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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

PACIFIC GAS AND ELECTRIC COMPANY,

Defendant.

Case No. 14-CR-00175-WHA

RESPONSE TO ORDER RE JULY 26 REPORT AND SETTING HEARING

Judge: Hon. William Alsup

Defendant Pacific Gas and Electric Company ("PG&E") respectfully submits this memorandum in response to the Court's August 12, 2019 Order Re July 26 Report and Setting Hearing ("Order").

INTRODUCTION

PG&E is focused on reducing wildfire risk in California and is committed to continuing to further strengthen its programs and infrastructure to maximize safety and mitigate the ever-increasing wildfire risk. As one of many aspects of this commitment, in December 2018, PG&E implemented its Enhanced Vegetation Management ("EVM") program, which focuses on reducing potential wildfire ignitions associated with PG&E's overhead facilities in Tier 2 and Tier 3 High Fire-Threat District ("HFTD") areas by targeting vegetation with the potential to impact power lines.

PG&E's EVM program goes well beyond applicable state and federal regulations and is performed in addition to PG&E's historical and ongoing vegetation management work. The program requires: enhanced clearance requirements (12 feet of radial clearance around conductors, even though only 4 feet of clearance is required by regulation),[1] overhang clearing (pruning to maintain conductor-to-sky clearance within a zone extending 4 feet on either side of conductors, even though applicable regulations permit overhangs) and high-risk tree work (identifying trees tall enough to potentially strike power lines and addressing any that fail a risk-informed tree analysis, even though applicable regulations require removal of only "[d]ead trees, old decadent or rotten trees, [and] trees weakened by decay or disease").

Consequently, PG&E's EVM program entails a tremendous amount of work beyond the work needed to comply with state and federal regulations. The program is further complicated by the fact that PG&E operates in a heavily forested and vegetated area, approximately half of which is designated within the HFTD. As of the end of August, there were approximately 4,500 employees

[1] CPUC rules recommend pruning to 12 feet to ensure the 4-foot minimum is maintained throughout the year, and the EVM program is intended to adhere to this recommendation.

and contractors engaged in this effort.[2] As far as PG&E is aware, its EVM program is unlike any other wildfire mitigation effort undertaken by an electric utility in terms of its scope, scale and pace of implementation.

Given the unprecedented nature and scope of the EVM program, as well as the need to train contractors on the new, more aggressive requirements of the program, PG&E anticipated that the program would require frequent evaluation and adjustment as it was implemented. This is one of the reasons that PG&E has been performing, and will continue to perform, post-work verification—a separate check by a certified arborist or experienced vegetation management professional—on 100 percent of the circuits within EVM's scope as an additional line of defense to identify and address exceptions and recurring issues. PG&E's own findings as part of its post-work verification have been similar to those set forth in the Monitor's Letter[3] and, accordingly, PG&E had already begun implementing measures to address its own, internal findings prior to learning of the Monitor's observations of the EVM program. As part of this continuous improvement effort, PG&E has added additional layers of control to confirm its contractors' work and is in the process of deploying a quality assurance team to audit certain lines after the post-work verification is complete, which will mean that, once these processes are fully in place, certain lines will be inspected at least three times to help facilitate a successful implementation of the EVM program.

PG&E appreciates the Monitor's assistance in these efforts to evaluate and improve PG&E's implementation of its newly-created EVM program, and with the goal of continuous improvement, PG&E has provided the Monitor unfettered access to PG&E employees, contractors and records to facilitate the Monitor's parallel review and analysis. PG&E recognizes the importance of the issues raised by the Monitor's Letter and the need to address them as expeditiously

[2] In large part due to the extra level of work above and beyond state and federal regulations called for by EVM, and limitations on the amount of qualified personnel available to do this work, PG&E is planning to phase EVM work to cover more than 25,000 miles of PG&E's overhead lines over a period of approximately eight years.

