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December 1, 2023

Via Electronic Filing

Caroline Thomas Jacobs, Director Office of Energy Infrastructure Safety California Natural Resources Agency 715 P Street, 20th Floor Sacramento, CA 95814 <u>caroline.thomasjacobs@energysafety.ca.gov</u>

Re: PG&E's Request for 2023 Safety Certification Pursuant to Public Utilities Code § 8389

Dear Director Thomas Jacobs:

Pacific Gas and Electric Company (PG&E or the Company) respectfully submits this request for an annual safety certification pursuant to the requirements contained in paragraphs (1), (2), (3), and (5) of Public Utilities Code (Pub. Util. Code) Section 8389(e). Our most recent safety certification was issued on December 13, 2022. As required by Pub. Util. Code Section 8389(f)(2), we hereby submit this request for a new safety certificate prior to the expiration of our current certificate and as directed by the Office of Energy Infrastructure Safety (OEIS or Energy Safety).¹ This request is also made in accordance with the guidance outlined in Energy Safety's final 2023 Safety Certification Guidelines (2023 Guidelines), issued on June 28, 2023.

Paragraph (1) of Section 8389(e): *"The electrical corporation has an approved wildfire mitigation plan."*

Pursuant to Pub. Util. Code Section 8389(e)(1), a utility must have an approved wildfire mitigation plan (WMP) in order to apply for a safety certification. Pub. Util. Code Section 8386.3(a) states that a utility's approved WMP "shall remain in effect" until Energy Safety approves that utility's subsequent plan. On November 10, 2022, Energy Safety approved our 2022 WMP and that document remains our most recently approved WMP.² On March 27, 2023, we submitted our 2023-2025 WMP.³ On June 22, 2023, Energy Safety issued a

¹ See <u>Corrected Energy Safety Response to PG&E's Request for Supplemental Response to Revision</u> <u>Notice</u> (Sep. 13, 2023) at 1-2 (extending the deadline to apply for safety certification in unison with the deadline for a decision on PG&E's WMP).

² Energy Safety Decision on PG&E's 2022 WMP Update (Nov. 10, 2022).

³ PG&E 2023-2025 WMP, Revision 0 (Mar. 27, 2023).

Revision Notice and requested we modify our 2023-2025 WMP before making a decision on whether it should be approved.⁴ As a result, on August 7, 2023, we submitted a revised WMP in response to the Revision Notice.⁵ However, on September 11, 2023 we requested permission to supplement this revised WMP to provide additional information in response to Energy Safety's Revision Notice.⁶ Energy Safety approved this request on September 12, 2023.⁷ We, thus, submitted this supplemental material and a further revised WMP on September 27, 2023.⁸ Energy Safety issued a draft decision approving our WMP on November 13, 2023⁹ and a final decision is expected by December 29, 2023.¹⁰

In the 2023 Guidelines, Energy Safety instructs that:

If an element required for a Safety Certification request is missing at the time of the request (e.g., Energy Safety has not yet issued a decision on the electrical corporation's most recent WMP), an electrical corporation may submit the missing element subsequent to the initial Safety Certification request up until ten days prior to the deadline for Energy Safety's decision on the electrical corporation's Safety Certification request (the deadline being 90 days following the submission date of an electrical corporation's request for Safety Certification). If submitted in a timely fashion, Energy Safety will take such supplemental materials into account in its decision-making process regarding the Safety Certification request.¹¹

Thus, we will await Energy Safety's upcoming final decision on our 2023-2025 WMP and provide supplemental materials if a final approval is issued.

Paragraph (2) of Section 8389(e): *"The electrical corporation is in good standing, which can be satisfied by the electrical corporation having agreed to implement the findings of its most recent safety culture assessment, if applicable."*

Safety Culture Assessments Issued by Energy Safety

Pub. Util. Code Section 8389(e)(2) requires a utility to agree to implement the findings of its most recent safety culture assessment as part of the safety certification process. Our most recent Safety Culture Assessment was issued by Energy Safety on May 8, 2023.¹² The Safety

² Energy Safety Response to PG&E's Request for Supplemental Response to Revision Notice (Sep. 12, 2023).

⁸ PG&E 2023-2025 WMP, Revision 3 (Sep. 27, 2023).

⁹ Energy Safety Draft Decision on 2023-2025 WMP of PG&E (Nov. 13, 2023).

¹⁰ Corrected Energy Safety Response to PG&E's Request for Supplemental Response to Revision Notice at 2.

¹¹ See <u>2023 Guidelines</u> at 6.

