



February 2, 2024

To: Pacific Gas and Electric Company (PG&E)
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Senior Director, Enterprise Compliance
300 Lakeside Drive
Oakland, CA 94612

SUBJECT: Office of Energy Infrastructure Safety’s Report on PG&E’s 2021 Substantial Vegetation Management Audit

Pursuant to the requirements of California Public Utilities Code section 8386.3(c)(5)(C), the Office of Energy Infrastructure Safety (Energy Safety) completed its final report on PG&E’s 2021 Substantial Vegetation Management (SVM) audit. Energy Safety finds that PG&E substantially complied with the substantial portion of the vegetation management requirements in its 2021 Wildfire Mitigation Plan Update.

The attached report follows Energy Safety’s publication of its SVM audit on October 20, 2023, and PG&E’s subsequent response on November 3, 2023. Pursuant to statutory requirements, a copy of this report is issued to PG&E, published on Energy Safety’s 2021 SVM Docket¹ and provided to the California Public Utilities Commission.

Sincerely,

A handwritten signature in black ink, appearing to read "Shannon O'Rourke".

Shannon O’Rourke
Deputy Director | Electrical Infrastructure Directorate
Office of Energy Infrastructure Safety

Cc:
Forest Kaser, CPUC
Leslie Palmer, CPUC
Anne Beech, PG&E

¹ All documents related to PG&E’s 2021 SVM audit are available on Energy Safety’s e-filing system under the “2021-SVM” docket and available here: (<https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2021-SVM> [accessed February 2, 2024]).



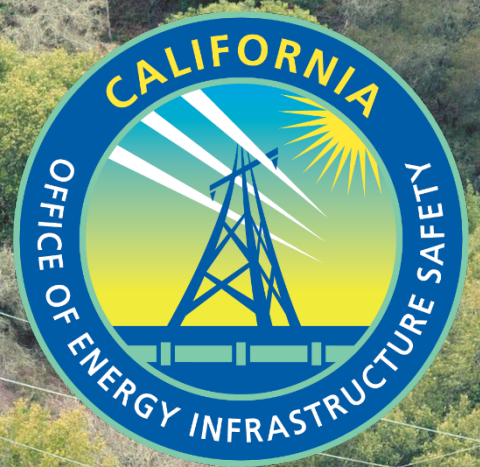
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OFFICE OF ENERGY INFRASTRUCTURE SAFETY
**2021 SUBSTANTIAL VEGETATION
MANAGEMENT AUDIT REPORT**
PACIFIC GAS AND ELECTRIC COMPANY

February 2024

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1. Background

Pursuant to Public Utilities Code section 8386.3(c)(5), the Office of Energy Infrastructure Safety (Energy Safety) must audit the vegetation management work performed by, or on behalf of, the electrical corporation. The audit shall specify any failure of the electrical corporation to fully comply with the vegetation management requirements in the Wildfire Mitigation Plan (WMP).¹ Energy Safety then provides the audit to the electrical corporation and grants it a reasonable time to correct and eliminate any deficiency specified in the audit.² Following receipt and review of the electrical corporation's Corrective Action Plan, Energy Safety issues an audit report to the electrical corporation identifying whether the electrical corporation substantially complied with the substantial portion of the vegetation management requirements in the applicable year.³ This document is Energy Safety's Report on the 2021 Substantial Vegetation Management (SVM) Audit of Pacific Gas and Electric Company (PG&E).

To conduct the 2021 SVM Audit, Energy Safety identified both quantitative commitments (e.g., miles of lines to inspect) and verifiable statements (e.g., training of personnel) in the vegetation management section of PG&E's 2021 WMP Update and conducted an audit to determine if PG&E performed the work required by each of those commitments and statements.

Energy Safety reviewed all 20 initiatives pertaining to vegetation management in PG&E's 2021 WMP Update. Energy Safety's audit found that PG&E did not perform all the work specified in nine out of the 20 vegetation management initiatives in its 2021 WMP Update, however four of the nine incomplete initiatives were the result of PG&E cross-referencing initiatives in its 2021 WMP Update. For the remaining five initiatives, Energy Safety's audit found that PG&E was unable to provide supporting documentation or information reflecting completion of commitments made in its 2021 WMP Update regarding its vegetation management initiatives.

On October 20, 2023, Energy Safety published its 2021 SVM Audit⁴ of PG&E's work that identified where PG&E did not perform all the vegetation management work required by its WMP, specified corrective actions pertaining to the audit and required PG&E to provide a

¹ Pub. Util. Code, § 8386.3(c)(5)(A)

² Ibid.

³ Pub. Util. Code, § 8386.3(c)(5)(C); 2023 Compliance Guidelines, Section 6.1, page 14 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55586&shareable=true>, accessed December 15, 2023) Pub. Util. Code, § 8386.3(c)(5)(C)

⁴ Published on Energy Safety's e-filing system in the 2021 WMP Substantial Vegetation Management Audits docket and available here: (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55845&shareable=true>, [accessed January 4, 2024]).

Corrective Action Plan. On November 11, 2023, PG&E timely provided its Corrective Action Plan and included supporting documentation.⁵

2. 2021 SVM Audit Findings

As stated in the SVM Audit, PG&E's 2021 WMP Update identified 20 vegetation management initiatives. Energy Safety found that PG&E did not perform all the work specified in nine of the 20 initiatives audited, however four of the nine incomplete initiatives were the result of PG&E cross-referencing initiatives. Therefore, there were five distinct initiatives with findings.⁶

Table 1 below summarizes Energy Safety's findings from its 2021 PG&E SVM Audit. There were 12 findings across the five initiatives.

Table 1: Findings from Energy Safety's 2021 SVM Audit of PG&E

Initiative Number and Name ⁷	Finding	Corrective Action
7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	3. PG&E did not reach the targets of LiDAR flown for NERC and non-NERC lines in 2021.	PG&E shall a) provide an explanation for why it did not meet its target for LiDAR flown for NERC and non-NERC lines, b) detail the steps it's taking to ensure vegetation management operations are consistent with the targets stated in the WMP, and c) detail the steps it's taking to ensure PG&E's database (ETGIS) accurately portrays the miles in the field.
7.3.5.3: Detailed Inspections of Vegetation Around	4. PG&E did not provide documentation showing ROW Expansion	PG&E shall a) confirm PG&E cannot provide documentation showing different fuel treatment

⁵ PG&E's SVM Audit Corrective Action Plan is published on Energy Safety's e-filing system in the 2021 WMP Substantial Vegetation Management Audits docket and available here:

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55938&shareable=true>, [accessed January 4, 2024]).

⁶ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, pages 1-5.

⁷ The number is the order in which the finding was listed in the PG&E SVM Audit. For the purpose of this report, they are ordered in terms of order of discussion in section 3 below.

