

PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response

PG&E Data Request No.:	CalAdvocates_033-Q01-11		
PG&E File Name:	WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11		
Request Date:	January 5, 2021	Requester DR No.:	CalAdvocates-PGE-R1810007-33
Date Sent:	February 2, 2021	Requesting Party:	Public Advocates Office
PG&E Witness:		Requester:	Matthew Yunge, PE

The following questions relate to Judge Alsup's October 20, 2020 Order Re: Monitor Letter in *U.S. v. PG&E*, Case No. 14-cr-00175 (Doc. No. 1247), the Federal Monitor letter dated October 16, 2020 attached to that Order (Doc. No. 1247-1), PG&E's Response to Order Regarding Federal Monitor Letter, dated November 3, 2020 (Doc. No. 1258) and PG&E's response to Cal Advocates data request CalAdvocates-PG&E-R1810007-29.

QUESTION 01

In response to response to Question 1 of CalAdvocates-PG&E-R1810007-29, PG&E stated that it viewed the failure of a contractor to appropriately follow procedures as a "process breakdown".

- a) Provide a complete list of all occurrences in 2020 that PG&E identified as "process breakdowns" in its vegetation management programs.
- b) Provide the criteria PG&E uses to identify "process breakdowns" in its vegetation management programs.

ANSWER 01

- a) "Process breakdown" is not an operationally defined term that is tracked as such, but PG&E considers that the issues below could be categorized as "process breakdowns." Process breakdowns, are assessed by the Quality Assurance – Vegetation Management (QAVM) team, which reports to the Quality Management organization.

Categories of non-conformances assigned to contractors that are a process breakdown and the 2020 occurrences are as follows:

- Pre-Inspection (PI) - Major woody stem exemption not properly documented – 8 trees
- Pre-Inspection – PI prescribed work, but failed to issue to tree crew in a timely manner – 1 tree
- Tree Contractor – Prescribed clearance not achieved – 32 trees

In addition, a process breakdown was observed in the Second Patrol Procedure (a copy of Procedure TD-7102P-23 is attached as "*WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11Atch01_CONF.pdf*"). Specifically, while all Second

Patrols were directed to identifying dead, dying or diseased trees, which is the primary objective of the Second Patrol, the Second Patrols were not consistently identifying other work that would need to be addressed prior to the next primary patrol of the line (the Routine Patrol). There is an open Corrective Action Program (CAP) issue to address this finding.

Please note that attachment "*WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11A*tch01_CONF.pdf" contains confidential information.

- b) QAVM considers a process breakdown to be an act where someone objectively fails to follow a requirement in either a contract or documented procedure. This would not include human errors in judgment such as underestimating tree growth.

QUESTION 02

In response to response to Question 1(a) and 1(b) of CalAdvocates-PG&E-R1810007-29, PG&E described its treatment of a tree that was identified by the Federal Monitor as contacting a conductor and that was subsequently removed.

- a) What species of eucalyptus was this tree?

ANSWER 02

The tree identified by the Federal Monitor was a Blue Gum Eucalyptus tree.

QUESTION 03

- a) Did PG&E perform work verification on the Oakland K 1102 circuit, Segment ID CIL_AO123-K17_233536, between August 31, 2020 and October 4, 2020?
- b) If so, provide documentation indicating the findings of that verification.
- c) If not, state when this circuit segment was scheduled for work verification.

ANSWER 03

PG&E performed work verification for segment CIL_AO123-K17_233536 on two occasions in August 2020, —on August 12 and August 31. The segment did not pass work verification on either occasion.

A copy of the work verification record is attached as "*WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11A*tch02_CONF.xlsx."

Please note that attachment "*WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11A*tch02_CONF.xlsx" contains confidential information.

QUESTION 04

In response to response to Question 1(e) of CalAdvocates-PG&E-R1810007-29, PG&E states that

“The individual [pre-inspector’s] work has been checked for other process breakdowns. All of this pre-inspector’s vegetation waypoints with the phrase “HN” [hazard notification] in the comment section were pulled from Collector to look for other possible errors.”

- a) Has PG&E checked all of the work done in 2020 that was overseen by the contract supervisor involved?
- b) How many miles of routine vegetation management did ACRT Pacific perform in 2020?
- c) How many miles of enhanced vegetation management (EVM) did ACRT Pacific perform in 2020?
- d) For how many of the miles in question 4(b) had PG&E performed work verification by December 31, 2020?
- e) For how many of the miles in question 4(c) had PG&E performed work verification by December 31, 2020?
- f) With regard to ACRT Pacific’s (routine or enhanced) vegetation management work in 2020, has PG&E performed audits or performed work verification in a more thorough or extensive manner than it does for other contractors? If so, please describe the procedures applied and how they differ from ordinary practice.