[3] As used herein, the "Monitor's Letter" refers to the 33-page letter dated July 26, 2019 from the Monitor to Judge Alsup and received by PG&E on August 12, 2019.

as possible. To do so, in addition to post-work verification, audits and review of the Monitor's feedback, PG&E has been working to reduce "potential exceptions"[4] through a new training program, a contractor competency test, bi-weekly meetings with contractors and enhanced written guidance concerning EVM's scope and field tools. In short, PG&E recognizes that the current potential exception rate, identified by PG&E's own processes and the Monitor's work, needs to be addressed, and PG&E is committed to significantly improving upon the rate of properly prescribed and performed tree work and to properly record that work.

I. PG&E Will Continue To Make Improvements To Its EVM Program

PG&E's EVM program is currently composed of three components: (1) a pre-inspector assesses the vegetation surrounding the power lines and identifies and prescribes EVM work (*i.e.*, pruning or removal); (2) a tree worker performs the prescribed work; and (3) a post-work verification team conducts an inspection to confirm that all work within the EVM scope has been completed.[5] The post-work verification teams conduct their inspections on 100 percent of the circuit miles worked under the EVM program and are deployed after the tree crews indicate their work is complete. PG&E's EVM process employs 100 percent post-work verification because PG&E recognized at the outset that, like any unprecedented program with ambitious objectives, challenges would be unavoidable, particularly in the early stages of the program. Post-work verification has helped PG&E gather extensive data on its contractors' performance, which it has been using to identify areas in the EVM program that would benefit from changes. PG&E has also been reviewing the Monitor's findings as they have been made available and thus far has found the Monitor's findings to be consistent with its own.[6]

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[4] As described in the Monitor's Letter, a "potential exception" is a potential missed tree identified by the Monitor Team while inspecting PG&E's lines.

[5] At the end of June, PG&E split the EVM pre-inspection and tree work into two phases. This change implemented an additional control on contractor accuracy and is discussed further below.

[6] As the Monitor noted in its Letter, the Monitor reviewed certain circuits prior to post-work verification being done and therefore before the entire EVM process was complete. (Letter at 5 (noting that its sample set "includes projects at all stages of the EVM lifecycle").)

The Monitor had two core observations regarding PG&E's EVM program. *First*, the Monitor observed that PG&E's contractors are missing trees that should have been identified and worked under the EVM program. (Letter at 2.) *Second*, the Monitor observed that PG&E's systems for recording, tracking and assigning EVM work are inconsistent and may be contributing to the missed work. (*Id.*) PG&E has already implemented some measures and is in the process of implementing additional measures to mitigate each of these concerns and continues to assess its EVM program to determine whether additional improvements are appropriate.

A. PG&E Has Implemented Several Measures to Reduce the Number of Missed Trees.

The Monitor's primary observation is that the number of potential exceptions suggests that PG&E's training and oversight of its contractors can be improved. (Letter at 28.) PG&E recognized a need to address contractor training and oversight and implemented a contractor training program in July as well as several other measures aimed at contractor oversight.

Notably, as discussed below, the vast majority of these potential exceptions arise from the more aggressive standards that exceed applicable government regulations that PG&E chose to adopt as part of EVM (*i.e.*, overhanging and "risk trees" (trees that have the potential to strike PG&E power lines and meet other identified criteria)),[7] which includes removal of what may be

[7] In light of the CPUC's May 30, 2019 Order prohibiting the removal of healthy trees unless a certified arborist opines that the tree poses a risk to electric facilities under wildfire ignition conditions, PG&E revised its EVM program with respect to the ten tree species identified as "risk trees". Prior to that Order, PG&E's EVM program required removal of any tree that was one of ten identified species that PG&E previously observed were involved in a relatively higher frequency of ignitions that was tall enough to potentially strike PG&E's power lines. As of May 31, 2019, rather than focusing on ten particular tree species, PG&E is using the Hazard Tree Rating and Scoring ("HTRS") tool (described in more detail below) to assess every tree that is tall enough to potentially strike PG&E's power lines and removing those trees that meet a certain threshold. The trees that do not meet the threshold are recorded in a database so that if the CPUC's requirement changes, PG&E can address them soon thereafter. PG&E consulted with the CPUC's Safety and Enforcement Division while revising its approach to risk trees.