Initiative Number and Name ⁷	Finding	Corrective Action
Transmission Electric Lines and Equipment	program treated vegetation via chipping or lopping and scattering 2021.	types in this program, and b) detail the steps it's taking to track ROW Expansion program vegetation management treatments as described in the WMP.
7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	5. PG&E did not formally document its prioritization of the Integrated Vegetation Management (IVM) projects in 2021.	PG&E shall detail the steps it's taking to ensure vegetation management operations are consistent with statements made in this initiative of the WMP.
7.3.5.17: Substation Inspections	8. PG&E did not meet the inspection targets for Electric Distribution Substations within or adjacent to Tier 2 and Tier 3 High Fire Threat District (HFTD).	PG&E shall detail the steps it is taking to: a) ensure that within its future Electrical Corporation Annual Reports on Compliance (EC ARCs), it documents any deviations from the targets stated in its WMP, and b) ensure vegetation management operations are consistent
7.3.5.17: Substation Inspection	9. PG&E did not meet the inspection targets for Electric Distribution Substations not within or adjacent to Tier 2 and Tier 3 HFTD.	PG&E shall detail the steps it is taking to: a) ensure that within its future EC ARCs, it utilizes the programmatic cadence stated in its WMP to determine target completion, and b) ensure vegetation management operations are consistent with the targets stated in its WMP.
7.3.5.17: Substation Inspection	10. PG&E did not meet the inspection targets for Electric Transmission Substations not within	PG&E shall detail the steps it is taking to: a) ensure that within its future EC ARCs, it utilizes the programmatic cadence stated in

Initiative Number and Name ⁷	Finding	Corrective Action
	or adjacent to Tier 2 and Tier 3 HFTD.	its WMP to determine target completion, and b) detail the steps it is taking to ensure vegetation management operations are consistent with the targets stated in its WMP.
7.3.5.18: Substation Vegetation Management	11. PG&E did not meet the maintenance targets for Electric Distribution Substations within or adjacent to Tier 2 and Tier 3 HFTD.	PG&E shall detail the steps it is taking to: a) ensure that within its future EC ARCs, it documents any deviations from the targets stated in its WMP, and b) ensure vegetation management operations are consistent with the targets stated in its WMP.
7.3.5.18: Substation Vegetation Management	12. PG&E’s records did not clearly show it prioritized Electric Transmission Substation and Hydro facility maintenance based on HFTD Tiers.	PG&E shall a) provide clear records showing it prioritized Electric Transmission Substation and Hydro facility maintenance based on HFTD Tiers or provide an explanation as to why these clear records are not available, b) describe how it will clearly demonstrate in the future that it is prioritizing facility maintenance based on HFTD Tier, and c) detail the steps it is taking to ensure vegetation management operations are consistent with the targets stated in its WMP.
7.3.5.1: Additional Efforts to Manage Community and Environmental Impacts	1. PG&E did not communicate its community and environmental impacts	PG&E shall a) provide a reason why it did not conduct communication efforts in all the methods listed in this initiative of the WMP, and b) detail the

Initiative Number and Name ⁷	Finding	Corrective Action
	via text messaging in 2021.	steps it's taking to ensure vegetation management operations are consistent with statements made in this initiative of the WMP.
7.3.5.1: Additional Efforts to Manage Community and Environmental Impacts	2. PG&E did not continue discussions with CALFIRE and the Board of Forestry in 2021, only attending one public workshop regarding Forest Practice.	PG&E shall a) provide a reason why it did not continue discussions with CALFIRE and the Board of Forestry regarding Forest Practice Rules and Utility Exemptions in 2021 beyond attending the one public workshop, and b) detail the steps it's taking to ensure vegetation management operations are consistent with statements made in this initiative of the WMP.
7.3.5.14: Recruiting and Training of Vegetation Management Personnel	6. PG&E did not add program-specific courses for Transmission VM program.	PG&E shall provide evidence that it has added or plans to add the Transmission specific courses to the SLP.
7.3.5.14: Recruiting and Training of Vegetation Management Personnel	7. PG&E did not meet the requirement for the month six audit and instead completed the month six audit in month nine.	PG&E shall a) provide a reason why it failed to timely complete the month 6 audit, b) detail steps it's taking to ensure audits are timely completed.

3. Analysis of Corrective Action Plan

3.1 Initiative 7.3.5.3 Detailed Inspections of Vegetation around Transmission Electric Lines and Equipment

3.1.1 LiDAR Inspections

PG&E's 2021 WMP Update stated that PG&E would conduct Light Detection and Ranging (LiDAR) inspections on "approximately 6800 miles of [North American Electric Reliability Corporation] NERC Critical Lines" and "approximately 11,400 miles" of non-NERC transmission lines.⁸ Energy Safety's SVM Audit found that PG&E did not provide information consistent with the completion of its targets, completing 96.5% of the NERC line inspections and approximately 98% of the non-NERC transmission line inspections.⁹

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall a) provide an explanation for why it did not meet its target for LiDAR flown for NERC and non-NERC lines, b) detail the steps it's taking to ensure vegetation management operations are consistent with the targets stated in the WMP, and c) detail the steps it's taking to ensure PG&E's database (ETGIS) accurately portrays the miles in the field.¹⁰

In response to a) of the corrective action, PG&E reiterated its response from data request (DR)-120 question 14, stating that it used the PG&E Electric Transmission Geospatial Information System (ET GIS) to establish its targets, but that there are discrepancies between the miles of transmission lines in ET GIS and the actual miles of transmission lines.¹¹

In response to b) of the corrective action, PG&E provided the following steps it is taking to continue to "improve vegetation management operations so that actual work performed is consistent with the targets stated in the WMP."¹²

1. Reviewing electric transmission line status with Transmission Asset Team;

⁸ PG&E's 2021 WMP Update, page 697.

⁹ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 24.

¹⁰ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

¹¹ PG&E 2021 SVM Corrective Action Plan, page 9.

¹² PG&E 2021 SVM Corrective Action Plan, page 10.

2. Validating LiDAR deliveries using [ET] GIS and the [Vegetation Asset Strategy & Analytics] VASA workplan that is tied to PG&E's WMP Commitment for inspection and work plan completion of transmission line LiDAR inspections; and,
3. Establishing annual targets based on Electric Transmission GIS data, instead of 'approximate targets' based on transmission line status review.

In response to c) of the corrective action, PG&E provided the following steps it is taking to ensure accuracy of its ET GIS:¹³

1. Verifying that contemporary/updated Electric Transmission GIS data is being used;
2. Using ArcMap or similar tool to calculate assigned line mileages from Electric Transmission GIS asset data; and,
3. For each transmission line:
 - a. Ensuring Line Names, Voltages, SAP_ID & NERC designations are correct.
 - b. Denoting all new Lines in the assignment.
 - c. Denoting all removed Lines in the assignment.
 - d. Identifying all parallel circuits and update those with prior year mileages.
 - e. Comparing calculated line miles to those provided in the work plan.
 - f. Comparing prior year line miles to prior year LIDAR alignments.

Energy Safety finds that PG&E's Corrective Action Plan sufficiently addresses the concerns identified by Energy Safety by detailing the steps it is taking to remedy the discrepancies between its ET GIS, the number of miles of transmission lines it has in the field, and the targets in the WMP. Therefore, Energy Safety finds that PG&E sufficiently addressed the audit finding and corrective action.

3.1.2 Rights of Way Expansion Program

PG&E's 2021 WMP Update states that its Rights of Way (ROW) Expansion program treats vegetation by chipping onsite "with an off-road-tracked chipper machine or masticated in place where it is reasonable to do so. Areas inaccessible to machinery have fuel treatments of lop and scatter."¹⁴ Energy Safety's SVM Audit found that PG&E did not provide documentation to demonstrate that chipping, masticating, or lopping and scattering treatments occurred.¹⁵

Energy Safety's SVM Audit provided the following corrective action:

¹³ PG&E 2021 SVM Corrective Action Plan, page 10.

¹⁴ PG&E's 2021 WMP Update, page 697.

¹⁵ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 25.

