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December 16, 2020

The Honorable William H. Alsup
United States District Court for the Northern District of California
450 Golden Gate Avenue
Courtroom 12 - 19th Floor
San Francisco, CA 94102

Re: Court Request for Monitor Comments on PG&E Vegetation Management Matters

Dear Judge Alsup:

This letter responds to the Court's request (Dkt. 1269) for the Monitor team (i) to provide the Court information regarding PG&E's compliance with several conditions of probation related to the Company's vegetation management ("VM") program, and (ii) to comment on PG&E's November 3, 2020 response (Dkt. 1258) to the Monitor's October 16, 2020 letter to the Court (Dkt. 1247, Ex. A; the "October 16 Letter") regarding the Monitor team's field inspections and related observations. We begin below by briefly commenting on PG&E's response to the October 16 Letter, and then by responding to the Court's specific inquiries regarding PG&E's compliance with various VM-related probation conditions.

Comments Regarding PG&E's November 3, 2020 Response

PG&E's November 3 response to the October 16 Letter highlighted, among other things, that: (i) the Company did not intentionally target low-risk line miles for enhanced vegetation management ("EVM") work in 2019; (ii) risk rankings of high fire-threat circuits were just one of many inputs in PG&E's EVM work planning in 2019; (iii) 40% of EVM mileage—as well as the abatement of significant vegetation in 2019—was completed in the top 100 risk-ranked circuits; and (iv) work planning for 2021 is on a different trajectory from 2019 and 2020 under the leadership of PG&E's Chief Risk Officer, with a plan to increase the percentage of work targeting the riskiest areas. The Monitor team does not dispute these representations and does not believe anything noted in PG&E's response changes or affects the assessments in the October 16 Letter. Additionally, the Monitor team respectfully notes that PG&E did not challenge the accuracy of any of the information presented in the October 16 Letter.

PG&E's wildfire mitigation efforts are meant to reduce wildfire risk. PG&E's EVM program is one of those efforts. In 2018, PG&E undertook the effort and expended the resources to identify and rank the highest-risk circuits in its service territory to plan and prioritize EVM work

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in 2019. Commendably, under its chosen risk models, PG&E represented that it would execute on its multi-year EVM plan by addressing the higher-risk work first to reduce more risk sooner rather than later. However, as PG&E noted in its response, the Company ultimately used its risk models as only one of many inputs (and based on the Monitor team's assessment, not the predominant input in light of the assessments detailed in our October 16 Letter) in PG&E's work planning and execution for 2019 and 2020. In sum, PG&E missed opportunities in 2019 and 2020 to do what it must in 2021—in making operational and planning decisions, give greater weight to working the riskiest areas first and do so in a rigorous, consistent, methodical, and measurable way.

To its credit, PG&E has recently made significant progress down this path. Under the leadership of its new Chief Risk Officer, PG&E has brought rigor and discipline to the prioritization of wildfire risk reduction in its wildfire mitigation work planning for 2021. There is now a direct link between the work planned to be done and the risk model's ranking of high-risk circuits. PG&E described some of these measures in its response to the October 16 Letter, including a weekly meeting chaired by the Chief Risk Officer in which the Company's leaders in various areas responsible for wildfire mitigation efforts convene to discuss risk models, work planning, and risk prioritization for 2021. The Monitor team observes these meetings and views this deliberative process for the selection of wildfire mitigation work—where risk is *the* predominant factor, not *a* factor among many—as a significant, positive development over the work planning and execution in 2019 and 2020. In fact, planning thus far has revolved around the concept that 80% of the wildfire mitigation work planned for 2021 will occur in the applicable top 20% of riskiest areas and is focused on employing the greatest practical risk reduction measures within those areas.¹ We will continue to observe, evaluate, and assess PG&E's planning and execution of work in 2021, including whether PG&E adheres to its stated plans and representations. The Monitor team is encouraged by the 2021 planning process thus far and the leadership of PG&E's Chief Risk Officer.

Vegetation Management Compliance Matters

The Court requested that the Monitor team comment on PG&E's compliance with several conditions of probation relevant to VM, including: (i) certain VM regulations; (ii) PG&E's EVM commitments in its Wildfire Mitigation Plan ("WMP"); (iii) the requirement that PG&E maintain traceable, verifiable, accurate, and complete records of its VM work; and (iv) the requirement that PG&E onboard inspectors to verify VM work in the field. Further information regarding these matters is provided below. While much of the information relayed below identifies instances where PG&E has not complied with its EVM scope, the vast majority of situations we encounter—and trees we evaluate in the field—through our inspections are, in fact, in compliance. In sum,

¹ Of course, PG&E also must comply with applicable regulations, including local and environmental rules, and consider the health and safety of its workers and operational realities like wildfires. The point is that there is a material difference between making risk reduction the top priority criterion, and using risk reduction as only one of several considerations to prioritize work. To its credit, PG&E now appears to be employing the former prioritization method and not the latter.

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non-conformance with the EVM scope is more the exception than the norm, but our inspections regularly identify missed trees.