To the extent the scope of the risk tree program changes, PG&E will document its approach in writing, incorporate its guidance into its contractor training program and communicate the updated guidance to its contractors, including through the bi-weekly meetings.

healthy limbs and trees. The vast majority of potential exceptions do not indicate violations of state or federal regulations.[8]

Although PG&E must continue to address the exception rate noted by the Monitor, the context of the scope of what is occurring is important. As discussed above, the EVM program was implemented on an expedited basis with an understanding, as with any new program of this magnitude, that its scope and processes would evolve over time. The speed and scale at which EVM was deployed, as well as the change in scope necessitated by the CPUC's decision, have at times, caused contractor confusion that PG&E believes is responsible for the majority of potential exceptions described by the Monitor (and identified by PG&E's own verification of work).

Based on the Monitor's Letter, and PG&E's own findings, PG&E has implemented several measures to reduce the potential exception rate by, among other things, mitigating contractor confusion over the EVM program's scope and the tools utilized in the field.

First, PG&E has commenced a three-day training program for all new pre-inspectors performing EVM work and all contractors assigned to the post-work verification teams. A third party, Environmental Resources Management, developed the training and is leading the training sessions. PG&E personnel are present at each training session to help answer any questions about the EVM program. The training program, which began on July 29, occurred two times per week in August and will be held once per week in September (and beyond, as needed). The Monitor attended the first day of the August 12-14 training session.

The training is specific to each of PG&E's regions, as tree species vary by region. The first day of training focuses on the scope of the EVM program (*e.g.*, applicable guidance and regulations), the tools used by the pre-inspectors in the field and the written guidance concerning the

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Because the scope changed after post-work verification had already completed its review of certain lines, PG&E is sending post-work verification crews back to re-inspect those lines in light of the revised scope (*i.e.*, to confirm that every tree potentially tall enough to strike PG&E's lines has been assessed, has an HTRS score and has been removed if the HTRS threshold has been met).

[8] In the three instances where the Monitor has identified trees that were within the prescribed clearance zone, PG&E has removed or pruned the tree within 24 hours.

program. The second day of training covers environmental considerations, and the third day provides the pre-inspectors with an opportunity to train in the field. Any pre-inspector who began performing EVM work prior to commencement of the training program is required to attend the first day of training. For those contractors who will be part of the post-work verification team, once the contractor completes the three-day program, he or she then spends several days in the field shadowing a contractor who has post-work verification experience.[9]

Second, PG&E is now requiring its pre-inspectors to take a competency test.[10] The test comprises multiple choice questions about EVM's scope (*e.g.*, the overhang and radial clearance requirements), and is designed to assess pre-inspectors' preparedness to accurately identify the work that should be prescribed in the field.[11] If a pre-inspector fails the test twice, his or her access to Arc Collector—the digital tool pre-inspectors use to record work, described in more detail below—is removed until the pre-inspector attends the training program again and re-takes the test. If the pre-inspector fails the test a third time, he or she is removed from PG&E's EVM program. Going forward, all EVM pre-inspectors will need to pass the competency test before he or she will be deployed to a PG&E region.

Third, PG&E has incorporated additional layers of controls within its EVM process to confirm that the proper trees are being identified and worked. Beginning in July 2019, and as a result of PG&E's own observations during its post-work verification, PG&E created two "phases" of pre-inspection and tree work to provide an additional review of the circuits within EVM's scope. During the first phase, the first pre-inspector reviews the assigned line miles for hazard trees, radial clearance and overhanging limbs or branches. A tree crew then completes all prescribed work on those line miles. After the tree crew's work is complete, the second phase occurs. During the

[9] Nearly all of the post-work verification contractors are certified arborists. The few who are not certified arborists have several years of experience in vegetation management or tree work.

