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23 COMPANY

24 UNITED STATES DISTRICT COURT
25 NORTHERN DISTRICT OF CALIFORNIA
26 SAN FRANCISCO DIVISION

27 UNITED STATES OF AMERICA,
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29 Plaintiff,
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31 v.
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33 PACIFIC GAS AND ELECTRIC COMPANY,
34
35 Defendant.

Case No. 14-CR-00175-WHA

**PG&E’S RESPONSE TO ORDER TO
SHOW CAUSE WHY FURTHER
CONDITIONS OF PROBATION
SUGGESTED BY AMICI SHOULD
NOT BE IMPOSED**

Judge: Hon. William Alsup

1 Defendant Pacific Gas and Electric Company (“PG&E”) respectfully submits this
2 response to the Court’s February 4, 2021 order to show cause why the conditions of probation
3 relating to PG&E’s information management and record-keeping suggested by Amici Alex
4 Cannara and Gene A. Nelson should not be imposed. (Dkt. 1293.)

5 PG&E shares the Court’s and Amici’s desire to design and implement solutions
6 that reduce wildfire risk. However, there is no evidence in the record that Amici’s proposed
7 conditions would further that goal. Instead, we believe Amici’s proposed conditions would
8 distract from, and interfere with, ongoing efforts already being undertaken by PG&E to improve
9 its record-keeping processes and drive down risk under the supervision of PG&E’s regulators,
10 the Federal Monitor and the California Governor’s Office Operational Observer.

11 In fact, just last week, the CPUC informed the Court that it issued a draft
12 resolution invoking the Enhanced Oversight and Enforcement Process of PG&E in light of
13 PG&E’s implementation of its 2020 enhanced vegetation management (“EVM”) program in
14 comparison to risk assessments. (*See* Dkt. 1320.) If the CPUC’s resolution is adopted by the
15 CPUC, PG&E will be required to submit a corrective action plan and then report to the CPUC on
16 its progress every 90 days. The CPUC’s findings are consistent with concerns raised by the
17 Federal Monitor. (*See* Dkts. 1247-1, 1284.) As PG&E previously told the Court, PG&E agrees
18 that in making operational decisions, PG&E must give greater weight to working the riskiest
19 areas first and must do so in a more rigorous, consistent and measurable way, and PG&E has
20 already put in place specific processes to further emphasize risk ranking for EVM scheduling in
21 2021. (Dkt. 1258.)

22 Maintaining high-quality records and ensuring the efficient utilization of
23 information to mitigate wildfire risk are among the highest of priorities for PG&E. PG&E
24 recognizes and acknowledges that its record-keeping in the past has fallen short. PG&E has been
25 working very hard in recent years to improve its records. PG&E fully acknowledges its efforts
26 to improve data management are not done, but, contrary to Amici’s suggestions, there have been
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1 very concrete improvements made and being made. PG&E highlights some items of progress
2 below.

3 *Asset Inspections.* PG&E's data management regarding its asset inspections has
4 improved over the last two years. Prior to the Camp Fire, PG&E's records of its inspections of
5 assets consisted of paper records filled out by inspectors during their inspections. The records
6 were typically exception based and did not include information about which specific components
7 were checked by individual inspectors or the condition of those components. Because the
8 records were paper based, they carried no "metadata", such as whether the inspector was at the
9 appropriate location.

10 Today, those asset inspection records in high-fire threat areas are digital and are
11 more auditable and verifiable. For example, if the Court has a question about an inspection of
12 transmission tower in a high-fire threat area, PG&E can provide the all-digital inspection forms,
13 as well as photographs of the tower (including the physical identification tags affixed to the
14 tower), along with metadata showing the time and location when the inspector or drone took
15 those photographs. An electronic checklist guides the inspector to assess each of the components
16 targeted by the inspection and check them off, and photos are required to document the condition
17 of numerous components. The inspection forms make it mandatory to fill certain fields and
18 make extensive use of "drop down" menus to create consistent entries.

19 As the data from these efforts has accumulated, PG&E is seeking to leverage
20 them. For example, they are being used in PG&E's ongoing efforts to record or estimate the age
21 of certain critical transmission components in high-fire threat areas. PG&E has also created and
22 is piloting the use of artificial intelligence programs to review and analyze inspection
23 photographs to flag components of potential concern (such as worn c-hooks).