¹² Energy Safety's 2022 Safety Culture Assessment for PG&E (May 8, 2023).

⁴ Energy Safety Revision Notice for PG&E's 2023-2025 WMP (Jun. 22, 2023).

⁵ PG&E 2023-2025 WMP, Revision 2 (Aug. 7, 2023).

⁶ <u>PG&E's Request for Supplemental Response to Revision Notice</u> (Sep. 11, 2023).

Culture Assessment evaluated our safety culture through the use of workforce surveys, management self-assessments, and interviews, and found that "PG&E has exhibited continued growth in safety culture maturity since 2020." The report also provided the following recommendations:

- 1. PG&E should build safety leadership skills related to safety culture by:
 - a. Continuing to execute its 2025 Workforce Safety Strategy with clearly defined tactics and performance measurements for leadership.
 - b. Executing its Safety Leadership Development Program for all levels of its leadership, including senior leadership and frontline supervisors in the field.
- 2. PG&E should optimize its safety communications and safety-enabling systems by:
 - a. Reviewing communication channels and tactics for opportunities to increase the effectiveness and consistency of safety communications across the organization.
 - b. Improving the quality of event investigations, continuing to share event investigation results across the organization, and improving the hazard and near-miss reporting process to align expectations on what to report and when to report.
- 3. PG&E should build on its current worker training plan by:
 - a. Incorporating new safety-related training modalities and topics that enable all levels of the organization to develop a more proactive and curious mindset and assessing participant feedback and using it to make trainings more effective, relevant, and engaging.
 - b. Conducting post-training peer learning activities such as group discussions and also cultivating a mentoring program and/or encouraging the appointment of a senior team member to be a "safety steward"—someone experienced who can be an effective communicator about responding to real-life situations that involve judgement calls in the field that are not covered by standard policies or procedures.
- 4. PG&E should continue to recognize and take action to mitigate the risk exposure posed by interactions with the public focusing on effective communications and worker training.
- 5. PG&E should take action to mitigate risk from employee impairment by:
 - a. Reviewing and updating or creating an organizational policy regarding impairment issues: fatigue management, distracted driving, and stress management.

- b. Reviewing and updating work processes and scheduling to ensure alignment with its organizational impairment policy.
- c. Training supervisors to identify, mitigate, and document worker impairment.

On June 16, 2023, we notified Energy Safety that we agreed to implement all of the findings and recommendations in the Safety Culture Assessment and committed to work with Energy Safety and its third-party contractor, the National Safety Council, regarding this implementation.¹³

Safety Culture Assessments Issued by the California Public Utilities Commission

In April 2017, NorthStar Consulting Group (NorthStar) released its first report entitled "Assessment of Pacific Gas and Electric Corporation and Pacific Gas and Electric's Safety Culture Prepared for California Public Utilities Commission" (NorthStar Report) as part of Investigation (I.) 15-08-019.¹⁴ This report went through several iterations and the Final NorthStar Report was issued on September 16, 2022.¹⁵ This is the most recent safety culture assessment conducted by the California Public Utilities Commission (Commission).¹⁶

The Final NorthStar Report contained 87 recommendations related to safety culture and PG&E has been working with NorthStar and the Commission's Safety Policy Division on implementing these recommendations.¹⁷ On May 19, 2023, the Commission closed proceeding I.15-08-019, noting that "PG&E has implemented the majority of NorthStar's recommendations, and there is a plan in place to continue monitoring PG&E's progress in the remaining areas."¹⁸ Of the 87 recommendations in the Final NorthStar Report, as of August 16, 2023, eight remain in the process of being implemented, and PG&E provides updates on the progress of this implementation on a semi-annual basis.¹⁹ The most recent update was provided on September 29, 2023.

¹³ See Agreement of PG&E to Implement the Recommendations of the Final 2022 Safety Culture Assessment Report (Jun. 16, 2023).

¹⁴ See <u>Proposed Decision Ordering PG&E to Implement Recommendations of the NorthStar Report,</u> <u>Appendix A</u> (Oct. 25, 2018).

¹⁵ <u>Administrative Law Judge's Ruling Providing the Final NorthStar Report Update and the Safety Policy</u> <u>Division Staff Report (Final NorthStar Report)</u> (Sep. 16, 2022).

¹⁶ See <u>P.U.C. § 8386.2</u>.

¹⁷ <u>Final NorthStar Report</u> at 10-17.

¹⁸ D.23-05-009 at 35 (May 19, 2023).

¹⁹ Advice Letter No. 4777-G/6993-E (Aug. 16, 2023) at 2.