[10] Any pre-inspector who has been conducting EVM work is required to take the test by September 5.

[11] The test will be revised to the extent there are modifications to the EVM program.

second phase, a second pre-inspector reviews the same line miles and identifies every tree within striking distance of PG&E's conductors and assesses whether such trees should be removed and also assesses whether there are any trees or branches requiring work that the first pre-inspector may not have identified. This assessment is done using PG&E's Hazard Tree Rating and Scoring ("HTRS") tool[12]—which takes into account various factors such as the distance of the tree from the power line, the tree's height and the tree's species, to produce a risk-based score.[13] Trees associated with scores above a particular threshold are identified for removal. A second tree crew then completes any additional prescribed work. Only after both phases of pre-inspection and tree work are complete does the post-work verification team patrol the assigned circuit. The post-work verification contractors, which are different contractors than those performing the pre-inspection work, inspect the line miles to determine (1) whether the pre-inspectors correctly prescribed all necessary work; (2) whether the tree workers accurately carried out the prescriptions; and (3) whether all trees tall enough to potentially strike the line were evaluated, received an HTRS score and were removed if the HTRS threshold was met.[14]

PG&E is also working to add a quality assurance ("QA") group to review randomly selected circuit segments after the post-work verification team has completed its assessment. PG&E

[12] PG&E is in the process of evolving its risk-based criterion and building upon the HTRS to further reduce the level of subjectivity inherent in determining whether a tree should be removed. In collaboration with third-party experts—a team of International Society of Arboriculture Certified Utility Arborists—PG&E is designing a tree assessment tool that uses a methodology to determine whether trees and branches should be removed or pruned, respectively. The methodology includes inputs such as tree height and distance from the power line, whether the tree is leaning, the terrain and slope. The methodology also takes into account PG&E data on regional vegetation-caused outages, ignitions and wire down events. PG&E is currently piloting this tool and plans to deploy it in 2020.

[13] This tool has been reviewed and approved by PG&E's certified arborist consistent with the CPUC's May 30, 2019 Order.

[14] Because the EVM program scope changed after the CPUC's Order prohibiting healthy tree removal, the post-work verification teams did not begin inspecting whether all trees tall enough to potentially strike the line were assessed and received an HTRS score until around mid-July. PG&E is currently sending out post-work verification teams to re-inspect all circuit miles that were inspected prior to mid-July to confirm that any tree tall enough to potentially strike the line has been identified and scored using the HTRS.

is currently developing its QA protocol for the EVM program, but plans to implement this process later this year.

Fourth, PG&E is conducting bi-weekly meetings with every EVM pre-inspector and tree pruning contracting company. During these meetings, PG&E engages with every contractor to, among other things, keep the contractors apprised of any updates to the EVM program, processes or procedures, discuss any personnel issues, make the contractors aware of new training dates and requirements and obtaining contractor feedback on potential process improvements.

Fifth, PG&E has created written training materials, which are made available to all pre-inspectors. These materials include, among other things, a Pocket Guide that inspectors can take with them in the field that succinctly outlines the EVM program's requirements.

Finally, PG&E has brought on additional personnel to provide further oversight of the execution of the EVM program. This currently includes a vice president, two directors, 22 execution staff and 15 support staff. PG&E expects the operations background of these additional personnel to complement the forestry and arboriculture expertise of the vegetation management personnel to further enable safe and effective execution of EVM.

These improvements with respect to contractor training and documentation, are designed to significantly improve contractor accuracy. PG&E will continue to analyze its post-work verification data, in conjunction with the Monitor's assessments, to determine whether additional measures should be taken to further improve the effectiveness of the EVM program.