ANSWER 04

- a) No, PG&E has not checked the work done in 2020 for ACRT staff other than the pre-inspector identified in PG&E’s December 18, 2020 response to CalAdvocates-PG&E-R1810007-29 (“December 18, 2020 Response”).
 - b) ACRT Pacific performed routine vegetation management inspection or mitigation work on approximately 40,000 miles of distribution lines in 2020.
 - c) ACRT Pacific personnel contributed to inspecting approximately 620 miles for the Enhanced Vegetation Management (EVM) program in 2020. This does not mean that the ACRT employee was the last inspector to be onsite, just that they inspected the segment at some point in 2020.
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- a) Work verification of the Routine Vegetation Management program started in late December 2020 as a pilot to test PG&E’s technology and does not track by vendor at this time. PG&E is expanding work verification to a larger selection of routine inspections beginning January 2021.
 - b) PG&E reviews all completed EVM work and does not track by vendor at this time.

- f) Generally, PG&E does not distinguish between contractors in performing work verification and QAVM audit procedures. For ACRT Pacific, additional corrective actions were taken as described in PG&E's December 18, 2020 Response.

QUESTION 05

- a) Provide the procedures, standards, job aids, and policies that PG&E uses to determine the clearance distance, at time of trimming, for eucalyptus trees in HFTD areas.
- b) Does the answer to question 5(a) depend on the particular species of eucalyptus tree? If so, please explain.
- c) For eucalyptus trees in HFTD areas, please state the clearance, at time of trimming, that PG&E deems sufficient to comply with General Order 95's clearance requirements.¹
- d) Does the answer to question 5(c) depend on the species of eucalyptus tree? If so, please explain.

ANSWER 05

- a) Please see the following Vegetation Management guidance documents:

Guidance Document	Attachment Name
TD-7102S Distribution Vegetation Management standard	WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11Atch03_CONF.pdf
TD-7102P-01 Distribution Routine Patrol Procedure	WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11Atch04_CONF.pdf
TD-7106P-01 Enhanced Vegetation Management Pre-Inspection Procedure	WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11Atch05_CONF.pdf

Please note that attachments "*WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11Atch03_CONF.pdf*", "*WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11Atch04_CONF.pdf*", and "*WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11Atch05_CONF.pdf*" contain confidential information.

- b) The guidance documents provided in subpart a) of this response do not differentiate based on the particular species of eucalyptus tree.
- c) Prescribed clearances at time of trim are based on multiple factors including; the voltage of the line, the Minimum Distance Requirements for the location (in HFTD it is four feet on Distribution), wind in the location, line sag and loading, tree sway, weather and the observed growth rate of the tree. Inspectors assign clearances for trees, prescribing up to two to three years of clearance, with a minimum clearance of one year.

¹ General Order 95, Table 1, line 14. See also, General Order 95, Appendix E: Guidelines to Rule 35.

- d) Prescribed clearances are not dependent on the specific species of tree, subject to clearance factors that may vary based on tree species, such as the growth rate of the tree.

QUESTION 06

In its response to Question 2 of CalAdvocates-PG&E-R1810007-29, PG&E stated that it used many inputs to guide which lines were selected for EVM. PG&E also stated that there was no specific list of other inputs that could be considered, nor was there a predetermined weight attached to each input.

- a) List all persons at PG&E who were responsible for prioritizing 2020 EVM using the criteria listed in PG&E's response to Question 2(a) of CalAdvocates-PG&E-R1810007-29. Please identify each such person by name and title.
- b) Provide the following information regarding PG&E's 2020 EVM work using the format provided below. Please provide complete data for 2020.²

	Total Circuit Miles	Total Circuit Miles	Total Circuit Miles
Top Risk Circuits 1-50			
Top Risk Circuits 51-100			
Top Risk Circuits 101-150			
Top Risk Circuits 151-200			
Top Risk Circuits 201-250			
Top Risk Circuits 251-300			
Top Risk Circuits 301-350			
Top Risk Circuits 351-400			
Top Risk Circuits 401-450			
Top Risk Circuits 451-500			
Not in Top 500 circuits by risk ranking			
Total			

ANSWER 06

- a) The selections of circuits for work under PG&E's Enhanced Vegetation Management (EVM) Program were made by the Vegetation Management Operations leadership team. See attachment *"WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11Atch06_CONF.pdf"* for the requested list of employee names and titles.