PG&E shall a) confirm PG&E cannot provide documentation showing different fuel treatment types in this program, and b) detail the steps it's taking to track ROW Expansion program vegetation management treatments as described in the WMP.¹⁶

PG&E responded to the correction action plan by stating:

(a) PG&E performed chipping and lopping and scattering as part of its ROW Expansion program in 2021. These activities were performed in accordance with standard industry practice. At this time, our operational practices do not require tracking slash management methods by circuit name, date, or location. (b) Fuel treatment types are not currently tracked or documented as part of the ROW [E]xpansion program. However, as stated in the 2021 WMP Update, slash and fuels from VM work is chipped onsite with an off-road tracked chipper machine or masticated in place where it is reasonable to do so.¹⁷

Because PG&E did not provide documentation regarding the mastication, lopping and scattering, or onsite chipping described by the WMP, Energy Safety cannot verify that PG&E complied with this requirement. Energy Safety does not find it credible or reasonable that PG&E has no documentation of this work if performed. Further, PG&E did not provide the steps it is taking to track ROW Expansion program vegetation treatment types. Energy Safety notes that PG&E's ROW Expansion program is not included in its 2023 WMP by name, suggesting PG&E has since discontinued this program. However, rather than explaining why the treatment types were not tracked or documented, why the program was abandoned, or explaining how it will track other vegetation management programs as described in the WMP, PG&E provided a response devoid of relevant information.

Therefore, Energy Safety finds that PG&E's Corrective Action Plan did not sufficiently address the concerns Energy Safety identified in the SVM Audit.

3.1.3 Prioritization of Integrated Vegetation Management Projects

PG&E's 2021 WMP Update, states that its Integrated Vegetation Management (IVM) Program is prioritized "based on aging of work cycles and evaluation of vegetation re-growth."¹⁸

To confirm that PG&E prioritized the IVM work in this way, Energy Safety asked PG&E to explain how it prioritized the work. In responding, PG&E indicated that the plan for its 2021 IVM work wasn't formally documented into any specific database of record.¹⁹ Energy Safety's

¹⁶ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

¹⁷ PG&E 2021 SVM Corrective Action Plan, pages 10-11.

¹⁸ PG&E's 2021 WMP Update, page 697.

¹⁹ PG&E SVM Audit, page 26.

SVM Audit found that PG&E did not provide information consistent with completion of the statement regarding its prioritization of work.

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall detail the steps it's taking to ensure vegetation management operations are consistent with statements made in this initiative of the WMP.²⁰

In its Corrective Action Plan, PG&E states: "Our teams follow an operational practice that includes a review of the program scope and a comparison of the scope to the past project history for a particular circuit."²¹ PG&E further states that in 2022 it began to formally document its prioritization of IVM projects.²² PG&E's response lacks the detail requested regarding the manner in which PG&E would ensure vegetation management operations are consistent with its WMP. Furthermore, the response to the request for corrective action does not provide any insight regarding how PG&E will remedy this lack of transparency into its vegetation management prioritization in the future. Therefore, Energy Safety finds that PG&E did not sufficiently address the SVM Audit finding and corrective action.

3.2 Initiative 7.3.5.17 Substation Inspections

3.2.1 Distribution Substations within or adjacent to Tier 2 and 3 HFTD

PG&E's 2021 WMP Update stated that it would inspect 176 electric distribution substations within or adjacent to Tier 2 and Tier 3 High Fire Threat Districts (HFTD)²³ between November 15, 2020 and November 15, 2021.²⁴ Energy Safety's SVM Audit found that PG&E provided inspection documentation of only 170 substations.²⁵

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall detail the steps it is taking to: a) ensure that within its future EC ARCs, it documents any deviations from the targets stated in its WMP, and b) ensure vegetation management operations are consistent with the targets stated in its WMP.²⁶

In its Corrective Action Plan, PG&E states that it changed the target from 176 to 170 "due to combining substations with two or more locations into one substation location,"²⁷ and states

²⁰ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

²¹ PG&E's Corrective Action Plan, page 11.

²² DR-120, response to question 20a.

²³ PG&E's 2021 WMP Update, pages 743-744.

²⁴ PG&E's 2021 WMP Update, page 743, footnote 94.

²⁵ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 55.

²⁶ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

²⁷ PG&E Corrective Action Plan, page 12.

that, in the future, it would “indicate in its quarterly reporting and Annual Report on Compliance when targets have changed during a year, but the change is not sufficient to meet the Change Order threshold.”²⁸ As a preliminary matter, it is not within the electrical corporation’s discretion to unilaterally change components of its plan, inclusive of targets, outside of the change order process. PG&E goes on to state that it “will continue to review WMP targets and ensure that its operations are consistent with these targets. When targets need to change during a year, PG&E will seek a change order where appropriate or indicate the changes in quarterly and annual reporting.”²⁹ PG&E remains responsible for complying with the requirements in its approved WMP and for reporting failures to meet those requirements. During the compliance process, Energy Safety may consider whether the inability to meet a target is acceptable for an appropriately documented reason.

PG&E did not identify the rationale for its change in counting procedure, nor did it indicate when it began to count substations differently, identify the substations that it now counts differently, or provide records establishing that all 176 substations were inspected. PG&E did not provide records or documentation that would account for this omitted information, nor state that it did not keep such information during the course of this SVM Audit or in response to the request for corrective action. Therefore, PG&E’s response to the corrective action did not provide sufficient information for Energy Safety to be able to conclude whether the 170 substations tracked under PG&E’s revised approach to counting substations for inspection did in fact cover all 176 of the substations targeted under the counting approach in place when its 2021 WMP was approved.

While PG&E did provide a sufficient response addressing its plan to ensure it documents future deviations from targets as required in part a), it did not provide the steps it will take to ensure consistency between the WMP and its vegetation management operations as required in the corrective action part b. Therefore, since not all corrective actions were addressed, Energy Safety finds that PG&E did not sufficiently address the SVM Audit finding and corrective action.

3.2.2 Distribution Substations not within Tier 2 and 3 HFTD

PG&E’s 2021 WMP Update, stated it would inspect 263 electric distribution substations not within Tier 2 or 3 HFTD³⁰ between November 15, 2020 and November 15, 2021.³¹ Energy Safety’s SVM Audit found that PG&E inspected 194 distribution substations not within Tier 2 and Tier 3 HFTD *before* November 2020 (during the months of July through October 2020),

²⁸ PG&E Corrective Action Plan, page 13.

²⁹ PG&E Corrective Action Plan, page 13.

³⁰ PG&E’s 2021 WMP Update, page 744.

³¹ PG&E’s 2021 WMP Update, page 743, footnote 94.

and that during the November-to-November time period, PG&E inspected only 86 of the 194 substations.³²

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall detail the steps it is taking to: a) ensure that within its future EC ARCs, it utilizes the programmatic cadence stated in its WMP to determine target completion, and b) ensure vegetation management operations are consistent with the targets stated in its WMP.³³

In its Corrective Action Plan, PG&E makes two assertions.

First, PG&E states that in counting 86 substations, Energy Safety overlooked inspections because PG&E performed 95 inspections during the November-to-November time period.³⁴ In support, PG&E provides a spreadsheet that lists inspection locations and dates. The spreadsheet, however, contains inconsistent information in three separate columns related to work performed.³⁵ PG&E's documentation lacks the detail necessary for Energy Safety to be able to confirm whether PG&E's assertion it performed 95 inspections is accurate. Therefore, Energy Safety concludes that PG&E performed 95 inspections during the compliance period.