24 *PSPS.* The data management advances made when it comes to PSPS are
25 substantial. PG&E had no PSPS program or infrastructure in 2017. Now, it has a program that
26 is informed by one of the largest collections of advanced weather stations fielded by a utility
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1 anywhere in the world and is staffed from a new (2018) and upgraded (2019) hub for monitoring
2 wildfire risks and coordinating prevention and response efforts.

3 The PSPS program uses advanced models to forecast weather across PG&E's
4 service territory and recommend de-energization when weather conditions warrant it. These data
5 management models are being improved over time. For example, the PG&E Operational
6 Mesoscale Modeling System ("POMMS"), which produces weather forecast that serves as a
7 foundation for PG&E's de-energization decisions, initially forecast weather only at a 3-kilometer
8 resolution. But for the 2020 fire season, PG&E implemented a higher resolution 2-kilometer
9 forecast that allowed PG&E to analyze data, forecast weather and implement de-energizations at
10 a more granular level. The new 2-kilometer model was, after significant validation and testing,
11 determined to lead to more accurate weather forecasts, and thus ultimately recommended by
12 two independent groups of external experts and adopted by PG&E.

13 PG&E also updated its Outage Producing Winds ("OPW"), Utility Fire Potential
14 Index ("Utility FPI") and Distribution Large Fire Probability ("LFP_D") models. As part of
15 updating the LFP_D model for 2020, PG&E analyzed the updated LFP_D model against historical
16 weather events, including those present during the most catastrophic and wind-driven fires in
17 PG&E's service territory. The OPW model was updated in 2020 to incorporate into the model
18 outage data from 2019 through February 2020. For 2021, PG&E is currently in the process of
19 changing the Utility FPI model to use an improved, satellite-based fire-occurrence dataset and
20 weather information.

21 A new website keeping customers informed of PSPS events is cloud-based and
22 scalable, allowing the site to field massive surges in customer visits that crashed PG&E's old
23 website in prior years. Once a scope for de-energization is decided, PG&E's data management
24 systems translate the de-energization scope to the list of customers that need to be notified to
25 prepare safely for the de-energization. Communicating across these distinct systems with the
26 accuracy and speed necessitated by PSPS events was a significant data management challenge,
27 one ultimately and successfully overcome with the help of a third-party's cutting-edge data
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1 management platform—the Palantir Foundry platform. Using that platform, this past year PG&E
2 increased its notification rate to customers within the specified time frame to over 99%, an
3 improvement from below 90% in 2019.

4 *Vegetation Management.* PG&E has recently detailed for the Court its current
5 data management systems used across its vegetation management programs. (*See* Dkt. 1271.)

6 Initiatives are underway to continue to improve those data management systems
7 and records. These initiatives face unique challenges in the context of VM. The objects of the
8 work—trees—are very significant (many millions), are frequently located in areas without
9 reliable cell phone coverage, and they are not PG&E’s property. The number of employees and
10 contractors that need to access the various systems at any given time number in the thousands,
11 and each individual tree worker is not necessarily or even typically adept with technology. The
12 programs that exist have developed at different times over the years, and have relied on differing
13 technology and systems.

14 PG&E’s immediate initiatives include changes relating to its Priority 1 and
15 Priority 2 vegetation tags. In part based on feedback from the Federal Monitor, PG&E intends to
16 implement by the middle of the year a new application to all of PG&E’s VM inspectors and
17 work crews for identifying Priority 1 and Priority 2 work. PG&E will require all Priority 1 and
18 Priority 2 vegetation tags be entered into this single application. The result is to enable PG&E to
19 disseminate that information and use it for taking such trees into account during PSPS events as
20 well as to ensure that such trees are timely remediated.

21 The company’s most modern VM platform is the digital one used for EVM,
22 which relies on a digital iOS-based app and the digital, in-app Tree Assessment Tool, which
23 record information in a database. The apps have certain mandatory fields that cannot be left
24 blank and make extensive use of “drop down” menus to create consistent entries, and they track
25 who makes changes to records and when. In standing up that platform, PG&E faced numerous
26 challenges, including as users interacted with an unfamiliar platform, which PG&E has been
27 addressing with refinements to the programs. As the Federal Monitor has noted, significant work
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1 remains to be done, but improvement has occurred. PG&E’s goal in the mid-term is to transition
 2 all tree removal and trimming work into a similar, consolidated platform, one that leverages the
 3 learnings and iterations from standing up the digitized system for EVM.