B. PG&E Has Also Instituted Improvements to Enhance the Reliability of Its Records.

PG&E also understands the importance of consistent and reliable recordkeeping practices to the success of its EVM program. PG&E understands the core of the Monitor's recordkeeping concerns to stem from the potential for contractors to make inconsistent use of Arc Collector, a mobile application that PG&E uses to track EVM work that was introduced to PG&E's electric vegetation management program within the past year.[15] PG&E has already taken steps to

[15] EVM pre-inspectors are given access to particular circuit maps in Arc Collector based on their regional assignments. Pre-inspectors select a "parcel" on the map in the application—*i.e.*, a region

standardize contractors' use of Arc Collector and to better train contractors on the application. PG&E is also implementing new practices and controls, including the use of a partner application—Survey 123—to increase consistent recording of EVM work. These steps are discussed in more detail below.

More specifically, the Monitor's observations with respect to PG&E's recordkeeping practices generally fall into two categories: (i) that lines depicting some of the conductors in Arc Collector are inaccurate and (ii) that contractors use Arc Collector inconsistently when recording prescribed work. With respect to the first observation, as the Monitor noted (Letter at 22-23), Arc Collector provides its users with the ability to indicate whether the map is incorrect and to draw a conductor segment within the application's map to indicate the correct location. These redrawn lines, labeled "GIS Inaccurate",[16] are color coded to signify to any subsequent user viewing the circuit map that a correction has been made. So, for example, if a pre-inspector observes an inaccurate geographic depiction while in the field, he or she can redraw the line in the application and enter the identified work prescriptions. When the tree crew later reviews the circuit map, the pre-inspector's redrawn lines are visible. Thus, anyone who views a particular circuit map in Arc Collector is permitted to see the correct location of PG&E equipment as well as any trees for which the pre-inspector has prescribed work.

PG&E is also undertaking a comprehensive, systemic effort to address inaccurate line depictions within Arc Collector. Specifically, PG&E is in the process of surveying and capturing all of its overhead power lines in Tier 2 and Tier 3 HFTD areas using Light Detection and Ranging

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on the map containing certain conductor segments, and record their findings. Information about particular trees, including work prescriptions, are input as "veg. points"—digital pins displayed on the map. Tree crews subsequently access these circuit maps, which at this stage display various veg. points, to conduct the identified work.

[16] The inaccurate depictions of PG&E lines in Arc Collector are primarily attributable to the technological limits of predecessor mapping methods. PG&E's creation of a digital map of its system included, among other things, digitizing paper plat maps, but these paper maps were themselves generated using GPS technology that was less precise and sophisticated than what exists today.

("LiDAR") technology.[17] Given the number of line miles, however, this process takes time. PG&E plans to incorporate the LiDAR-enhanced maps into Arc Collector on a rolling basis beginning in 2020.

Regarding the Monitor's observation about contractors' inconsistent use of Arc Collector, the Monitor noted: (i) that EVM workers were not consistently recording work in Arc Collector; (ii) contractors were using certain indicators in the Arc Collector application (*e.g.*, designating an unworked tree as one with a "customer refusal") inconsistently or inaccurately; and (iii) that pre-inspectors were using inconsistent physical markings on trees (*i.e.*, colors other than yellow, which is the assigned color for EVM). (Letter at 21-27.) PG&E's new EVM training program includes detailed training on the proper use of Arc Collector. This training occurs in-person and is supplemented with a step-by-step written guide. The guide, which includes screenshots and written directives for each required step, outlines how pre-inspectors should use Arc Collector to, among other things: record work prescriptions, draw GIS Inaccurate lines, mark customer refusals and indicate the inspection status of particular conductor segments (to denote whether phase 1 and phase 2 pre-inspections are complete). PG&E has also developed reference materials for use in the field such as the "Collector App Status Reference" Pocket Guide, which identifies for contractors the various icons available for use in Arc Collector.