² Top Risk refers to those circuits that have the highest risk scores per the model used to inform the 2020 WMP.

Please note that attachment “*WildfireMitigationPlans_DR_CalAdvocates_033-Q01-11A*” contains confidential information.

- b) Please see Table 1 below for the circuit miles cleared and tree work completed in 2020 by EVM.

Work was not sequenced entirely by risk – a risk informed plan was developed encompassing 1,800 miles and then that plan was executed upon based on operational considerations, including but not limited to: weather, permitting requirements, local workforce inputs, community preferences, coordination of work with routine vegetation management work, and coordination with other wildfire mitigation work.

Table 1. EVM Work Completed in 2020

	Total Circuit Miles in these circuits	Total Miles EVM Completed in 2020	Total Trees EVM Worked in 2020
Top Risk Circuits 1-50	4,073	291	43,814
Top Risk Circuits 51-100	2,629	206	22,040
Top Risk Circuits 101-150	2,931	202	29,420
Top Risk Circuits 151-200	1,979	109	11,167
Top Risk Circuits 201-250	1,673	128	6,671
Top Risk Circuits 251-300	1,761	134	19,250
Top Risk Circuits 301-350	1,475	56	2,317
Top Risk Circuits 351-400	1,760	254	14,451
Top Risk Circuits 401-450	1,112	106	5,141
Top Risk Circuits 451-500	1,325	147	4,934
Not in Top 500 circuits by risk	4,626	243	6,438
	25,344	1,878	165,643

QUESTION 07

PG&E states in its response to Cal Advocates data request CalAdvocates-PG&E-R1810007-29, Question 4 that in-scope transmission structures were provided to the execution team with no specific physical starting point.³

- a) Is there currently a single execution team responsible for determining how transmission inspections are prioritized in PG&E’s service territory? If not, how many execution teams are there?
- b) As of August 2020, which person provided guidance to the execution team(s) regarding the prioritization of transmission asset inspections based on whether the asset is in HFTD? Please identify each such person by name and title.

³ PG&E Response to CalAdvocates-PG&E-R181007-29, Question 4.

- c) In PG&E's response to Question 4(f) of CalAdvocates-PG&E-R1810007-29, PG&E states that it has established interim deadlines for inspection structures linked to the relative risk priority. Provide all the interim deadlines used for inspection structures linked to the relative risk priority.

ANSWER 07

- a) The Asset Strategy team is generally tasked to provide global priorities for patrol and inspection programs, and approves the assets selected for a given cycle. The frontline execution of transmission inspections is overseen by the Senior Manager of Transmission Inspection Operations. A mixture of internal and external teams are assigned inspection and patrol activities under that leader's purview.
- b) Aligned with the 2020 Wildfire Mitigation Plan and the internal Electric Transmission Preventive Maintenance Manual (ETPM), the transmission patrol and inspection activities in cycle for 2020 were to be completed by the end of the calendar year. Internal interim deadlines for HFTD Tiers 2 and 3 assets were provided by the Vice President Major Projects and Programs, Ahmad Ababneh, and Director Electric System Inspections, Mary Hvistendahl.
- c) For 2020, PG&E set internal targets of August 31 to complete field execution of transmission inspection activities in the HFTD Tier 2 and Tier 3 areas. In 2021, PG&E has established internal and external deadlines for inspections of transmission assets in HFTD Tiers 2 and 3 as of July 31. Aside from the assets in HFTD Tier 2 and Tier 3 areas, PG&E maintains alignment with the ETPM and plans to complete inspection activities by the end of the calendar year. Monthly target attainment is used to measure progress against those final deliverable dates.

QUESTION 08

- a) Please list all contracting firms that PG&E employed for vegetation management done in 2020.
- b) For each contractor, state whether it performed routine vegetation management, EVM, or both, in 2020.

ANSWER 08

Please see below for a list of Vegetation Management program contractors and the type of work performed in 2020.