1. Scope of the Monitor Team's Review

Consistent with Modified Probation Condition #3,² the Monitor team's VM field inspections are focused on assessing the Company's compliance with its EVM scope and related procedures, while using the results of those inspections to provide feedback to PG&E for continuous improvement. Those inspections, as well as information provided to the Monitor team by PG&E, form the basis of much of the reporting herein related to compliance with the EVM scope and applicable VM legal requirements. The EVM scope—as reflected in the WMP and as described in greater detail below—includes hazard tree mitigation, maintaining minimum radial clearances, and mitigation of overhanging vegetation (among other mitigation activities). Because the EVM program builds upon and exceeds regulatory requirements, some of the EVM scope violations identified by the Monitor team (referred to as “potential exceptions”) may or may not also constitute potential non-conformances with regulatory requirements. For example, failure to comply with EVM requirements with respect to hazard tree identification and abatement may also violate Rule 35 of General Order 95 and Section 4293 of the California Public Resources Code. However, failure to remove a healthy branch overhanging a line by 30 feet would violate PG&E's EVM scope, but would likely not violate these regulatory provisions. Similarly, vegetation encroaching a two-foot radial zone around a conductor would likely violate both applicable regulations and the EVM scope, but a tree that encroaches within eight feet after being trimmed would only violate the latter.

2. PG&E's WMP Commitments for EVM and Select Other Programs (Modified Probation Condition #2)

In its 2020 WMP, PG&E committed to completing 1,800 miles of EVM in HFTDs, following the 2,498 EVM miles the Company completed in 2019 (based on a target of 2,455 miles). (PG&E 2020 WMP Report, Updated Mar. 17, 2020 (“March 2020 WMP”), at 5-196.)³ While PG&E has met its 1,800-mile EVM commitment for 2020, the Monitor team's field inspections identified multiple instances of potential non-conformance with the EVM scope.

² “Modified Probation Conditions” refer to the additional probation conditions that the Court imposed in its April 3, 2019 Order (Dkt. No. 1040), and that the Court supplemented in its May 14, 2019 Order (Dkt. No. 1071) and its August 7, 2020 Order (Dkt. No. 1243), reflecting a total of eight Modified Probation Conditions that are numbered as set forth in the August 7, 2020 Order.

³ Available at https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/2020-Wildfire-Safety-Plan-Redline.pdf.

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a. EVM Scope

PG&E's EVM scope is intended to expand upon its routine VM program by conducting additional vegetation clearance and mitigation work on overhead distribution lines in HFTDs. (*Id.* at 5-176.) There are three key aspects of the EVM scope:

- **Radial Clearances.** PG&E seeks to “[e]xceed[] the 4-foot minimum clearance requirement by ensuring vegetation is trimmed to the CPUC recommended 12-foot clearance at time of trim to maintain compliance year-round, and in some cases, trimming beyond 12 feet depending on tree growth rates, among other factors. Trimming to the CPUC recommended 12-foot clearance ensures compliance with GO 95, Rule 35 year-round.” (*Id.*)
- **Overhang Trimming.** PG&E seeks to “[r]emov[e] overhanging branches and limbs four feet out from the lines and up to the sky for particular trees around electric power lines to further reduce the possibility of wildfire ignitions and/or downed wires and outages due to vegetation-conductor contact.” (*Id.*)
- **Assessing Trees with the Potential to Strike** (commonly referred to as “hazard” trees). PG&E seeks to “[e]valuat[e] all trees tall enough to strike electrical lines or equipment and, based on that assessment, trim[] or remov[e] trees that pose a potential safety risk, including dead and dying trees.” (*Id.* at 5-177.)

b. Observations Regarding PG&E's Compliance

i. *The Monitor Team's Analysis*

PG&E's records reflect that, as of late November, the Company has completed 1,843 EVM miles in 2020, thereby exceeding its WMP commitment of 1,800 miles.

As we discussed in our October 16 Letter, the Monitor team's inspections have identified EVM quality-of-work issues since we first began field inspections in May 2019. Specifically, from May to July 2019, we identified 11.4 potential exceptions to the EVM scope per mile.⁴ Following the Monitor team's feedback to PG&E in July 2019, we saw an improvement in the quality of work, and the potential exception rate dropped to 1.1 potential exceptions per mile from

⁴ The Monitor team appreciates that PG&E may not accept that all potential exceptions the Monitor team identifies are exceptions in the Company's view (this is one reason why the Monitor team refers to its findings as “potential” exceptions). The Monitor team understands that, while radial clearance and overhang exceptions are more straightforward and objective, identification of “hazard” trees (for example, trees that are dead, rotten, decayed, diseased, showing signs thereof and posing a risk of striking the line) can involve a degree of subjectivity over which reasonable minds may differ. The Monitor team adopts a conservative approach in its assessment of potential hazards, erring on the side of safety, and also to highlight to the Company defects with trees that went unrecorded by its inspectors—valuable information for a Company to know regarding the status of trees with line-strike potential. Additionally, although unlikely in most circumstances, the possibility exists that the condition identified by the Monitor team developed between the time PG&E inspected the tree and the Monitor team inspected the tree.