Second, PG&E states that it "proactively started inspecting non-HFTD substations in July 2020 and completed these inspections in November 2021."³⁶ PG&E explained it started early because of "the importance of this program and the desire to create defensible space."³⁷

The 280 substations inspected (counting 194 and 86 together) exceed the 263 required by the WMP. However, as approved, PG&E's WMP contained a commitment that it would complete 263 inspections within the stated period. The inspections slated for completion before that time should not have been accounted for in the plan submitted in February of 2021.

Energy Safety understands PG&E's rationale for performing the inspections early. What is concerning for the purposes of this audit report is that PG&E specified this work would be done from November 2020 through November 2021 in a WMP that was submitted in February 2021, seven months after PG&E states that it actually initiated this work. PG&E provides no explanation for why it did not explain or account for the early inspections conducted prior to the plan submission in February 2021 nor the revised plan submitted in June 2021. The accounting is at best sloppy and at worst intentionally deceptive.

³² Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 55.

³³ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

³⁴ PG&E's 2021 SVM Corrective Action Plan, page 13.

³⁵ Two columns are titled "Completed Nov-2020 to Nov-2021" and the third column is titled "PG&E Assessment Completed Nov-2020 to Nov-2021".

³⁶ PG&E 2021 SVM Corrective Action Plan, page 13.

³⁷ PG&E 2021 SVM Corrective Action Plan, page 13.

Because PG&E did not detail the steps it is taking, or will take, to ensure its programs adhere to commitments in the WMP, as well as the steps it is taking to ensure operations are consistent with the targets stated in the WMP, Energy finds that PG&E did not sufficiently address the SVM Audit finding and corrective action.

3.2.3 Transmission Substations not within Tier 2 and 3 HFTD

PG&E's 2021 WMP Update stated it would complete 41 inspections of electric transmission substations not within or adjacent to Tier 2 and Tier 3 HFTD³⁸ between November 15, 2020 and November 15, 2021.³⁹ Energy Safety's SVM Audit found that *before* November 2020, PG&E inspected 19 substations and during the November-to-November period, PG&E inspected 22 substations.⁴⁰ In response to a data request, PG&E stated that it began the inspections early due to environmental concerns, property owner issues, and permitting.⁴¹

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall detail the steps it is taking to: a) ensure that within its future EC ARCs, it utilizes the programmatic cadence stated in its WMP to determine target completion, and b) detail the steps it is taking to ensure vegetation management operations are consistent with the targets stated in its WMP.⁴²

In its Corrective Action Plan, PG&E includes a correction to the SVM Audit that one of the substations Energy Safety counted as being inspected prior to November 2020 was inspected in early 2021. However, the total count of transmission substations inspected not within or adjacent to Tier 2 and Tier 3 HFTD (41 substations) did not change.⁴³ Therefore, PG&E still did not perform 18 of the inspections during the time required by the WMP.

PG&E also states that its target "could have been more precise" and it had "proactively started inspecting non-HFTD transmission substations in August 2020 and completed these inspections in October 2021."⁴⁴ As with the distribution substations, PG&E justifies conducting the inspections before November of 2020 based on "the importance of this program and the desire to create defensible space."⁴⁵ However, Energy Safety notes that PG&E did not answer the corrective action by detailing the steps to ensure within future EC ARCs it would use the programmatic cadence in the WMP to determine target completion.

PG&E's response continues:

³⁸ PG&E's 2021 WMP Update, page 746.

³⁹ PG&E's 2021 WMP Update, page 743, footnote 94.

⁴⁰ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 56.

⁴¹ DR-169 Supplemental Response.

⁴² Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

⁴³ PG&E 2021 SVM Corrective Action Plan, page 14.

⁴⁴ PG&E 2021 SVM Corrective Action Plan, page 14.

⁴⁵ PG&E 2021 SVM Corrective Action Plan, page 14.

After these initial 2020-2021 inspections, we have not included in subsequent WMPs targets for non-HFTD electric transmission substation inspections for achieving defensible space. b) As we indicated in subpart (a), transmission substation inspections for defensible space in non-HFTD areas have not been included in subsequent WMPs.⁴⁶

Rather than explaining how it would ensure it utilized programmatic cadences for other WMP programs toward target completion and detailing the steps it is taking to ensure operations in other programs are consistent with the targets in the WMP, PG&E simply opted to provide a response devoid of relevant information. PG&E stated in part a) that it did not include targets in subsequent WMPs, then in part b) it said it did not include the inspection program in subsequent WMPs.⁴⁷

As stated above, Energy Safety understands the rationale for conducting the inspections early, however, PG&E was aware of its early inspections when it committed to the timeline specified in the approved WMP. Energy Safety assesses compliance with the WMP requirements as detailed in the approved WMP, which specified 41 inspections between November of 2020 through November of 2021. Therefore, Energy finds that PG&E did not sufficiently address the SVM Audit finding and corrective action.

3.3 Initiative 7.3.5.18 Substations Vegetation Management

3.3.1 Maintenance at Distribution Substations within or adjacent to Tier 2 and 3 HFTD

PG&E's 2021 WMP Update, stated it would perform maintenance at 176 electric distribution substations within, or adjacent to, Tier 2 and Tier 3 HFTD areas.⁴⁸ However, the audit found that PG&E performed the maintenance at only 170 of those substations.⁴⁹

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall detail the steps it is taking to: a) ensure that within its future EC ARCs, it documents any deviations from the targets stated in its WMP, and b) ensure vegetation management operations are consistent with the targets stated in its WMP.⁵⁰

⁴⁶ PG&E 2021 SVM Corrective Action Plan, page 14.

⁴⁷ PG&E 2021 SVM Corrective Action Plan, page 14.

⁴⁸ PG&E's 2021 WMP Update, page 748.

⁴⁹ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 60.

⁵⁰ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

In its Corrective Action Plan, PG&E stated it changed the number from 176 to 170 “due to the sale or decommissioning of assets as well as grouping co-located facilities” and did not submit a Change Order due to the lowered target being below the threshold of five percent.⁵¹ Additionally, PG&E states that, in the future, it would indicate in its “quarterly reporting and Annual Report on Compliance when targets have changed during a year, but the change is not sufficient to meet the Change Order threshold.”⁵²

Contrary to the information provided during the audit, PG&E states that it only completed work at 166 of the substations during the planned timeframe and did not complete the work at the remaining four until 2022. PG&E attributed the delay to the coastal development permit process.⁵³

Again, as a preliminary matter, it is not within the discretion of the electrical corporation to alter its targets outside of the change order process. Instead, during the audit, the electrical corporation may provide a justification and relevant data as to why the target could not be met. Furthermore, PG&E must be transparent about the number of inspections completed in furtherance of its plan during the relevant plan period.

In response to part b), PG&E states that it would “continue to review WMP targets and ensure its operations are consistent with these targets.”⁵⁴

These responses are inconsistent. Either PG&E chose to perform the work at 170 substations or PG&E performed the work at all 176 substations but now counts them as 170. Further, assuming these are the same substations described under Initiative 7.3.5.17, the responses are inconsistent with the responses PG&E gave regarding inspections in the prior finding. Regarding inspections, PG&E stated that it now counts the substations as 170 “due to combining substations” (see Section 3.2.1 above). Here, PG&E adds the reason that PG&E sold or decommissioned unidentified “assets as well as group[ed] co-located facilities.” PG&E did not state the date it began to count substations differently, identify the substations that it now counts differently, or provide records establishing that the work was performed at all 176 substations.

Energy Safety can only assess compliance based on the information before the department. Throughout this audit process, PG&E failed to provide appropriate documentation to support its assertions and has provided conflicting information regarding its substation vegetation management.