Paragraph (3) of Section 8389(e): *"The electrical corporation has established a safety committee of its board of directors composed of members with relevant safety experience."*

Pub. Util. Code Section 8389(e)(3) requires an electrical utility to create a safety committee of its board of directors that is composed of members with relevant experience. We established the Safety and Nuclear Oversight (SNO) Committee to promote a robust safety culture through the oversight of goals, programs, policies, and practices. The SNO Committee is comprised of members of our Board of Directors and its responsibilities include, among other things, overseeing the Community Wildfire Safety Program, the Enhanced Powerline Safety Settings (EPSS) program, and the Public Safety Power Shutoff (PSPS) program.²⁰ In addition, the SNO Committee monitors and reviews the adequacy and direction of the corporate safety function, with the Chief Risk Officer and Chief Safety Officer reporting to the Committee.

The SNO Committee is composed of Chair Cheryl F. Campbell, Jessica L. Denecour, Admiral Mark E. Ferguson III, W. Craig Fugate, Michael R. Niggli, and William L. Smith. There have been no changes to the membership of the SNO Committee since our last application for safety certification. Details of each Board member's safety-specific education, training, and professional experience are included here as Attachment A.²¹

Description of How the Safety Committee Aligns with the Overall Company Governance

It is the fundamental responsibility of the SNO Committee to advise and assist the Board of Directors on all safety matters, including both public and employee safety. The SNO Committee is empowered to act independently of other Board committees and is not subject to direction or limitation by any other committee.²² The Committee meets at least six times per year and retains the power to utilize, at the company's expense, the services of independent third-party experts, advisors, or counsel to assist it in its responsibilities. Additionally, the SNO Committee has the right to request and receive reasonable resources from the Board to facilitate its mission. The SNO Committee's duties and responsibilities function in lockstep with our entire Board of Directors, each of whom is committed to the safety of our employees, our contractors, and the communities we serve. In addition to the above, the SNO Committee also engages with Wildfire Operations through operating reviews and informal meetings that go beyond the topics covered in the formal committee meetings.

Report on Significant Topics Covered by the SNO Committee

As described above, the SNO Committee advises the Board of Directors on all safety matters including key topics such as wildfire safety, employee and contractor safety, and public safety. A complete description of the topics covered by the SNO Committee is included in our

²⁰ The SNO Committee's charter was amended in February 2023 to expand its scope to include EPSS (which didn't exist when the previous charter was approved) and other powerline wildfire safety programs involving Utility-initiated outage events and related technologies.

²¹ These safety qualifications were also included with our 2021 and 2022 applications for safety certification. *See* <u>PG&E 2021 Safety Certification Request</u>, <u>Attachment B</u> (Nov. 12, 2021) and <u>PG&E 2022</u> <u>Safety Certification Request</u>, <u>Attachment A</u> (Sept. 14, 2022).

²² However, the SNO Committee remains subject to any applicable legal or stock exchange standards.

Quarterly Notification submissions since our last application for safety certification.²³ Some of the significant safety topics covered by the SNO Committee include:

- PG&E's 2022 Safety Culture Assessment from Energy Safety;
- PG&E's 2023 WMP;
- Risks related to a large and uncontrolled water release on PG&E's infrastructure;
- The possible impact of a natural gas loss of containment incident;
- PG&E's Vegetation Management program;
- The safety performance of the Diablo Canyon Power Plant;
- PG&E's aviation safety;
- PG&E's information technology Disaster Recovery program;
- PG&E's enterprise safety strategy;
- The response to a transmission system-wide blackout;
- Risks related to data management and records and information management; and
- Risks related to emergency preparedness and response.

Description of Actions Recommended by the SNO Committee and Implemented by PG&E

A complete list of actions recommended by the SNO Committee, as well as the implementation status of those recommendations, can also be found in our Quarterly Notifications.²⁴ Some of the significant recommendations made by the SNO Committee and implemented by PG&E include, among others:

- Conducting an analysis of contractor fatigue and its correlation to safety incidents;
- Benchmarking with other utilities on wildfire risk reduction and system protection practices;
- Benchmarking with other utilities on how to best address induction risk from transmission lines and engaging a third party to review industry best practices;

²³ See <u>PG&E 2022 Q3 Quarterly Notification</u> at 10; <u>PG&E 2022 Q4 Quarterly Notification</u> at 7; <u>PG&E 2023 Q1 Quarterly Notification</u> at 11; <u>PG&E 2023 Q2 Quarterly Notification</u> at 11; and <u>PG&E 2023 Q3 Quarterly Notification</u> at 11.

