of Work, Attachment E, available at [pge-corrective-action-plan\\_050621.pdf](https://www.pge.com/content/dam/pge-ca/documents/cap-90-day-report_08-01-22.pdf) (ca.gov).



1,800 miles by December 31, 2021.<sup>38</sup> PG&E established the following quarterly targets to reach its goal of 1,800 miles by December 31, 2021:

- June 1, 2021: 210 miles
- September 1, 2021: 850 miles (640 miles of work)
- December 31, 2021: 1,800 miles (950 miles of work)

PG&E's milestones for 2021 required it to increase its rate of EVM work by more than three-fold in the second half of the year in order to reach its annual goal. PG&E met the quarterly targets, as well as its annual goal.

Based on the information it provided, the Commission finds that PG&E has provided sufficient information to satisfy CAP Element 13.

**CAP Element 14: A description of how the Corrective Action Plan proposed in response to this Resolution will complement and not undermine PG&E's compliance activities ordered in D.20-05-019.-**

In the May 6, 2021, CAP, PG&E stated that Element 14 addresses the effect of the CAP on the 20 System Enhancement Initiatives that PG&E committed to complete within five years as part of the settlement to the Wildfire Order Instituting Investigation (OII), which were approved as modified by D.20-05-019 (the Wildfire OII Settlement). The 20 System Enhancement Initiatives pertain to community engagement, increased transparency, analysis of PG&E's electrical system, electrical operations, and vegetation management programs. The May 6, 2021 CAP provides a table summarizing the System Enhancement Initiatives and PG&E's planned coordination with the CAP for each initiative.<sup>39</sup> PG&E concluded that the CAP is either complementary or has no effect (and therefore does not undermine the System Enhancement Initiatives).

Based on the information it provided, the Commission finds that PG&E has provided sufficient information for CAP Element 14.

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<sup>38</sup> PG&E, 2021 Wildfire Mitigation Plan – Revised, June 3, 2021, at 9, available at [2021-Wildfire-Safety-Plan-Revised-060321.pdf \(pge.com\)](https://www.pge.com/~/media/Files/2021/Wildfire-Safety-Plan-Revised-060321.pdf).

<sup>39</sup> PG&E, May 6, 2021 CAP, Table 2, at 26-27, available at [pge-corrective-action-plan\\_050621.pdf \(ca.gov\)](https://www.pge.com/~/media/Files/2021/CAP/plan_050621.pdf).

**Summary of Assessment**

Resolution M-4852 ordered PG&E to explain in detail how it will both perform risk modeling and use the results of risk modeling to ensure the highest risk power lines are prioritized for vegetation management under its 2021 EVM program before working lower risk lines. The resolution also required PG&E to proactively and accurately report to the Commission changes to its risk modeling, report the location of where it intends to engage in EVM, and demonstrate that it is prioritizing high risk power lines for EVM work. PG&E's May 6, 2021 CAP and the subsequent 90-day updates, explained in detail how it performs risk modeling and uses the results of risk modeling. PG&E provided details of how it implemented risk-based prioritization of EVM work in 2021 based on the Wildfire Distribution Risk Model and the Tree-Weighted Prioritization List, which ensures that the highest risk power lines are prioritized for vegetation management before working lower risk lines. PG&E also proactively reported changes to its risk modeling and output, accurately reported to the Commission the location of where it intends to engage in EVM, and demonstrated that it is prioritizing high risk power lines for EVM work. PG&E demonstrated that it communicates its risk-based priorities to its staff and contract EVM staff. Finally, PG&E provided sufficient information that documented how it developed the 2021 list of EVM projects and EVM decision-making by the Vegetation Management Board and Wildfire Risk Governance Steering Committee.

Based on the May 6, 2021 CAP and the subsequent 90-day updates, and the information gathered during Commission workshops, data requests, field visits, and interviews, PG&E made sufficient progress with regard to risk-driven wildfire mitigation efforts. The Commission finds that PG&E satisfied the requirements set forth in Resolution M-4852 and is authorized to exit Step 1 of Enhanced Oversight and Enforcement.

Nothing in this Resolution limits the Commission's authority to place Pacific Gas and Electric Company into any step set forth in Decision 20-05-053's Enhanced Oversight and Enforcement process at any time.

**COMMENTS**

Comments on the Draft Resolution M-4864 were filed on November 3, 2022 by Lake County, Rural County Representatives of California and the California State Association of Counties (RCRC/CSAC), California Public Advocates Office (Cal Advocates) and The Utility Reform Network (TURN), Bob Johnston, Indivisible-California Green Team (Green Team), the Environmental Committee of the Valley Women's Club (Valley Women's Club), and Jennie Dushek. The Comments appear on the Commission's website at [Enhanced Oversight and Enforcement of PG&E \(ca.gov\)](https://www.cpuc.ca.gov/enhanced-oversight-and-enforcement-of-pg-e).