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September to December 2019. In 2020, based on our inspections of approximately 42 miles, we have identified 3.5 potential exceptions per mile (149 potential exceptions in total).⁵

The Monitor team's inspections have included circuit segments in all phases of PG&E's EVM work cycle, including segments that have been pre-inspected, tree worked, and work verified. The Monitor team has targeted its inspections on circuit segments that have passed work verification—based on PG&E's processes, a circuit segment can be “counted” towards its WMP mileage target only after it has passed work verification. Although our inspections identify potential non-conformances with the EVM scope of work through all stages of the EVM process (pre-inspection, tree work, and work verification) for purposes of providing continuous and holistic feedback to the Company, we focus our reporting here on EVM non-conformances that remain after PG&E has verified work as complete. The Monitor team would consider these findings—issues missed by PG&E through all stages of EVM and that remained unaddressed and undetected even after the work was verified as complying with the EVM scope—to be violations of the EVM scope to which PG&E committed in its WMP.

Approximately 76% of the miles we have inspected thus far in 2020 passed work verification (that is, 32.09 miles passed work verification out of a total of 42.03 miles we inspected under the EVM scope). On the circuit segments that comprise those 32.09 work-verified miles, we found 2.4 potential exceptions per mile, for a total of 78 potential exceptions on work-verified miles related to hazard trees, overhangs, or radial clearances. For context, our analysis also reflects that 98.7% of the trees we reviewed on circuit segments that had passed work verification complied with the EVM scope (5,981 trees out of 6,059 total trees). Additionally, the Monitor team notes that the rate of 2.4 potential exceptions per work-verified mile is significantly lower than the 7.1 potential exceptions per mile that we observed for circuit segments that had not yet passed work verification. While the Monitor team respectfully suggests that there is still room for improvement, the lower potential exception rate for miles that passed work verification suggests that the Company's work verification process is having a positive impact by identifying missed trees and improving adherence to the EVM scope.

With respect to hazard trees, we observed 0.30 potential hazard exceptions per work-verified mile from September to December 2019 (for a total of 40 potential hazard exceptions on work-verified miles), which accounted for 65% of the total exceptions observed from September to December 2019 on work-verified miles. In 2020, we have identified 1.50 potential hazard exceptions per work-verified mile (for a total of 48 potential hazard exceptions on work-verified miles), which accounts for 62% of the total potential exceptions we have identified on work-verified miles. For the Court's reference, attached as Exhibit A are five examples of trees (out of the 48 total potential hazard exceptions we identified) that, in our view, would violate the EVM scope, because the segments on which we identified them were work verified despite not complying with the EVM scope. The examples provided to the Court as part of Exhibit A are also

⁵ As we noted in the October 16 Letter, we cannot state definitively that the quality of PG&E's EVM work is on a downward trend. Among other things, our 2020 inspections have taken place in more vegetation-dense areas in 2020 than in 2019. Additionally, due to a variety of challenges stemming from the pandemic and the wildfire season, we have inspected fewer miles in 2020 than in 2019, and thus our sample may be less representative.

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examples where PG&E agrees with the Monitor team's assessment that the identified issue failed to meet PG&E's EVM scope as of the date of the Monitor team's inspection.

With respect to limbs overhanging the lines, the Monitor team observed 0.12 potential overhang exceptions per work-verified mile from September to December 2019, for a total of 16 potential overhang exceptions on work-verified miles. In 2020, we have identified 0.37 potential overhang exceptions per work-verified mile, for a total of 12 potential overhang exceptions on work-verified miles. For the Court's reference, attached as Exhibit B are five examples of trees (out of the 12 total potential overhang exceptions we identified) that, in our view, would violate the EVM scope, because the segments on which we identified them were work verified despite not complying with the EVM scope. The examples provided to the Court as part of Exhibit B are also examples where PG&E agrees with the Monitor team's assessment that the identified issue failed to meet PG&E's EVM scope as of the date of the Monitor team's inspection.

With respect to radial clearances, the Monitor team observed 0.05 potential radial clearance exceptions per work-verified mile from September to December 2019, for a total of six potential radial clearance exceptions on work-verified miles. In 2020, we have identified 0.56 potential radial clearance exceptions per work-verified mile, for a total of 18 potential radial clearance exceptions on work-verified miles. For the Court's reference, attached as Exhibit C are five examples of trees (out of the 18 total potential radial clearance exceptions we identified) that, in our view, would violate the EVM scope, because the segments on which we identified them were work verified despite not complying with the EVM scope. The examples provided to the Court as part of Exhibit C are also examples where PG&E agrees with the Monitor team's assessment that the identified issue failed to meet PG&E's EVM scope as of the date of the Monitor team's inspection (in two instances, PG&E agreed with the Monitor team's finding but believed that the radial clearance issue developed in between PG&E's EVM inspection and the Monitor team's inspection).

ii. PG&E's Internal Analysis

PG&E's Quality Verification ("QV") team also assesses the Company's performance in the field under the EVM scope. The QV team reported its findings to the Monitor team, concluding that just shy of four percent of the mileage PG&E inspected did not conform with the EVM scope. Specifically, out of 42.82 work-verified miles inspected by PG&E, the Company reported that 96.17% of the segment mileage inspected met the requirements of the EVM scope. These results are consistent with the Monitor team's findings—out of 32.09 work-verified miles inspected by the Monitor team in 2020, 93.27% of the segment mileage (not trees) inspected appeared to meet the requirements of the EVM scope.

c. Additional WMP Observations

PG&E tracks its progress against all 38 of its 2020 WMP commitments. This includes the commitment relating to EVM mileage targets discussed above, 12 commitments relating to grid design and system hardening, eight commitments relating to situational awareness and forecasting, and several others. While PG&E has either met—or is on track to meet—the vast majority of its

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2020 EVM commitments, as of early December 2020, PG&E has represented to the Monitor team that the Company believes it will not meet three of those 38 commitments.