²⁴ See <u>PG&E 2022 Q3 Quarterly Notification</u> at 10-11; <u>PG&E 2022 Q4 Quarterly Notification</u> at 7-8; <u>PG&E 2023 Q1 Quarterly Notification</u> at 11-12; <u>PG&E 2023 Q2 Quarterly Notification</u> at 11-13; and <u>PG&E 2023 Q3 Quarterly Notification</u> at 11-13.

- Revisiting and strengthening our safety coaching practices used by our safety specialists;
- Performing an analysis of third-party dam failures, including lessons learned, to be applied to PG&E-owned dams;
- Improving and clarifying the expectations for safe work practices for contractors;
- Implementing a safety management governance system to address risk from aviation;
- Identifying specific quality requirements that should be included in work execution contracts to ensure high quality work;
- Using weather station data to inform PG&E's wildfire risk models and asset inspections; and
- Evaluating the use of unmanned aerial vehicles and drones into aviation strategy and assessments.

We will continue to provide updates on the recommendations of the SNO Committee and our progress implementing those notifications through our future Quarterly Notification submissions.

Paragraphs (4) and (6) of Section 8389(e): "The electrical corporation has established an executive incentive compensation structure approved by the division and structured to promote safety as a priority and to ensure public safety and utility financial stability with performance metrics for all executive officers, including incentive compensation based on meeting performance metrics that are measurable and enforceable, for all executive officers as defined in Section 451.5" and "the electrical corporation has established a compensation structure for any new or amended contracts for executive officers as defined in Section 451.5...."

Pub. Util. Code Sections 8389(e)(4) and (6) require that an electrical corporation provide documentation that it has established an executive incentive compensation structure that has been approved by Energy Safety. In order to obtain Energy Safety's approval, this compensation structure must promote safety as a priority, ensure public safety and utility financial stability through the use of performance metrics for executive officers, and include incentive compensation that is based on meeting measurable and enforceable performance metrics.²⁵ Additionally, this compensation structure must be based on, among other things, the principles of strict limitations on guaranteed cash, the elimination of guaranteed monetary incentives, incentivizing long-term performance, and the minimization of indirect compensation.²⁶

²⁵ P.U.C. § 8389(e)(4).

²⁶ P.U.C. § 8389(e)(6).

On September 20, 2023, Energy Safety issued a final decision approving our 2023 executive compensation structure and concluding that it meets the statutory requirements.²⁷

Paragraph (5) of Section 8389(e): *"The electrical corporation has established board-of-director-level reporting to the commission on safety issues."*

Our Board of Directors is dedicated to achieving safe utility operations, fostering a strong safety culture, and continuing to invest substantial time and attention to safety issues. Pursuant to Pub. Util. Code Section 8389(e)(5), electrical utilities must establish board-of-director-level reporting on safety issues. We established Board-of-Director level reporting to the Commission on safety issues prior to its initial request for a safety certification in 2019 and have continued this practice to the present. Energy Safety's 2023 guidance on the safety certification process explains that this statutory section is met through a utility participating in at least one joint public meeting held by the Commission and Energy Safety in which the utility provides a detailed presentation discussing its safety performance.²⁸

A joint public meeting with the Commission and Energy Safety was held on July 6, 2023. Presenting at this meeting on behalf of PG&E was Board Member and Chair of the SNO Committee Cheryl F. Campbell, Executive Vice President, Operations and Chief Operating Officer Sumeet Singh, and Vice President, Enterprise Health & Safety and Chief Safety Officer Matt Hayes. The presentation materials from this meeting are included here as Attachment B.²⁹

Paragraph (7) of Section 8389(e): *"The electrical corporation is implementing its approved wildfire mitigation plan" and "shall file a notification of implementation of its wildfire mitigation plan with the office and an information-only submittal with the commission on a quarterly basis that details the implementation...."*

Progress Made Toward Completing WMP Targets

Pub. Util. Code Section 8389(e)(7) requires a utility applying for safety certification to implement its approved WMP and to submit Quarterly Notifications that provide details on this implementation process. Included here are all of our Quarterly Notifications filed since our last application for a safety certification. These submissions include:

- 1. PG&E 2022 Q3 Quarterly Notification, dated November 1, 2022;³⁰
- 2. PG&E 2022 Q4 Quarterly Notification, dated February 1, 2023;³¹

²⁷ See Energy Safety Approval of PG&E's 2023 Executive Compensation Structure Submission (Sep. 20, 2023).