PG&E also has implemented certain controls within the Arc Collector application itself that address these issues. In order for a pre-inspector to enter a work prescription in Arc Collector, he or she must input data in "required" fields, including his or her PG&E email ID ("LAN ID"), the species, height and diameter of the tree for which work is being prescribed and any implicated riparian issues. PG&E is also able to "lock" certain data fields such that they cannot be edited after particular stages of work have been completed. For example, at the point at which a tree worker is reviewing prescriptions in the application, the fields containing the pre-inspection date or the pre-inspector's LAN ID cannot be revised or overwritten by the tree work contractor. Similarly,

[17] LiDAR is a remote sensing technology which uses laser pulses to collect measurements which can then be used to create models and maps of objects and environments.

once the post-work verification process has been completed for a particular project (*i.e.*, a particular set of conductor segments), the corresponding data in Arc Collector can no longer be edited. PG&E is also planning to simplify Arc Collector for pre-inspectors by removing the need to enter certain redundant data fields in the application. This will allow pre-inspectors to input information into Arc Collector more efficiently, as well as reduce the potential for inaccuracy. PG&E began piloting these modifications to Arc Collector this past weekend.

Additionally, as of this past weekend, PG&E requires that pre-inspectors, tree crews and post-work verification crews use Survey 123 to certify that their work is complete. Survey 123 is a survey-based application which guides users through a series of questions, such as whether all trees tall enough to potentially strike the line were assessed using the HTRS tool. Once a survey is submitted, a user is not able to re-access it or change any responses therein. Previously, only the post-work verification teams had been using Survey 123 to confirm a project's completion. Now, each group who works on a particular project will use the Survey 123 application to certify completion. This will allow PG&E to retain records of EVM workers affirmatively certifying that all of their work was conducted for the various stages of the work execution process. Moreover, this will permit PG&E to retain these work completion records within an application separate from Arc Collector. Arc Collector will continue to be used as a work management tool and will also be the repository for underlying data concerning the project (*e.g.*, a particular tree's HTRS score). PG&E has added a component to its contractor training program regarding the use of Survey 123. PG&E will monitor contractors' use of Survey 123 to assess whether any improvements to the application need to be made.

Last, the Monitor raised concerns with PG&E's use of flags and paint markings on trees to signify whether and what type of work was required. PG&E stresses that these physical markings are meant to supplement the information contained in PG&E's electronic databases, such as Arc Collector and Survey 123, and are not designed or intended to be the primary means of

communicating work prescriptions. To minimize the potential confusion in the field,[18] PG&E instructs pre-inspectors to include in Arc Collector's "PI Comments" section, information to aid the tree crews who will be conducting the prescribed work (*e.g.*, the pre-inspector will note that yellow paint has been used on a particular tree).

II. PG&E Agrees With the Monitor's Preliminary Recommendations and Is Addressing Them

The Monitor provided four preliminary recommendations regarding the EVM program with respect to: (1) EVM program documentation; (2) contractor training, management and oversight; (3) recordkeeping and Arc Collector; and (4) risk trees. PG&E agrees with each of the Monitor's recommendations. As discussed above, because PG&E's own findings were consistent with the Monitor's observations, PG&E had already been taking steps to address the issues identified in the Monitor's preliminary recommendations and will continue to work with the Monitor to discuss potential improvements and make any necessary changes. PG&E met with the Monitor on August 29, 2019 to review and discuss the actions PG&E has taken and is planning to take to address the Monitor's recommendations.

A. PG&E Created New, and Updated Existing, EVM Program Documentation.

The Monitor recommended that PG&E confirm its guidance documents are clear and that they are disseminated to and understood by its contractors. (Letter at 31.) As discussed above, PG&E has updated its contractor training materials to include a one-page user-friendly document setting forth EVM's scope. This document, which is covered during PG&E's new contractor training program, may be used by contractors in the field. Going forward, to the extent PG&E revises any EVM program documents, PG&E will share such revisions with the pre-inspectors during the training sessions and will discuss them with the contracting companies during the

[18] Given the dynamic nature of the dense, vegetative areas in which PG&E operates, physical markings on trees may at times be unclear. For example, paint may fade between pre-inspection and tree work because of exposure to sunlight or moss may grow over markings obscuring them from view.

bi-weekly meetings. The bi-weekly meetings are used, among other purposes, as a means to confirm that the contractors have knowledge of all existing standards and understand them.