The first commitment relates to the deployment of Sensor IQ technology to approximately 500,000 SmartMeters in HFTDs, as part of a pilot program. Sensor IQ technology enables PG&E to customize data reads and alarms with the goal of identifying service transformer failures and reducing the probability of a wildfire ignition. (March 2020 WMP, at 5-94.) PG&E reports that it has had issues with ensuring the compatibility of the technology, and that the Company will not be able to deploy the Sensor IQ technology as planned in 2020. Accordingly, PG&E requested a change order from the CPUC in September 2020, seeking a modification to this WMP commitment. (See Sept. 11, 2020 Ltr. From M. Pender to C. Thomas Jacobs, attached hereto as Ex. D.) The Company currently expects to deploy the Sensor IQ technology by June 1, 2021.

The second commitment relates to PSPS power restoration. In the 2020 WMP, PG&E stated that it sought to restore power more quickly to customers impacted by a PSPS event. In 2019, its goal was to restore power to impacted customers within 24 daylight hours from the weather “all clear” announcement. The weather “all clear” announcement is when PG&E determines that the adverse weather conditions prompting the PSPS event have sufficiently subsided and that energy restoration efforts—including inspections and repair work—can safely begin. This year, PG&E set a target in its WMP to restore power for 98% of affected customers within 12 daylight hours from the weather “all clear” announcement. (March 2020 WMP, at 5-287.) While PG&E met this target during the majority of its PSPS events in 2020, we understand from PG&E that it did not meet the targeted restoration time during the PSPS events on September 7-10 (91% restored within the 12-hour target) and October 25-28 (96% restored within the 12-hour target). And, across all customers impacted by all of the 2020 PSPS events, PG&E’s restoration rate within the 12-hour target was approximately 96%, which is slightly below the 98% target.

The third commitment relates to deploying partial voltage detection on 365,000 three-phase SmartMeters in HFTDs by the end of the year. (*Id.* at 5-91.) This enhancement enables PG&E to detect partial voltage or no voltage conditions before an outage may occur, and respond to downed distribution wires more quickly. (*Id.*) On December 11, 2020, PG&E requested a change order from the CPUC, stating that the Company identified a technical issue impacting the reliability of billing reads from the enhanced SmartMeters. (See Dec. 11, 2020 Ltr. From M. Pender to C. Thomas Jacobs, attached hereto as Ex. E.) PG&E expects to correct the issue and deploy the 365,000 enhanced SmartMeters before the start of the 2021 wildfire season.

There were other commitments that PG&E had identified earlier in the year as “at risk” of not being completed in 2020, but the Company has notified the Monitor team that there is a recovery plan in place and that it anticipates completing those by the end of the year. The Monitor team is continuing to track PG&E’s progress on all targets.

3. Compliance with Certain VM Regulations (Modified Probation Condition #1)

As noted above, the Monitor team’s field inspections are focused on assessing PG&E’s compliance with the EVM scope and providing related feedback, and not on making regulatory compliance determinations (the domain of the CPUC and PG&E’s other regulators). However, as

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described above, some of the potential EVM scope exceptions we identify through our inspections may also represent non-conformances with applicable VM regulations. Accordingly, in this section, we provide observations of where our inspections overlap with applicable regulatory requirements set forth in CPUC General Order 95 (“GO 95”) and California Public Resources Code Sections 4292 and 4293 (“Section 4292” and “Section 4293,” respectively).⁶

The Monitor team’s assessment is that PG&E’s VM programs appear to achieve compliance with applicable regulations that overlap with our EVM assessments in approximately 98.9% of cases (13,772 trees appeared to be in compliance out of 13,925 total trees we inspected). As to the remaining 1.1%, our inspections have identified areas where vegetation appeared to be out of compliance with applicable legal clearance requirements that overlapped with the EVM scope at the time of our inspections. Additionally, the Company acknowledges that it is unable to certify full compliance with applicable VM laws; it further states that doing so is impossible as a practical matter.

a. Observations Regarding EVM Overlap with Applicable Regulations

i. *Section 4293 and GO 95*

The Monitor team’s VM inspections in 2020 have included a review of 13,925 trees, and we have found 153 potential non-conformances with GO 95 that overlapped with the scope of our assessment of the Company’s EVM work, in that they presented potential hazard or radial clearance issues.⁷ Of those 153 potential non-conformances, 33 were located in State Responsibility Areas (“SRAs”) and were identified during fire season—therefore, they were also potential non-conformances under Section 4293. Our reporting that these trees were potentially out of conformance with GO 95 and/or Section 4293 is limited to our observation that the trees did not appear to comport with the applicable clearance requirements on the date of our inspection.⁸

Of the 153 potential regulatory non-conformances that we have identified in our 2020 inspections, 102 were potential hazardous condition non-conformances under GO 95—that is, our inspections identified trees or limbs that had line-strike potential and a risk of failure due to a defect as of the date of our inspection. 29 of the 102 potential hazardous condition non-conformances were in SRAs, identified during fire season, and were therefore potential non-conformances under Section 4293. For the Court’s reference, Exhibit G contains five examples (out of a total of 29) of such trees that were potentially in violation of the hazard clearance requirements under GO 95 and Section 4293. Examples provided to the Court in Exhibit G are

⁶ For the Court’s reference, attached as Exhibit F is a one-page summary of the relevant requirements of Section 4292, Section 4293, GO 95, and FERC/NERC FAC-003-4.