4 * * *

5 Amici’s proposed conditions are not informed by the wide-ranging work that is
 6 currently going on within PG&E. PG&E’s efforts have benefited from the detailed involvement
 7 and concrete suggestions of the Federal Monitor and the Operational Observer, but Amici do not
 8 offer that type of feedback. Instead, Amici ask the Court to impose requirements that would bog
 9 down and distract from existing efforts by requiring finite time and attention to be devoted to
 10 procedural and bureaucratic steps, rather than ongoing efforts to drive down risk.

11 PG&E further explains why the specific conditions proposed by Amici should not
 12 be imposed, in addition to the reasons set forth above.

13 **Proposed Condition 13:**

14 PG&E shall hire a Chief Data Operations Officer within 90 days with responsibility over
 15 a sufficient staff or no fewer than 10 data operations, information management, record-
 16 keeping, engineering, and legal professionals with responsibility for reviewing PG&E’s
 17 information management and record-keeping systems and their relationship to PG&E’s
 18 operations including vegetation management work and PSPS, and to report to PG&E’s
 19 CEO, the PG&E Board, the Monitor, parties to this action including Amici and this court
 20 within 180 days about recommended actions to improve PG&E’s information and record-
 21 keeping management and the relationship between information management and analysis
 22 and action to operate safely. PG&E shall fund and support this position as a long-term
 23 corporate strategy to identify and remediate deficiencies in PG&E’s information
 24 management and record-keeping systems, including those of its contracts and
 25 subcontractors, and better use information and records to trigger and inform safe
 26 operation.

21 **PG&E Response:**

22 As PG&E indicated during the February 3, 2021 hearing, the information
 23 management and record-keeping issues that Amici raise fall under the purview of the company’s
 24 Chief Risk Officer (“CRO”), who already reports directly to the CEO and the Board. PG&E
 25 views data integrity as a fundamental risk issue, which is why prioritization of the relevant
 26 initiatives to advance information management are overseen by the CRO. Amici have not
 27 worked with PG&E’s CRO. The Federal Monitor, which has, reported to the Court that “if you
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1 were objectively coming in to pick someone to put into a space to handle profound issues, he
2 would be a strong candidate”. (Feb. 3, 2021 Hr. Tr. 47:8-9.)

3 Appointing a Chief Data Operations Officer and assigning an arbitrary number of
4 direct reports to him or her, as Proposed Condition 13 requires, will not result in better data
5 management during the term of PG&E’s probation. Amici have put forward no evidence that
6 their proposal would improve any aspect of PG&E’s operations, or that it would provide any
7 greater assurance that PG&E would not violate state law. Ordering these conditions would
8 instead undercut ongoing efforts to improve PG&E’s data management and record-keeping, and
9 add additional layers of hierarchy. The condition would require PG&E to hire a new executive
10 to take over functions already being executed by existing teams, and would cause delay and
11 disruption in PG&E’s ongoing efforts as a search is conducted and an applicant is recruited,
12 brought up to speed on existing conditions, and brought up to speed on feedback received to date
13 from internal and external experts.

14 **Proposed Condition 14:**

15 PG&E shall immediately initiate steps to prevent data falsification or omission. This
16 includes, but is not limited to, issuing orders to its employees, contractors, and
17 subcontractors and creating information management and record-keeping systems that
18 prevent: a) the creation of false records such as by “scheduling” inspection or work in the
19 past (a false records that makes it appear that work has been done); b) omission of input
20 of information in data fields; c) omission of sufficient information to identify issues and
21 follow-up needs. PG&E shall report to the Monitor, the Court, parties including Amici,
22 its CEO and Board within 60 days on steps it has initiated to prevent data falsification or
23 omission.