Energy Safety finds that PG&E completed the work at 170 substations and PG&E’s response to the corrective action did not provide sufficient information for Energy Safety to be able to conclude whether the 170 substations tracked under PG&E’s revised approach to counting

⁵¹ PG&E 2021 SVM Corrective Action Plan, page 15.

⁵² PG&E 2021 SVM Corrective Action Plan, page 15.

⁵³ PG&E 2021 SVM Corrective Action Plan, page 15.

⁵⁴ PG&E 2021 SVM Corrective Action Plan, page 15.

substations for inspection did in fact cover all 176 of the substations targeted under the counting approach in place when its 2021 WMP was approved.

Therefore, Energy Safety finds that PG&E did not sufficiently address the SVM audit finding and corrective action.

3.3.2 Vegetation Management Work at Transmission Substations and Hydroelectric Facilities

PG&E's 2021 WMP Update, stated it would prioritize the work based on HFTD Tiers, specifically stating "In 2021, ... compliance work will be prioritized from highest (Tier 3) to lowest (Tier 2) HFTD area."⁵⁵ Energy Safety's SVM Audit found that PG&E did not perform work at all the electric transmission substations and hydroelectric facilities in Tier 3 before working at the Tier 2 sites.⁵⁶

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall a) provide clear records showing it prioritized Electric Transmission Substation and Hydro facility maintenance based on HFTD Tiers or provide an explanation as to why these clear records are not available, b) describe how it will clearly demonstrate in the future that it is prioritizing facility maintenance based on HFTD Tiers, and c) detail the steps it is taking to ensure vegetation management operations are consistent with the targets stated in its WMP.⁵⁷

In its Corrective Action Plan, PG&E states that it prioritized the work "prior to July when a typical fire season begins. In addition to Tier 3 HFTD, the prioritization list of substation mitigations was also determined by geographic conditions, elevation range, and vegetation types at each facility and not by HFTD designation alone."⁵⁸ PG&E stated that some Tier 3 sites still had snow during the time that some Tier 2 sites were beginning to dry and become a fire risk.⁵⁹ PG&E also stated that work was required at "more Tier 2 HFTD sites compared to Tier 3 HFTD sites, so more sites would get delayed treatments if the focus was solely on Tier 3 HFTD's as the highest priority."⁶⁰ PG&E claims its mitigation work was "prioritized based on sound risk reduction rationale including the aforementioned examples along with the HFTD Tier designation."⁶¹

Energy Safety accepts PG&E's explanation for its approach to prioritizing the maintenance work based upon criteria that relate to the objective of reducing ignition risk. For these

⁵⁵ PG&E's 2021 WMP Update, page 750.

⁵⁶ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 61.

⁵⁷ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, pages 66-67.

⁵⁸ PG&E 2021 SVM Corrective Action Plan, page 16.

⁵⁹ PG&E 2021 SVM Corrective Action Plan, page 16.

⁶⁰ PG&E 2021 SVM Corrective Action Plan, page 16.

⁶¹ PG&E 2021 SVM Corrective Action Plan, page 16.

reasons, Energy Safety finds that PG&E sufficiently addressed the SVM Audit finding and corrective action. Energy Safety finds that PG&E performed the work for this requirement.

3.4 Initiative 7.3.5.14 Recruiting and Training of Vegetation Management Personnel

3.4.1 Course for Transmission Vegetation Management Programs

PG&E's 2021 WMP Update, states PG&E "anticipate[d] adding program-specific courses for... Transmission [Vegetation Management] VM programs."⁶² Energy Safety's SVM Audit found that PG&E did not add a transmission vegetation management course in 2021.⁶³

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall provide evidence that it has added or plans to add the transmission specific course to the SLP.⁶⁴

In its Corrective Action Plan, PG&E states that it did not commit to adding a program-specific course for Transmission VM in 2021. PG&E notes that the 2021 WMP Update specifically states that "PG&E anticipates adding program-specific courses for our Distribution and Transmission VM Programs." PG&E states that it recognizes the importance of training and will continue to evolve its VM training programs, including the addition of the VEGM-0700 (Transmission Inspection Procedure) course in 2023 to support the updated procedure changes for the Transmission VM program.⁶⁵

PG&E's Corrective Action Plan stated it added transmission vegetation inspection training to its vegetation program training requirements in 2023. Therefore, Energy Safety finds that PG&E sufficiently addressed the SVM Audit finding and corrective action. Energy Safety finds that PG&E performed all the work for this requirement.

3.4.2 Audits of Vegetation Management Personnel

PG&E's 2021 WMP Update, under Initiative 7.3.5.14 (Recruiting and Training of Vegetation Management Personnel), states PG&E would complete audits of its personnel at specified intervals, including one six months into the year.⁶⁶ Energy Safety's SVM Audit found that PG&E completed an audit nine months into the year, not six months.⁶⁷

⁶² PG&E's 2021 WMP Update, page 730.

⁶³ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 48.

⁶⁴ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 65.

⁶⁵ PG&E 2021 SVM Corrective Action Plan, page 11.

⁶⁶ PG&E's 2021 WMP Update, page 731.

⁶⁷ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 49.

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall a) provide a reason why it failed to timely complete the month 6 audit, b) detail steps it's taking to ensure audits are timely completed."⁶⁸

In its Corrective Action Plan for part a), PG&E states that "PG&E believes we implemented the audit documentation feature in the Structured Learning Path (SLP) as intended in the 2021 WMP Update. However, [PG&E] did not effectively enforce the timeline as written due to the significant onboarding of EVM workforce and thus, in the example provided, the audit was conducted at the nine-month interval rather than the six-month interval."⁶⁹ For part b), PG&E states:

Leveraging an audit documentation procedure was originally intended to validate the quality of the pre-inspection coworkers. While at the time we felt this process was the best way to track progress, we have since implemented a multi-layer quality inspection process to drive overall performance improvement, including that of the pre-inspectors. Our quality inspection process includes three field quality assessments (i.e., knowledge test, work practices, and safety oversight) and a post-work Quality Control (QC) and Quality Assurance (QA) validation. As a result of this, PG&E determined that the quality process we have implemented is more effective at tracking the progress of our organization. PG&E will continue to enhance its vegetation management training.⁷⁰

PG&E recognized that it did not implement the timeline of the audits correctly. PG&E subsequently replaced the audit timeline with a different audit approach, which will need to be reviewed in the 2022 SVM.

Although PG&E did not perform the audit at six months, Energy Safety finds that PG&E performed essentially the same reviews in implementing the field quality assessments and the post-work assessments. Therefore, Energy Safety finds that PG&E sufficiently addressed the SVM Audit finding and corrective action.

⁶⁸ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 65.

⁶⁹ PG&E 2021 SVM Corrective Action Plan, page 12.

⁷⁰ PG&E 2021 SVM Corrective Action Plan, page 12.