⁷ The 153 potential regulatory non-conformances discussed in this section are greater than the 74 potential EVM scope exceptions we identified on work-verified miles because the potential regulatory non-conformances are drawn from a larger sample, including inspections from all stages of EVM as well as areas where EVM has yet to occur.

⁸ Although the Monitor team observed that these particular trees did not appear to conform with applicable clearance requirements in Section 4293 and GO 95, the Monitor team has not independently assessed at this time whether these trees were ultimately mitigated within the timeframes specified under GO 95, Rule 18.

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also trees on which PG&E agreed with the Monitor team's identification of the tree as a missed hazard tree under the EVM scope by PG&E inspectors.

Additionally, the remaining 51 potential regulatory non-conformances that we identified in 2020 were potential radial clearance non-conformances under GO 95—that is, our inspections identified trees (or limbs thereof) encroaching within four feet of the primary conductor or causing strain/abrasion on a secondary conductor in HFTDs as of the date of our inspection. Four of the 51 potential radial clearance non-conformances were in SRAs, identified during fire season, and were therefore potential non-conformances under Section 4293. For the Court's reference, Exhibit H contains all four examples of such trees that were potentially in violation of the radial clearance requirements under GO 95 and Section 4293. Examples provided to the Court in Exhibit H include (i) three trees on which PG&E agreed with the Monitor team's identification of the tree as a missed radial clearance issue by PG&E inspectors, and (ii) one tree on which PG&E's response is pending.

ii. Section 4292 and FAC-003-4

As discussed above, the Monitor team's VM inspections are primarily tailored to assessing compliance with the Company's EVM scope. Compliance with Section 4292 (which mandates a firebreak zone around certain utility poles) is not included in the EVM scope, and is therefore not incorporated into our VM inspection protocol. However, our distribution overhead field inspections include a review for vegetation near the base of a pole that contains non-exempt equipment—PG&E's equipment inspectors review for such vegetation as well. Our distribution overhead field inspection team identified three instances in 2019 (out of a total of 1,652 poles the Monitor team reviewed) where PG&E's inspectors failed to identify vegetation within 10 feet of the base of a pole containing non-exempt equipment. These three instances likely constituted a non-conformance with Section 4292 because of the vegetation encroachment and because these instances were located in SRAs during fire season. Appended hereto as Exhibit I are reports from the Monitor team documenting these three potential non-conformances. The Monitor team appreciates that the work required in these three instances may have been subsequently identified and prescribed through a different PG&E program. However, we respectfully submit that the PG&E equipment inspectors that reviewed the three poles missed the issue, and that the three areas were likely out of compliance with Section 4292 as of the time of our field inspections.

With respect to FAC-003-4 (which reflects VM requirements for certain transmission lines), the Monitor team does not have a sufficient basis to independently assess PG&E's compliance in 2020. Due to the fact that the EVM scope only applies to distribution lines and does not encompass transmission lines, we have prioritized and focused our VM field inspections—and corresponding feedback and analysis—on distribution lines. In 2021, we will be evaluating various efforts and initiatives that PG&E is undertaking around transmission vegetation management, COVID-restrictions permitting.

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iii. *PG&E's Statements and its Internal Assessments and Data Regarding Compliance*

PG&E internal assessments, which are based on a larger sample size than the Monitor team could inspect in 2020, reach similar conclusions—although regulatory compliance is not absolute, non-compliance is the exception.

Specifically, PG&E's Quality Assurance ("QA") team assessed a sample of 2020 VM work—including miles that had been pre-inspected, tree worked, or both—to assess compliance with the clearance requirements in Section 4292, Section 4293, GO 95, and FAC-003-4. As of December 9, 2020, the QA team had reviewed a total of 1,721.8 miles throughout PG&E's service territory, which included a review of 84,300 trees. Of that review set, 668 miles (38.8% of the total miles reviewed) and 53,548 trees (63.5% of the total trees reviewed) were located in HFTDs.

The QA team found that, of the total population of 84,300 trees reviewed, 99.49% were in compliance with the clearance requirements in the four VM regulations, for a total of 432 non-conformances. For HFTDs in particular, PG&E's QA team found that, of the total population of 53,548 trees reviewed, 99.54% were in compliance with the clearance requirements in the four VM regulations, for a total of 248 non-conformances.