Many of the parties' comments raise concerns over whether PG&E removes felled wood and slash (debris that results from the felling or destruction of trees) that results from PG&E's vegetation management activities. Parties point to their safety concerns with PG&E not removing trees or properly managing vegetation debris, as well as concerns about whether PG&E's EVM practices endanger species or utilize best practices for asset management and system hardening. See, e.g., Lake County, RCRC/DSAC, Bob Johnston, Green Team, Valley Women's Club, and Jennie Dushek. The issues raised by these commenters are beyond the scope of the Resolution, which focuses specifically on PG&E's prioritization of EVM work in relation to wildfire risk in 2020. One commenter, Bob Johnston, seeks to refute that PG&E is prioritizing areas for EVM focused on areas its modeling shows as highest risk but does not provide persuasive evidence to refute the conclusion of this Resolution. Resolution M-4852 placed PG&E into Step 1 due to the utility's failure to prioritize the riskiest power lines in its 2020 EVM practices. The scope of Resolution M-4852 intentionally targeted this specific failure with enhanced oversight by CPUC staff, and the year and a half of enhanced oversight has had its intended effect of correcting PG&E's 2020 EVM failure. None of the comments refute the conclusion in this Resolution that PG&E's prioritization of areas for EVM is now focused on areas its modeling shows as highest risk. Further, the CPUC will continue its oversight of PG&E in actions already initiated and that will continue separate from this process; these actions include close monitoring by the Independent Safety Monitor, and issuance of Administrative Consent Orders and Administrative Enforcement Orders addressing additional recent safety issues related to public safety power shutoffs and wildfire ignitions.

Cal Advocates' and TURN's comments ask the Commission to put PG&E in Step 2 of the EOE Process due to its involvement in the 2021 Dixie Fire (either by amending Draft Resolution M-4864 or by initiating a new EOE process) and open an Order to Show Cause (OSC) to examine PG&E's role in the fire. They also request that the Commission open an OII to examine PG&E's vegetation management, asset inspections, and asset maintenance failures throughout the past three years. They suggest the Commission may place PG&E into Step 4 of the EOE Process. The Commission's oversight of PG&E includes broad investigation and enforcement authority in addition to the EOE process, and we will take appropriate actions to hold PG&E accountable where merited. But the issues Cal Advocates and TURN raise are also beyond the scope of the current Resolution, which determines PG&E has met the conditions to exit Step 1 by demonstrating it is now adequately prioritizing EVM in areas of highest fire risk. Reply comments were filed on November 10, 2022 by PG&E. PG&E asserts that it met the conditions imposed by Resolution M-4852 and the concerns raised by the commenters are outside of the scope of Resolution M-4852.

As noted above, we have carefully considered the suggested changes proposed by parties in their comments and their reply comments to this Resolution. None of the comments refute the conclusion in this Resolution.

**FINDINGS**

1. Pacific Gas and Electric Company served its Corrective Action Plan and 90-day updates as required by Resolution M-4852.
2. Commission staff, in consultation with the Office of Energy Infrastructure Safety, reviewed the Corrective Action Plan and the subsequent 90-day updates.
3. Pacific Gas and Electric Company has demonstrated that it is prioritizing high risk lines for Enhanced Vegetation Management pursuant to the joint enhanced oversight conducted by the Commission and the Office of Energy Infrastructure Safety and meets all of the Step 1 conditions imposed by Resolution M-4852.

**THEREFORE IT IS ORDERED THAT:**

1. Pacific Gas and Electric Company has demonstrated that it is prioritizing high risk distribution lines for Enhanced Vegetation Management to the Commission's satisfaction and meets all of the Step 1 conditions imposed by Resolution M-4852. Pacific Gas and Electric Company is authorized to exit Step 1 of the Enhanced Oversight and Enforcement Process.
2. Nothing in this Resolution limits the Commission's authority to place Pacific Gas and Electric Company into any Step set forth in Decision 20-05-053's Enhanced Oversight and Enforcement Process at any time.
3. Nothing in this Resolution limits the Commission's authority to take actions to ensure safe and reliable gas and electric service, enforce its own orders or California law and regulation, or take any other steps to ensure Pacific Gas and Electric Company's system is designed, operated and maintained to mitigate catastrophic wildfire.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on December 1, 2022, the following Commissioners voting favorably thereon:

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Rachel Peterson  
Executive Director