3.5 Initiative 7.3.5.1 Additional Efforts to Manage Community and Environmental Impacts

3.5.1 Community and Environmental Impacts via Text Messaging

PG&E's 2021 WMP Update states that its:

Communication efforts focus on community and environmental impacts that provide program information, share plans and engage in partnerships where possible, including the promotion of utility compatible, fire-resistant landscaping education... The various forms of communication used include letters, postcards, door hangers, fact sheets, brochures, presentation materials, Interactive Voice Response outbound calling, web site, social media, email letters, texting, and work plan portals.⁷¹

Energy Safety's SVM Audit found that that PG&E did not communicate its community and environmental impacts via text messaging in 2021.⁷²

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall a) provide a reason why it did not conduct communication efforts in all the methods listed in this initiative of the WMP, and b) detail the steps it's taking to ensure vegetation management operations are consistent with statements made in this initiative of the WMP.⁷³

In its Corrective Action Plan, PG&E states that it believes it satisfied the requirement by providing examples of text messages from 2021 between vegetation management personnel and property owners.⁷⁴ PG&E further asserts that it began sending text messages to customers prior to vegetation management work, and committed to continuing to do so "as long as it aligns with Vegetation Management operational processes and is an effective customer communication tool."⁷⁵ Since PG&E used other media to reach the public related to community and environmental impacts, as well as proactively texting customers in 2021

⁷¹ PG&E's 2021 WMP Update, page 690.

⁷² DR-120, response to question 2k.

⁷³ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

⁷⁴ PGE 2021 SVM Audit Corrective Action Plan, page 6.

⁷⁵ PGE 2021 SVM Audit Corrective Action Plan, page 7.

regarding vegetation management activities, Energy Safety finds that PG&E sufficiently addressed the corrective action and satisfied the WMP requirement. Energy Safety finds that PG&E performed the work for this requirement.

3.5.2 Discussion with State Agencies

PG&E's 2021 WMP Update continues under Initiative 7.3.5.1 (Additional Efforts to Manage Community and Environmental Impacts) by stating that PG&E "continues discussion with the Board of Forestry and CAL FIRE regarding Forest Practice Rules and application of Utility Exemptions for VM and WMP Plan activities. Workshops are scheduled to begin in December 2020 and continue through 2021."⁷⁶ PG&E defined "workshops" to mean meetings with open communication.⁷⁷ However, the information that PG&E provided regarding work on Initiative 7.3.5.1 indicated that PG&E attended only one public workshop and, beyond that workshop, did not continue discussions with CAL FIRE and the Board of Forestry and Fire Protection regarding Forest Practice Rules and application of Electric Corporations Exemptions for VM and WMP activities in 2021.⁷⁸ Energy Safety's SVM Audit found that PG&E did not meet its commitment.

Energy Safety's SVM Audit provided the following corrective action:

PG&E shall a) provide a reason why it did not continue discussions with CALFIRE and the Board of Forestry regarding Forest Practice Rules and Utility Exemptions in 2021 beyond attending the one public workshop, and b) detail the steps it's taking to ensure vegetation management operations are consistent with statements made in this initiative of the WMP.⁷⁹

In its Corrective Action Plan, PG&E states that its communications were not limited to the one workshop in 2021.⁸⁰ As part of the response, PG&E provided Energy Safety additional documentation showing its legal team met with CAL FIRE and California Natural Resource Agency staff regarding Forest Practice Rules and Utility Exemptions in 2021. PG&E provided comments to the Board of Forestry and Fire Protection in 2023 regarding the interpretation of regulatory standards.⁸¹ Therefore, Energy Safety finds that PG&E sufficiently addressed the corrective action and satisfied the WMP requirement. Energy Safety finds that PG&E performed the work for this requirement.

⁷⁶ PG&E's 2021 WMP Update, page 691.

⁷⁷ DR-120, response to question 9a.

⁷⁸ 2021 Substantial Vegetation Management Audit of PG&E, page 19.

⁷⁹ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 66.

⁸⁰ PG&E 2021 SVM Corrective Action Plan.pdf.

⁸¹ PG&E 2021 SVM Corrective Action Plan, Attachment 08_7.3.5.1_Q002_PG&E Response to Board of Forestry Call for Regulatory Review (10/13/2023).pdf.

3.6 Summary of Determination

Table 2 summarizes Energy Safety's determination regarding the sufficiency of each of PG&E's Corrective Action Plan responses.

Table 2: Summary of Energy Safety's Analysis of PG&E's Responses and Corrective Action

Initiative Number and Name	Finding	Corrective Action Plan Response Determination
7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	3. ⁸² PG&E did not reach the targets of LiDAR flown for NERC and non-NERC lines in 2021.	Sufficient
7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	4. PG&E did not provide documentation showing ROW Expansion program treated vegetation via chipping or lopping and scattering 2021.	Insufficient
7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	5. PG&E did not formally document its prioritization of the Integrated Vegetation Management (IVM) projects in 2021.	Insufficient
7.3.5.17: Substation Inspections	8. PG&E did not meet the inspection targets for electric distribution Substations within or adjacent to Tier 2 and	Insufficient

⁸² The number is the order in which the finding was listed in the PG&E SVM Audit. For the purpose of this report, they are ordered in terms of order of discussion in section 3 above.

Initiative Number and Name	Finding	Corrective Action Plan Response Determination
	Tier 3 High Fire Threat District (HFTD).	
7.3.5.17: Substation Inspection	9. PG&E did not meet the inspection targets for electric distribution substations not within or adjacent to Tier 2 and Tier 3 HFTD.	Insufficient
7.3.5.17: Substation Inspection	10. PG&E did not meet the inspection targets for electric transmission substations not within or adjacent to Tier 2 and Tier 3 HFTD.	Insufficient
7.3.5.18: Substation Vegetation Management	11. PG&E did not meet the maintenance targets for electric distribution substations within or adjacent to Tier 2 and Tier 3 HFTD.	Insufficient
7.3.5.18: Substation Vegetation Management	12. PG&E’s records did not clearly show it prioritized electric transmission substation and hydro facility maintenance based on HFTD Tiers.	Performed All Work
7.3.5.1: Additional Efforts to Manage Community and Environmental Impacts	1. PG&E did not communicate its community and environmental impacts	Performed All Work

Initiative Number and Name	Finding	Corrective Action Plan Response Determination
	via text messaging in 2021.	
7.3.5.1: Additional Efforts to Manage Community and Environmental Impacts	2. PG&E did not continue discussions with CAL FIRE and the Board of Forestry in 2021, only attending one public workshop regarding Forest Practice.	Performed All Work
7.3.5.14: Recruiting and Training of Vegetation Management Personnel	6. PG&E did not add program-specific courses for Transmission VM program.	Performed All Work
7.3.5.14: Recruiting and Training of Vegetation Management Personnel	7. PG&E did not meet the requirement for the month six audit and instead completed the month six audit in month nine.	Sufficient

4. Substantial Compliance with the Substantial Portion of Vegetation Management

Substantial compliance with the substantial portion of vegetation management requirements means that:

- 1) The electrical corporation's deficiencies, after considering its planned corrective actions, have not detracted from the electrical corporation's ability to achieve the objectives of its vegetation management programs;
- 2) The electrical corporation's effort to fulfill the vegetation management requirement constituted a good faith effort to comply with the vegetation management requirements in the approved WMP; and
- 3) The electrical corporation completed the large majority of the vegetation management requirements in its approved WMP.⁸³

4.1 PG&E's Performance Under Criteria 1 and 2

Energy Safety's 2021 SVM Audit found that PG&E did not fully perform the work required for nine of the 20 initiatives audited, however four of the nine incomplete initiatives were the result of PG&E cross-referencing initiatives in its 2021 WMP Update. Within the remaining five incomplete initiatives, there were 12 unique findings.