Additionally, PG&E has represented to the Court on multiple occasions that—due to the dynamic nature of vegetation, the size of PG&E's service territory, and other factors—the Company cannot guarantee strict compliance with applicable VM regulations at all times, or at any given point in time. *See* Dkt. 1132, p. 3 ("PG&E is unable to certify that it is in perfect compliance with all applicable regulations at any specific point in time."); Dkt. 1016, p. 9 ("Given the dynamic conditions of vegetation, it is impossible for a utility to achieve perfect compliance or to represent that it is in full compliance at all times.")

iv. *Additional Compliance Observations*

In May 2020, PG&E informed the CPUC that, between 2019 and April 2020, the Company identified approximately 1,900 trees that posed a "Level 1" risk under GO 95, Rule 18, which meant that they presented "[a]n immediate risk of high potential impact to safety or reliability." (May 14, 2020 Ltr. from L. Jordan to K. Kjensli, attached as Ex. J.) As such, they required "immediate" mitigation under GO 95, Rule 18. PG&E's report to the CPUC stated that the Company failed to mitigate these Level 1 trees within the required timeframe, thereby violating GO 95 for each of the 1,900 instances, 157 of which occurred from January to April 2020. (*Id.*) The Company has since represented that it has mitigated all of these trees. In fact, following the Company's self-report to the CPUC in May 2020, the Company has taken several steps to increase oversight and management of Level 1 trees, including daily calls to track mitigation plans. As a result, between May and November 2020 (*i.e.*, following PG&E's initial self-report to the CPUC in May 2020 and following the implementation of its corrective actions), there were far fewer trees (*five in total*) that PG&E identified for immediate mitigation that were not actually mitigated within 24 hours, the applicable remediation timeframe. However, all five trees were mitigated within 48 hours, and all involved circumstances purportedly beyond PG&E's control, including: (i) a technical issue involving a delayed synchronization between a pre-inspector's work device

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and the routine VM database; and (ii) certain trees that could not be safely worked without a de-energization/line drop, which required one additional day to schedule, according to PG&E.

Additionally, the Company recently revised its policy governing Level 1 or immediate-mitigation hazard trees to provide additional guidance and clarity regarding identification and mitigation of such trees, including by adopting a conservative approach to identification to err on the side of safety. For example, to ensure that Level 1 trees are mitigated within the required timeframe under GO 95, the contractor that identifies the Level 1 tree is required, where possible, to remain onsite until a mitigation plan is developed.

Additionally, as described in our October 16 Letter, we identified a tree with leaves that had singed from contact with the conductor, thereby posing an immediate safety risk and a potential Level 1 risk under GO 95. PG&E mitigated the tree on October 5. PG&E's inspectors had previously identified this tree for urgent mitigation but had failed to mitigate it within the timeframe required by PG&E's policies. We have enclosed as Exhibit K our October 4, 2020 report, which shows that the tree was in violation of the clearance requirements of GO 95 at the time of our inspection, and likely constituted a Level 1 immediate risk under GO 95.⁹

4. Recordkeeping Requirements (Modified Probation Condition #4)

PG&E is required to maintain "traceable, verifiable, accurate, and complete records of its vegetation management efforts." (Dkt. No. 1040; Dkt. No. 1243.) Consistent with earlier observations that the Monitor team has shared with the Court—and consistent with our feedback to PG&E—there continue to be gaps in PG&E's recordkeeping. Additionally, PG&E's recent submissions to the Court regarding tree work near the origin of the Zogg Fire also reflect recordkeeping gaps. However, the Monitor team notes that the Company has made significant improvements since mid-2019.

a. Observations Regarding PG&E's Compliance

The Monitor team has identified multiple instances of VM records defects, including records reflecting that VM work was completed when it was not. Our understanding of these issues is based in part on our use of PG&E's recordkeeping systems when conducting field inspections, and our subsequent analysis of the data contained in those systems, which uniquely house certain records related to PG&E's EVM efforts. We have shared and discussed our recordkeeping observations with PG&E on several occasions.

Additionally, notwithstanding the gaps and issues that we have identified with PG&E's records, we note that PG&E's recordkeeping processes have improved since mid-2019. For example, PG&E made major upgrades to its EVM database (Arc Collector) in September 2019 and March 2020, both of which significantly improved Arc Collector, including by: (i) enhancing data integrity by introducing measures to ensure that data was not erased or overwritten;

⁹ This tree is one of the 51 potential radial clearance non-conformances under GO 95 that we discussed in Section 3(a)(i) above.

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(ii) modifying and/or removing outdated data; and (iii) introducing more automated fields to help simplify and standardize data entry.

Examples of certain recordkeeping issues that we have observed are set forth below.

- Arc Collector Maps. As we noted in our letter to the Court on July 26, 2019 (Dkt. No. 1089), we identified inaccuracies in PG&E's Arc Collector mapping tools. Since that letter, the Monitor team identified additional inaccuracies, including: (i) trees that are not accurately positioned on the map, or are otherwise located on an incorrect circuit segment; (ii) conductor lines that are not correctly located on the map; (iii) circuit segments with inaccurate starting and ending locations; and (iv) "phantom" circuit segments (*i.e.*, circuit lines that appear in the Arc Collector map but do not actually exist). For the Court's reference, Exhibit L contains five examples of such mapping inaccuracies observed by the Monitor team after its July 26, 2019 letter to the Court.