24 **PG&E Response:**

25 PG&E has already initiated many steps to prevent data falsification and omission.
26 For example, after PG&E identified to the Court an instance where a contractor had prepared a
27 false record—and PG&E had barred that contractor from working on any PG&E projects going
28 forward—the Court suggested that PG&E stress to its contractors the seriousness of safely doing
PG&E’s work. (Sept. 17, 2019 Hr. Tr. 31:13-32:8.) PG&E subsequently did just that, issuing
additional notices to its contractors emphasizing the importance of accurate record-keeping.

 Similarly, PG&E’s Employee Code of Conduct states that each and every
employee is required to conduct himself or herself “in an honest and ethical manner in

1 accordance with our Culture, and comply with all laws, rules and regulations, and PG&E's
2 policies, standards and procedures".¹ The Code of Conduct emphasizes that "[d]ata management
3 is a business-driven, enterprise-wide, shared responsibility" and that PG&E employees are "all
4 responsible for managing PG&E records and information to verify they are complete, accurate,
5 reliable, secure and available". Employees are required to complete training on the Code of
6 Conduct annually, and any violations of the Code of Conduct may lead to discipline or
7 termination.

8 Further, as described above, PG&E has been working steadily over the past
9 number of years to move records from paper-based systems toward all-digital systems that are
10 more auditable and verifiable.

11 For example, PG&E has high-quality PSPS records and has used them to provide
12 answers to detailed questions that the Court has posed about PSPS events in 2020 and to provide
13 a voluminous amount of underlying data. For asset inspections, as discussed above, the records
14 are now all digital in high-fire threat areas and fundamentally improved from the records PG&E
15 has generated in the past. And PG&E has described to the Court, PG&E's steps to improve its
16 VM record-keeping. For example, PG&E implemented three updates to the Collector
17 application for EVM in May 2019, September 2019 and March 2020. These updates included
18 incorporating drop-down menus in information fields to ensure standard terminology, requiring
19 certain fields to be completed prior to submitting a record, preventing users from editing
20 vegetation points and conductor segments that already passed work verification and requiring
21 users operate the app on an iOS product (*i.e.*, an iPhone or iPad) for added stability.

22 With respect to the rescheduling of the 2019 CEMA patrol of the Zogg Mine
23 Road area of Girvan 1101 on April 4, 2019 to Q1 2019 (February 15), which PG&E described in
24 its November 18, 2020 submission to the Court, PG&E disagrees with the characterization that a
25 "false record" was created. (Dkt. 1265 at 30-32.) This April 4 re-scheduling change made the
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27 ¹ PG&E's current Employee Code of Conduct is accessible here: <https://www.pgecorp.com/aboutus/pdfs/PGE-Employee-Code-of-Conduct-External-021721.pdf>.
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1 CEMA patrol register as overdue in PG&E's Project Management Database ("PMD") but was
2 not marked as complete. In any event, PG&E has taken steps to increase the level of controls in
3 the PMD by, among other things, limiting the number of individuals with access to alter the
4 planned completion date of a patrol.

5 PG&E has also described how this year it is hiring approximately 200 additional
6 work verification personnel to expand 100% work verification to routine VM and CEMA patrols
7 in high-fire threat areas, in addition to EVM, to increase work quality, including by identifying
8 any needed work not recorded by the primary inspector.

9 **Proposed Condition 15:**

10 PG&E shall within 90 days propose a plan to the Court, the Monitor, parties including
11 Amici, the CEO, and the Board to use sensors, QR codes, or other markets that actively
12 communicate information (collectively, Internet of Things (IoT) devices) to mark trees
13 for removal and track the status of the tree removal process for vegetation management.
14 This proposal shall plan deployment of IoT devices for vegetation management in Tier 2
15 and 3 High Wildfire Danger zones in lieu of using spray paint or other passive markets no
16 later than 180 days after this order. The information from the IoT device shall be
17 integrated into PGE's information management, record-keeping, and work system to
18 track progress from identification of vegetation requiring additional work such as
19 trimming, removal, or monitoring, to the follow-up work, and the consideration of the
20 status of that work in the PSPS process and in PG&E's daily operations.