PG&E's responses to the audit did not provide a basis for changing the following eight findings:

- SVM Audit Finding 8 (7.3.5.17: Substation Inspections): PG&E did not meet the inspection targets for electric distribution substations within or adjacent to Tier 2 and Tier 3 HFTD.
- SVM Audit Finding 9 (7.3.5.17: Substation Inspection): PG&E did not meet the inspection targets in the WMP for electric distribution substations not within or adjacent to Tier 2 and Tier 3 HFTD.
- SVM Audit Finding 11 (7.3.5.18: Substation Vegetation Management): PG&E did not meet the maintenance targets for electric distribution substations within or adjacent to Tier 2 and Tier 3 HFTD.
- SVM Audit Finding 4 (7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment): PG&E did not provide documentation showing the ROW Expansion program treated vegetation via chipping or lopping and scattering in 2021.
- SVM Audit Finding 5 (7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment): PG&E did not formally document its prioritization of the IVM projects in 2021.

⁸³ 2023 Compliance Guidelines, Section 6.1, page 15

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55586&shareable=true>, [accessed 1/4/2024]); Pub. Util. Code, § 8386.3(c)(5)(C)

- SVM Audit Finding 10 (7.3.5.17: Substation Inspections): PG&E did not meet the inspection targets for electric transmission substations not within or adjacent to Tier 2 and Tier 3 HFTD.
- SVM Audit Finding 3 (7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment): PG&E did not reach the targets of LiDAR flown for NERC and non-NERC lines in 2021.
- SVM Audit Finding 7 (7.3.5.14 Recruiting and Training of Vegetation Management Personnel): PG&E did not meet the requirement for the month six audit and instead completed the month six audit in month nine.

Of the 20 vegetation management initiatives contained within PG&E's 2021 WMP Update, Energy Safety finds the following six initiatives most directly prevent vegetation contact and manage fuels around electrical infrastructure:

- 7.3.5.2: Detailed Inspections of Vegetation around Distribution Electric Lines and Equipment⁸⁴
- 7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment
- 7.3.5.4: Emergency Response Vegetation Management Due to Red Flag Warning or other Urgent Conditions
- 7.3.5.5: Fuel Management and Reduction of "Slash" from Vegetation Management Activities
- 7.3.5.17: Substation Inspections
- 7.3.5.18: Substation Vegetation Management

Of these six initiatives, the audit found that PG&E did not perform all the required work for three initiatives: 7.3.5.3: Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment, 7.3.5.17: Substation Inspection, and 7.3.5.18: Substation Vegetation Management.

4.1.1 Inspection and Maintenance at Distribution Substations within or Adjacent to HFTD

PG&E's WMP Update required PG&E to inspect (Initiative 7.3.5.17) and maintain (Initiative 7.3.5.18) vegetation at 176 distribution substations within or adjacent to Tier 2 and 3 HFTD areas. The SVM Audit found that PG&E performed the work at 170 substations. For the reasons stated above, Energy Safety rejects PG&E's claim that it inspected all 176 substations and now counts them as 170. PG&E completed approximate 97% of substation inspections and maintenance. However, as discussed above, PG&E's explanation as to why it missed its

⁸⁴Energy Safety considers initiative 7.3.5.16, "Removal and Remediation of Trees with Strike Potential to Electric Lines and Equipment," important work required to prevent vegetation contact, however PG&E's 2021 WMP Update refers this initiative to initiatives 7.3.5.2 and 7.3.5.3.

initially set target and why it opted unilaterally to reduce its target were contradictory and lacking support. Nonetheless, given that PG&E completed a high percentage of its target, Energy Safety finds that it made a good faith effort to complete the work.

Regarding PG&E's effort to achieve the objectives of its vegetation management program by performing work at the substations, Energy Safety notes that the substations are located in Tier 2 and 3 HFTD areas. That fact means that, generally, the risk of a catastrophic wildfire as a result of vegetation contact at those substations is higher than at locations outside of HFTD areas. Energy Safety considers it unacceptable to omit inspections and vegetation management in Tier 2 or 3 HFTD areas. Because PG&E did not provide Energy Safety documentation demonstrating that it consolidated substation locations, had sold, or decommissioned its substations, Energy Safety cannot be certain PG&E inspected and performed vegetation management for all of its targeted distribution substations. For that reason, Energy Safety concludes that these omissions detracted from PG&E's efforts to reduce the risk of vegetation-related ignitions at its distribution substations.

PG&E's failure to adequately support its assertion that it completed all inspections, is concerning, particularly in light of PG&E's failure to inspect its hydroelectric substations in 2020.⁸⁵ In a 2021 letter, PG&E attributed the missed hydroelectric inspections to failures in leadership.⁸⁶ In that same letter, PG&E assured Energy Safety that PG&E would develop a "comprehensive asset inventory with programmatic oversight to ensure compliance," a "comprehensive, auditable asset maintenance and inspection program in accordance with internal standards," and that PG&E "will validate in the near term that [its] 2021 compliance requirements are accurately captured in the registry and included within scope of the 2021 work plan."⁸⁷

Despite these assurances, PG&E's corrective action response failed to explain how it would prevent similar oversights in the future, as Energy Safety's corrective action directed. Energy Safety expects PG&E to provide detailed, transparent, and accurate data in the future regarding substation inspections. Specifically, if PG&E sells assets or changes the inspection targets, these changes must be clearly explained so that Energy Safety is able to make an accurate determination of compliance.

4.1.2 ROW Expansion Program

As part of its ROW expansion program, (Initiative 7.3.5.3), PG&E's WMP Update required it to treat vegetation by chipping onsite "with an off-road-tracked chipper machine or masticated

⁸⁵ Letter to Caroline Thomas Jacobs, Director of Office of Energy Infrastructure Safety and Leslie Palmer, Director Safety and Enforcement Division dated March 4, 2021 from Deborah Powell PG&E Interim Head of Electric Operation.

⁸⁶ Letter to Caroline Thomas Jacobs, Director of Office of Energy Infrastructure Safety and Leslie Palmer, Director Safety and Enforcement Division dated May 20, 2021 from Deborah Powell PG&E Interim Head of Electric Operation.

⁸⁷ Letter to Caroline Thomas Jacobs, Director of Office of Energy Infrastructure Safety and Leslie Palmer, Director Safety and Enforcement Division dated May 20, 2021 from Deborah Powell PG&E Interim Head of Electric Operation.

in place where it is reasonable to do so.”⁸⁸ Because PG&E did not provide any documentation of the work, stating that it does not track the work, Energy Safety could not verify that PG&E performed any of the work. For that reason, Energy Safety cannot find that PG&E made a good faith effort to perform the work.

Due to PG&E’s inability to provide Energy Safety with documentation of the mastication, lopping and scattering of branches, and chipping work in this program, Energy Safety cannot determine that PG&E reduced its risk of wildfire spread via managing the fuels around its infrastructure. Should PG&E continue this program in the future, Energy Safety expects PG&E to provide documentation of all work performed to ensure Energy Safety is able to make an accurate determination of compliance.

4.1.3 IVM Project and Prioritization

In Initiative 7.3.5.3, PG&E’s WMP Update required PG&E, as part of its IVM Program, to prioritize the work “based on aging of work cycles and evaluation of vegetation re-growth.”⁸⁹ Because PG&E could not provide any documentation of the way it prioritized that work as it did not document its prioritization until 2022, Energy Safety could not verify that PG&E satisfied this requirement. For that reason, Energy Safety does not find that PG&E made a good faith effort to prioritize the work in the manner required by the WMP.