PG&E has been working to enhance the accuracy of its Arc Collector maps with Light Detection and Ranging ("LiDAR") technology. Specifically, PG&E has been using LiDAR patrols to collect image data that helps identify and notate conductor lines and vegetation with greater precision, and thereby enhance the maps in Arc Collector. These LiDAR-enhanced maps have been used for certain circuits within Arc Collector, but they contain inaccuracies. On October 30, 2020, while conducting a vegetation inspection on a circuit that had recently been enhanced using LiDAR, we found various circuit segments in the field that were missing from the map. The Monitor team also identified a potential radial clearance exception within a missing circuit segment. We shared this observation with PG&E, and PG&E acknowledged that the LiDAR-enhanced maps have reliability issues. Thus, while the Monitor team appreciates PG&E's efforts to use LiDAR-enhanced maps, we note that PG&E's maps for EVM work are still not accurate and complete. For the Court's reference, Exhibit H(2) contains the report where we identified a potential radial clearance exception on a missing circuit segment in an HFTD.

- Priority Hazard Tree Records, System Fragmentation, and Record Incompleteness. As described above, a Monitor team VM field inspection on October 4, 2020 identified a tree that was also identified for urgent work by the same PG&E pre-inspector twice in August 2020. However, the urgent work prescription was never recorded in the applicable VM database. That is, PG&E's records that are used to identify—and assign work for—priority hazard trees did not reflect the operative prescription for the hazard tree and the pre-inspector's corresponding observation. According to PG&E, the root cause of this issue is the fact that the pre-inspector that identified the tree was assigned to EVM and therefore could not directly prescribe certain hazard tree priority work because priority work is maintained in the routine VM database and prescribed accordingly. The routine VM database is separate from—and not synchronized with—the EVM database. Thus, a priority prescription by an EVM pre-inspector can only be made indirectly through a series of manual steps that have to occur outside of the EVM system; that did not occur in this instance. The Monitor team notes that PG&E is continuing to pursue a recordkeeping platform that will consolidate records relating to

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routine VM, EVM, and other VM programs. For the Court's reference, our report of this October 4, 2020 potential radial clearance exception is attached as Exhibit K.

- Data Inconsistency. As we originally noted in our July 26, 2019 letter to the Court, Arc Collector has had data integrity problems, which resulted in duplicate assignments and the deletion of assignments. Similarly, as we noted to PG&E in July and December 2019, Arc Collector contained inconsistent data, including approximately 2,500 trees assessed as hazards that had conflicting notations of not needing work. In response, PG&E made major database upgrades. However, data inconsistency issues remain. For example, based on a recent review of Arc Collector data, the Monitor team found approximately 8,200 trees whose tree assessment scores indicate the tree needs to be removed, but were nevertheless marked as not requiring tree work. Conversely, we identified approximately 31,000 trees marked for removal—out of a total of approximately 1.7 million trees with associated data entries by pre-inspectors in Arc Collector—that were missing tree assessment scores, which are required to assess the tree's hazard potential and which must be completed under PG&E's own record integrity policies. The Monitor team has also observed trees in the Arc Collector database that passed EVM work verification despite missing tree assessment scores (which must be included in Arc Collector for a tree to pass work verification). All of these examples demonstrate conflicting, inaccurate, or incomplete data in PG&E's EVM database. For the Court's reference, Exhibit M contains six examples of such inconsistent or missing data in the EVM database. The Monitor team understands that PG&E plans to again update its Arc Collector system in the coming months and intends to assess the impact of those changes on data consistency.
- Incorrect Entries by Contractors. The Monitor team is aware of multiple instances where contractors incorrectly recorded in PG&E's VM recordkeeping systems that work was completed, thereby rendering PG&E's records inaccurate as to completed work. For example, in late 2019, the Monitor team identified nine potential exception trees whose tree status in Arc Collector indicated that tree-trimming work had been performed on those trees but which did not appear to have been worked. After reporting the issue to PG&E, the Company informed the Monitor team that one of its contractors had incorrectly certified these trees as having been worked. PG&E determined that eight of these inaccurate entries were due to a number of reasons, including: (i) the contractor misidentified the tree that required work and therefore did not work the correct tree; (ii) the contractor made mistakes in data entry; and (iii) there were miscommunications between the pre-inspector and the tree workers with respect to data entry. In May 2020, PG&E informed the Monitor team of another VM contractor who had incorrectly certified up to 38 trees as having been worked, largely due to confusion over paint markings and incomplete documentation of customer refusals. All of these instances resulted in PG&E's records being inaccurate and incomplete. Despite these issues, PG&E deserves credit for the functioning of its internal controls in identifying and correcting these matters.

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i. Statements by PG&E

PG&E's recent submissions to the Court regarding tree work near the origin of the Zogg Fire appear to reflect recordkeeping gaps. In particular, with respect to VM work that was completed following the Carr Fire, it appears that PG&E does not maintain the underlying records of the work completed, and that those records are instead retained by a PG&E contractor. (Dkt. No. 1265 at p. 23.) It appears that PG&E is therefore unable—based on records the Company maintains—to reconcile post-Carr Fire vegetation prescriptions and completed work with assignments and work completed through PG&E's other VM programs. (*Id.*) Similarly, based on its own records, PG&E appears unable to ascertain the specifics of any Quality Control work that was done in the Carr Fire footprint, including the details of any findings and remediation work. (*Id.* at p. 24.) Additionally, as discussed in its filing, PG&E's review of its contractor's records suggests that the records may be inaccurate and/or incomplete in that they reflect two gray pine trees near the origin of the Zogg Fire that were identified for work, but do not appear to have been worked. (*Id.* at pp. 24-25.)