16 **PG&E Response:**

17 As detailed above, PG&E has dedicated a significant amount of resources to
18 initiatives that seek to improve its VM and PSPS work processes. And PG&E has embraced new
19 technology, including drones to capture high-definition imagery, advanced modeling to simulate
20 fire risk, state-of-the-art software from Palantir and ground-based LiDAR to check conductor
21 clearances. But Amici's proposed requirement that PG&E within 180 days use an undefined and
22 unspecified Internet of Things ("IoT") device to mark trees identified for work is not grounded in
23 experience nor feasible in the timeline set forth in the Proposed Condition.

24 While Amici assert that PG&E's use of spray paint to identify trees for removal is
25 "decades out-of-date", Amici fail to point to one major utility that affixes IoT devices to trees
26 scheduled for work as a general practice, nor is PG&E aware of one. More to the point,
27 however, Amici's implication that spray painting is PG&E's sole means of identifying trees for
28 removal is wrong. Subsequent work crews are provided with locational information to get in the

1 vicinity of the subject tree, and then spray paint and descriptors about the tree—such as its
2 species, height and width—identify the specific tree at issue. This is a method that is used
3 widely in vegetation management in the industry. PG&E contracts with several national or
4 regional vegetation management companies for its work crews and PG&E understands that these
5 are the same general practices that they use for other utilities.

6 Rather than continue using industry-standard approaches, Amici mandate that
7 “IoT devices” be deployed for vegetation management in Tier 2 and 3 High Wildfire Danger
8 zones in lieu of using spray paint or other passive markers within 180 days. This mandate is
9 ill-advised. It would require a diversion of finite attention and resources to rush to meet this
10 mandate, one that is informed by no expert analysis and that fails to take into account realities on
11 the ground, such as the fact that large swaths of PG&E’s service territory in high-fire threat areas
12 lack reliable data connectivity, all when there is no evidence that the current industry-standard
13 approach is not working.

14 Amici offers no evidence that their vague solution is more effective than spray
15 paint at confirming, in combination with other descriptors, the specific tree at issue once a tree
16 crew arrives in the vicinity of the tree, or that a barcode is more likely to be seen by tree crews
17 than bright-colored spray paint. To be clear, as part of PG&E’s ongoing operational efforts,
18 PG&E has considered the use of new technologies (such as barcodes) on trees that are identified
19 for work and will continue to do so, independent of Amici’s proposals. But PG&E is not aware
20 of an existing application used by another major utility that could be readily adopted by PG&E.
21 The applications are therefore untested and the value is unproven in the context of vegetation
22 management. PG&E would need to build the requisite program, infrastructure and training from
23 the ground up. In order to meet the timelines set by Amici, PG&E would need to rush to validate
24 an untested product, then roll it out despite very limited time to conduct sufficient training,
25 optimization and testing, let alone integrate it into PG&E’s existing databases. The result is
26 likely to be errors by employees and contractors, ones that could have serious unintended
27 consequences.

1 PG&E has identified and implemented, and will continue to identify and
2 implement, ways to utilize more technology in its operations. But Amici’s mandate is not the
3 right approach.

4 **Proposed Condition 16:**

5 PG&E shall immediately initiate consideration of the status of information management
6 based on the records in its possession, including in the possession of its contractors or
7 subcontractors, in PSPS and in daily operation. Within 90 days PG&E shall report to the
8 Monitor, the Court, parties including Amici, its CEO and Board about its steps to
9 improve its information management and recordkeeping process to improve information
10 integrity, inform analysis, and inform and enhance daily operation including PSPS.

11 **PG&E Response:**

12 As the examples in this submission demonstrate, PG&E already considers
13 information management and how to improve it in conjunction with its regulators, the Federal
14 Monitor and other parties. Additional reports—beyond the ones regularly provided to the
15 Federal Monitor—would only serve to divert and distract the team members who are working to
16 reduce risk from their ongoing work.

17 * * *

18 PG&E is working to improve its information management and record-keeping
19 practices for its wildfire prevention efforts. Amici’s vague Proposed Conditions would hinder
20 rather than advance these goals.² They should not be adopted.

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27 ² The Proposed Conditions are objectionable for several other reasons detailed in past
28 filings. (See, e.g., Dkt. 1279 at 3 n.2; Dkt. 1195 at 3-6; Dkt. 1187 at 12-17; Dkt. 976 at 13-50.)
PG&E reserves all rights relating to such arguments.

1 Dated: March 3, 2021

Respectfully Submitted,

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