B. PG&E Deployed a Contractor Training Program and Added Additional Contractor Review and Oversight.

The Monitor also recommended that PG&E revamp its training regime, including assessments to confirm that pre-inspectors understand EVM's scope and a more robust contractor review process. As discussed above, PG&E employed a third party to create a three-day training program for new pre-inspectors and is requiring all currently employed pre-inspectors to attend the first day of training, which covers, among other things, EVM's scope. And, all EVM pre-inspectors are now required to pass a competency test. A pre-inspector is allowed to take the test three times. If he or she does not pass the second time, his or her access to Arc Collector is removed and he or she must re-attend a training session. If the pre-inspector does not pass the third time, he or she cannot work for PG&E's EVM program.

PG&E also has put more controls in place to review contractors' work. By breaking out the pre-inspection and tree work into two phases, PG&E has increased the number of pre-inspectors who will be assessing the trees along each line mile and has assigned the second phase of pre-inspectors the task of assessing every single tree that is potentially tall enough to strike PG&E's power lines. PG&E's post-work verification team subsequently patrols every line mile worked to confirm that all required tree work was prescribed and completed and that every tree with strike potential has been analyzed. PG&E is also in the process of implementing a quality assurance program to audit randomly assigned sections of EVM-worked line miles after the post-verification work is complete.

C. PG&E Is Using Accurate and Reliable Applications for EVM Program Work.

With respect to PG&E's recordkeeping, the Monitor suggested that PG&E: (1) analyze whether Arc Collector is an adequate and reliable recordkeeping tool; (2) confirm that the projects and maps in Arc Collector are complete and accurate; (3) retrain its contractors on Arc Collector and regularly review the application to assess its functionality and quality; and (4) consider

certain enforcement measures to ensure consistent use of Arc Collector by contractors, including financial penalties to incentivize compliance.

As discussed above, PG&E has implemented certain controls within the Arc Collector application, such as precluding the ability for certain data fields to be edited after post-work verification is complete, that help protect the integrity and reliability of EVM data. PG&E is also currently undertaking an effort to leverage LiDAR data to improve the accuracy of its digital mapping system of its HFTD areas, which will further enhance the reliability of Arc Collector as a geo-spatial tool. With respect to contractors' ability to use Arc Collector consistently, PG&E has launched a training program for EVM pre-inspectors, which includes detailed instructions regarding Arc Collector's (and Survey 123's) use. Additionally, PG&E has recently implemented a requirement that all EVM contractors—pre-inspectors, tree crews and post-work verification crews—submit through Survey 123 a certification that their work is complete.

D. PG&E Is Considering the Appropriate Scope With Regard to "Hazard Trees".

In light of the CPUC's May 30, 2019 Order prohibiting PG&E from removing healthy trees unless a certified arborist opines that the tree poses a risk to electric facilities under wildfire ignition conditions, the Monitor recommended that PG&E critically evaluate whether a species-based risk tree program can be successfully implemented. PG&E agrees. At this time, PG&E is not using a strictly species-based risk tree program. Instead, PG&E is using the HTRS, which considers tree species as one of several factors, to assess every tree that is tall enough to potentially strike PG&E's power lines and targeting for removal those trees that meet a certain threshold. To the extent this approach changes, PG&E will document its approach in writing, incorporate its guidance into its contractor training program and communicate the updated guidance to its contractors through the bi-weekly meetings.

CONCLUSION

PG&E is fully committed to making its unprecedented EVM program as effective as possible and will continue to adjust and enhance these measures in response to information learned

through the Company's quality assurance and verification procedures as well as the Monitor's feedback.

Respectfully Submitted,

Dated: September 3, 2019

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