Relatedly, even though PG&E itself maintains records associated with CEMA and other routine VM work that was completed in the area of the Zogg Fire origin, PG&E's filings suggest that those records also do not appear to be fully accurate and complete. Specifically, it appears that, in an attempt to stagger CEMA and routine VM inspections, patrols in the area near the Zogg Fire origin were assigned and re-assigned multiple times, ultimately resulting in a recordkeeping entry on April 4, 2019 stating that a CEMA patrol was scheduled to begin in February 2019 (approximately two months earlier), even though the patrol had not actually occurred in February 2019. (*Id.* at pp. 30-32.) In sum, the patrol that was assigned appears not to have been conducted, resulting in records that appear to be inconsistent, inaccurate, and incomplete at least in part.

5. Vegetation Management Inspector Program (Modified Probation Condition #6)

a. Overview

PG&E is required to build an internal Vegetation Management Inspector ("VMI") program, with certain hiring deadlines in late 2020 and early 2021. Specifically, the Court has directed that:

PG&E shall, by September 1, 2020, staff an in-house vegetation management inspection manager to oversee a number of workforce resources who will provide in-field oversight of all stages of the vegetation management process, including the enhanced vegetation management program work, to be deployed throughout PG&E's territory, including High Fire-Threat Districts. By the end of September 2020, PG&E will extend offers to 10 in-house field supervisors and/or inspectors, an additional 10 inspectors by the end of November, and the remaining approximately 10 inspectors by the end of January 2021.

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(Dkt. No. 1243.) The Court's probation condition also provides additional details regarding: (i) the scope of VMI oversight for various phases of VM work; and (ii) recordkeeping and remediation requirements for any findings.

The Monitor team receives regular updates from PG&E regarding the status of the VMI program. Our assessment is that PG&E has thus far complied with the requirements set forth in the probation condition, and the Company continues to make progress towards operationalizing the VMI program.

b. Observations Regarding PG&E's Compliance

PG&E has complied with the staffing requirements set forth by the Court. Specifically, by September 30, 2020, the Company had made offers to all seven VMI supervisors, along with offers to four VMIs—a total of 11 offers by September 30. All of these individuals have accepted their offers and joined PG&E. PG&E also made offers to an additional 11 VMIs by November 30, all of whom accepted. PG&E expects to onboard these individuals by January 4, 2021. Thus, by November 30, PG&E had extended offers to 22 individuals in total (seven supervisors and 15 VMIs). PG&E is currently interviewing additional VMIs. The Company reports that it is on track to make the remaining eight offers to VMIs by January 30, 2021, as required by the probation condition. All of these VMIs will report to a Manager that the Company hired on July 1, 2020, in advance of the September 1, 2020 deadline in the probation condition.

PG&E informed the Monitor team that it currently plans for the full VMI organization to include approximately 95 VMIs, seven supervisors, one Manager, and some additional support staff. The seven supervisors are PG&E employees. PG&E estimates that 30 of the VMIs will be PG&E employees, and that the remaining 65 VMIs will be contractors. Including supervisors and VMIs, the program will include approximately 37 direct PG&E employees, exceeding the requirement of 30 employees listed in the probation condition.

PG&E is still developing processes for the VMI program—including trainings, work assignments, recordkeeping systems, and oversight mechanisms—and expects that the program will be operational by the first quarter of 2021. PG&E anticipates that all new VMIs will begin a six-week orientation and training regime starting January 4, 2021, including in-field and classroom trainings and assessments. PG&E is also designing and testing its recordkeeping platform for VMIs to document their field observations. Additionally, to assist with training and process development, supervisors and VMIs have started conducting limited field inspections.

The Monitor team will continue to assess PG&E's progress as it develops the new VMI program, and we look forward to evaluating the program once deployed in early 2021.

Conclusion

PG&E has taken important steps to change its trajectory for 2021 wildfire mitigation work planning and execution, including its EVM work, to ensure that the selected work prioritize risk reduction according to its models ahead of other considerations. The Monitor team has been encouraged by the steps PG&E has taken thus far regarding the 2021 planning process and its risk

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focus. While PG&E's planning efforts are underway, our assessment above highlights the need to continue to focus on quality of execution and records integrity—notwithstanding that PG&E is compliant with the EVM scope in most circumstances. The Monitor team continues to identify deviations from PG&E's EVM scope throughout all stages of the EVM process, including following its work-verification efforts; some of those deviations also overlap with applicable vegetation regulations; and the Monitor team continues to identify recordkeeping gaps at PG&E. The Monitor team will continue to assess PG&E's EVM and related efforts moving forward.

Should the Court have any questions, please do not hesitate to reach out.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Filip". The signature is written in a cursive, slightly slanted style.

Mark Filip