Regarding PG&E’s reduction of ignition risk, prioritizing the work was intended to reduce the risk. Because PG&E did not prioritize the work, PG&E did not fully achieve the planned reduction of risk. However, the audit found that PG&E conducted the work in 2021, and PG&E’s response to the corrective action indicates that in 2022, PG&E began documenting its process for planning this type of work. Consequently, Energy Safety concludes that the failure to document the prioritization of work in the required manner did not detract from PG&E’s ability to reduce the risk of ignitions through implementation of its IVM program. Energy Safety expects PG&E to provide timely updates regarding work prioritization to ensure the ability to make determinations regarding all work performed.

4.1.4 Distribution Substation Inspections not within Tier 2 and Tier 3 HFTD

In Initiative 7.3.5.17, PG&E’s WMP Update required PG&E to inspect 263 distribution substations not located within or adjacent to HFTD Tiers 2 or 3 between November of 2020 and November of 2021. Although PG&E inspected 280 substations, it did not inspect them in the time period required by the WMP, having inspected 194 before November 2020. PG&E inspected 86 during the November-to-November time period.

⁸⁸ PG&E’s 2021 WMP Update, page 697.

⁸⁹ PG&E’s 2021 WMP Update, page 697.

Although PG&E inspected only 86 substations during the time specified by the WMP, PG&E inspected 17 more substations than required by the WMP including the ‘early’ inspections. For that reason, Energy Safety concludes that PG&E made a good faith effort to fulfill the requirement.

Given PG&E’s missed inspections during 2020, and of the failure to inspect all the required substations in 2021, Energy Safety notes the possibility that a decision to inspect a location early could potentially mean that the same location is not inspected again for more than a year afterward. Here, however, PG&E exceeded the number of required inspections. For that reason, Energy Safety concludes that inspecting the substations before the specified time did not detract from PG&E’s efforts to reduce the risk of vegetation-related ignitions at substations. Energy Safety expects PG&E to provide timely updates should inspection schedule changes occur in the future to ensure Energy Safety is able to make an accurate determination of compliance.

4.1.5 Inspections and Maintenance at Transmission Substations

In Initiative 7.3.5.17, PG&E’s WMP Update required PG&E to inspect 41 transmission substations not located within or adjacent to Tiers 2 and 3 HFTD between November of 2020 and November of 2021. Although PG&E performed all 41 inspections, it did not inspect them in the time period required by the WMP, having inspected 18 before November 2020. PG&E inspected 23 during the November-to-November time period.

Although PG&E did not perform the inspections during the time specified by the WMP, PG&E did perform all the required inspections. For that reason, Energy Safety concludes that PG&E made a good faith effort to fulfill the requirement.

Given PG&E’s missed inspections during 2020, and of the failure to inspect all the required substations in 2021, Energy Safety notes the possibility that a decision to inspect a location early could potentially mean that the same location is not inspected again for more than a year afterward. However, PG&E performed the number of required inspections. For that reason, Energy Safety concludes that inspecting the substations before the specified time did not detract from PG&E’s efforts to reduce the risk of vegetation-related ignitions. Energy Safety expects PG&E to provide timely updates should inspection schedule changes occur in the future to ensure Energy Safety is able to make an accurate determination of compliance.

4.1.6 LiDAR Inspections

Initiative 7.3.5.3 of PG&E’s 2021 WMP Update required PG&E to conduct LiDAR inspections on “approximately 6800 miles of [North American Electric Reliability Corporation] NERC Critical Lines” and “approximately 11,400 miles” of non-NERC transmission lines.⁹⁰ However, PG&E

⁹⁰ PG&E’s 2021 WMP Update, page 697.

only completed 96.5% of the NERC line inspections and approximately 98% of the non-NERC transmission line inspections.⁹¹

Energy Safety finds that PG&E made a good faith effort to conduct LiDAR inspections on NERC Critical lines and non-NERC transmission lines. PG&E's stated discrepancy between the WMP requirement, and the miles inspected was due to a difference between what is out in the field and what is in its ET GIS.⁹² Energy Safety encourages PG&E to ensure its ET GIS contains accurate data matching the system to what is in the field. The small percentage missed did not detract from PG&E's efforts to reduce the risk of vegetation-related ignitions.

4.1.7 Audit Timing

Initiative 7.6.5.14 of PG&E's 2021 WMP Update required PG&E to complete audits of its personnel at specified intervals, including one six months into the year.⁹³ However, PG&E only performed the audit at nine months.

Energy Safety concludes that PG&E made a good faith effort to perform the audit because 1) PG&E did eventually perform the audit, 2) the three-month delay was due in part to PG&E bringing on employees to perform the vegetation management work, and 3) PG&E implemented a process to perform substantially the same purpose as the audit. Further, for the same reasons, Energy Safety concludes that the three-month delay did not detract from PG&E's efforts to review the quality of its pre-inspection programs.

Findings: PG&E made a good faith effort to satisfy five of the eight missed requirements. The two requirements that PG&E did not attempt to fulfill related to prioritizing IVM work, and managing slash. Considering PG&E's Corrective Action Plan responses, PG&E's deficiencies in eight of the 12 initiatives findings did not detract from its ability to achieve the objectives of its vegetation management programs.

4.2 PG&E's Performance Under Criteria 3

Energy Safety notes that PG&E provided information indicating that it completed all of the required vegetation management work except for the seven findings previously discussed.

Documenting the prioritizing of IVM work and slash management from its ROW Expansion program are secondary to performing the related vegetation management work. For that reason, the failures to document the IVM prioritization and slash management do not compel a conclusion that PG&E failed to perform the majority of required vegetation management work.

⁹¹ Energy Safety's 2021 Substantial Vegetation Management Audit of PG&E, page 24.

⁹² PG&E 2021 SVM Corrective Action Plan, page 10.

⁹³ PG&E's 2021 WMP Update, page 731.

Regarding inspections and maintenance at the 176 distribution substations located in, or near, Tier 2 and Tier 3 HFTD areas, PG&E provided information that it performed the work at 170 substations. That number, 170, constitutes the large majority of 176.

Finding: PG&E performed the large majority of the vegetation management work required by its WMP Update.

5. Conclusion

Energy Safety finds the following:

- Considering PG&E's Corrective Action Plan responses, PG&E's deficiencies have not detracted from its ability to achieve the objectives of its vegetation management programs.
- Overall, PG&E made a good faith effort to fulfill the vegetation management requirements in its WMP.
- PG&E completed the large majority of its vegetation management requirements.

Therefore, Energy Safety concludes that PG&E substantially complied with the substantial portion of its vegetation management requirements in its 2021 WMP Update.

However, as noted in Section 4, despite this overall conclusion there are overarching concerns with PG&E's responses that should be addressed moving forward. The data supplied by PG&E over the course of the audit was lacking the requisite detail to verify all work was performed for all requirements in the WMP. It is unclear whether PG&E is unwilling to provide information in its possession, whether it cannot locate the data or records Energy Safety sought, or whether it never maintained the data or records. In addition, PG&E's responses and proposed corrective actions were sparse, lacked acknowledgment of accountability or explanation, and did not provide clarity on PG&E's subsequent actions or planned remediation.

The primary objective of the SVM Audit is not to be punitive, but rather to analyze an electrical corporation's success at implementing the vegetation management requirements from its WMP, and how it has learned from its challenges and successes. Energy Safety cannot achieve that objective or support the electrical corporations in the continued maturity of their programs without the cooperation and candor of the electrical corporations. Moving forward PG&E is expected to work with Energy Safety on methods to improve data submittal and corrective action response completeness, accuracy, detail, and clarity.

DATA DRIVEN FORWARD-THINKING INNOVATIVE SAFETY FOCUSED



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