Table 2. 2020 Vegetation Management Pre-Inspection Contractors

Vendor	Type of Work
ACRT Pacific	Both Routine VM and EVM
Atlas Field Services	EVM Work Verification

Central Sierra Enterprise	Transmission
CN Utility	Both Routine VM and EVM
Davey Resource Group (DRG)	Both Routine VM and EVM
Foresters Co-Op	Both Routine VM and EVM
High Country Forestry	Transmission
Jefferson Resource Company, Inc.	Both Routine VM and EVM
Mountain G Enterprises	Both Routine VM and EVM
NCRM	EVM
Orient Consulting	Both Routine VM and EVM
Sierra Integrated Services	Transmission

Table 3. 2020 Vegetation Management Tree Crew Contractors

Vendor	Type of work
A Plus Tree	Routine Vegetation Management (VM) and Tags (work requests issued by other than VM)
A&E Arborists	Both Routine VM and EVM
AERI	Both Routine VM and EVM
Arborworks	Both Routine VM and EVM
Atlas Kingsborough	Wood Management
Bordges Timber, Inc	Transmission
Brenton VMS	Transmission
Community Tree Service	Both Routine VM and EVM
Core Tree Care	Both Routine VM and EVM
Craig Thurber Forestry	Transmission
Davey Tree Surgery	Both Routine VM and EVM
Donahoo	Wood Management
Family Tree Service	Both Routine VM and EVM
Jim Norman's Trees Unlimited Inc.	Transmission
KDF Forestry	Both Routine VM and EVM
Loggers Unlimited	Both Routine VM and EVM
Mario's Tree	Both Routine VM and EVM
MLU / Wilhelm	Both Routine VM and EVM
Mountain F. Enterprises	Both Routine VM and EVM
Mowbrays	Both Routine VM and EVM
Nate's Tree Care	Both Routine VM and EVM
Newcomb Tree Experts	Routine VM and Tags
North State Forestry	Transmission
Rapid Response	Routine VM
Redding Tree Growers	Transmission
Robinson Timber	Transmission
Scott Timber Contracting, Inc.	Transmission
Stormfall Tree	Transmission
TSU Trees	Routine VM and Tags
Utility Tree Service, LLC	Both Routine VM and EVM

Vegetation Solutions	Transmission
Whisturn Logging	Transmission
Wild West Reforesters	Transmission
Windy Tree	Both Routine VM and EVM
Wright Tree of the West	Both Routine VM and EVM

QUESTION 09

In PG&E's work verification of routine vegetation management performed in 2020, please state how many "exceptions"⁴ per mile PG&E found:

- a) On average across its service territory;
- b) The average for work performed by PG&E employees;
- c) The average for each contracting firm.

In parts (a) to (c) of this question, please provide complete data for 2020.

ANSWER 09

As mentioned in PG&E's response to Question 4, subpart (d), work verification of the Routine Vegetation Management program started in late December 2020 as a pilot to test PG&E's technology. PG&E is expanding work verification to a larger selection of routine inspections beginning January 2021.

QUESTION 10

In PG&E's work verification of enhanced vegetation management performed in 2020, please state how many "exceptions" per mile PG&E found:

- a) On average across its service territory;
- b) The average for work performed by PG&E employees;
- c) The average for each contracting firm.

In parts (a) to (c) of this question, please provide complete data for 2020.

ANSWER 10

EVM work verification looks at segment miles and does not track by exception. In 2020, no PG&E employees performed vegetation management work verification. Starting in 2021 PG&E, will hire internal work verifiers.

⁴ Exceptions" refers to trees that were missed, were not trimmed to the appropriate distance, should have been removed but were not, or were flagged for work but not subsequently treated in a timely manner.

Work verification was completed on approximately 1878 miles across PG&E's service area. Below is the breakdown by region. As explained, PG&E does not track by exceptions.

Table 4. 2020 EVM Work Verification Circuit Miles Completed

Region	WV Miles Completed in 2020
Bay Area	207
Central Coast	155
Central Valley	731
North Coast	249
North Valley	296
Sierra	241
	1878

QUESTION 11

PG&E states in its response to Cal Advocates data request CalAdvocates-PG&E-R1810007-29, Question 5(a) that

“Electric overhead inspections, including steel tower climbing inspections, were enhanced in 2019 via the Wildfire Safety Inspection Program, to incorporate the prescriptive use of digital checklists, mobile digital technology, and the collection of photographic documentation of each asset” and “Since 2019, the detailed overhead inspection checklists have been applied to all assets of an asset family via the use of mobile inspection software applications to improve documentation of the inspection task.”⁵

- a) Please explain why PG&E took four months to digitize inspection forms if some of that digitization work had already been performed in 2019.

ANSWER 11

- a) In 2019, ProntoForms was the interim mobile solution deployed to document the detailed checklist for WSIP inspections. ProntoForms was used in conjunction with the enterprise Inspect App that was developed for this new procedure. In the latter part of 2019 and through 2020, the Inspect App was designed and updated to replace ProntoForms in this program. The underlying software integration of Inspect App with other enterprise systems required time to develop, test, deploy, and release to field operations.

⁵ PG&E Response to CalAdvocates-PG&E-R181007-29, Question 5(a).