²⁸ See 2023 Guidelines at 4.

²⁹ The materials have also been made publicly available on the Commission's website at the following link: <u>https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-policy-division/meeting-documents/pge_cpuc-safety-briefing_070623v2.pdf</u>.

³⁰ See PG&E 2022 Q3 Quarterly Notification.

³¹ See PG&E 2022 Q4 Quarterly Notification.

- 3. PG&E 2023 Q1 Quarterly Notification, dated May 1, 2023;³²
- 4. PG&E 2023 Q2 Quarterly Notification, dated August 1, 2023;³³ and
- 5. PG&E 2023 Q3 Quarterly Notification, dated November 1, 2023.³⁴

Each of these Quarterly Notifications details our meaningful progress in the implementation of our WMP, including the continued progression toward each of the targets set forth in our plan. Additionally, each describes the implementation of our most recent safety culture assessment, contains a statement on the recommendations of the SNO Committee meetings from the previous quarter, and describes the status of implementing such recommendations. A further detailed explanation of our progress made in implementing our safety initiatives, including wildfire mitigation work, can be found in the presentation materials for the July 6, 2023, joint public safety meeting.³⁵

Our most recent Quarterly Notification provides information through the end of the third quarter of 2023. The list below offers an overview of our progress on the implementation of our WMP, as of that date:

- 27 commitments have been completed;
- 27 commitments have met all internal milestones and are on track for timely completion by the end of the year; and
- 8 commitments are on track for timely completion but have fallen behind our internal milestones, requiring the creation of catchback plans. These commitments are on track for timely completion against the timelines included in the 2023-2025 WMP.

Please refer to our Quarterly Notifications for further details on our progress implementing our WMP targets, including our delayed targets.

Progress Made on Implementing Safety Culture Assessment Recommendations

Additionally, as required by Energy Safety's 2023 Safety Certificate Guidelines, PG&E provides the following update on progress made on our most recent Safety Culture Assessment recommendations, which includes, among other items:

• Recommendation # 1: PG&E should build safety leadership skills related to safety culture.

³² See PG&E 2023 Q1 Quarterly Notification.

³³ See PG&E 2023 Q2 Quarterly Notification.

³⁴ See PG&E 2023 Q3 Quarterly Notification.

³⁵ See Attachment B or <u>PG&E Safety Briefing Presentation</u> (Jul. 6, 2023).

- We continue to execute our 2025 Workforce Safety Strategy with clearly defined tactics and performance measurements for leadership.
 - Our 2024 Workplan development is underway. Tactical Implementation Plan actions have been added to drive inclusion of leading indicators and Wildfire Safety Metrics into the Safety plan.
- We are executing our Safety Leadership Development Program for all levels of leadership, including senior leadership and frontline supervisors in the field.
 - 94 percent of our supervisors have taken at least one leadership class.
 - A formal Leadership Development Program has been rolled out for Managers and Directors (separate from the supervisor leadership training program).
 - Our senior leaders are leading co-worker townhalls that are forums focused on our frontline teams and that include training on safety.
 - We are executing formal succession planning and development goals for our teams.
 - 100 percent of the Senior Executive team have completed Breakthrough Training to improve their ability to successfully navigate through the difficult challenges we are facing.
- Recommendation # 2: PG&E should optimize its safety communications and safety-enabling systems.
 - We are reviewing communication channels and tactics for opportunities to increase the effectiveness and consistency of safety communications across the organization.
 - We developed a formal strategic communication plan to deploy the Serious Injury and Fatality (SIF) Capacity/Learning Model (includes identifying hazardous energy sources and essential controls before performing work) by engaging Field Safety Specialists, frontline supervisors, leaders, and coworkers, Grassroots Safety Teams and providing visual reinforcement of the hazard energy wheel via a webpage, posters, and stickers, as well as integration into our pre-job safety briefings.
 - We developed a communication plan supporting the implementation of the SIF Prevention Field Guide which included learning sessions with frontline coworkers, Grassroots Safety Teams, Field Safety Specialists, and the extended leadership team, and a meeting with the Supervisor Advisory Council.

- Executed broad and targeted safety communications campaigns which included monthly safety connection videos, mid-year Safety Week, the second annual 100-day Keys to Life campaign, and a Road to Reducing Motor Vehicle Preventable Incidents Campaign.
- Enterprise Safety Recognition award recipients are announced and celebrated monthly and quarterly to strengthen the safety culture at PG&E.
- Daily safety messages are shared in a Daily Safety Update and discussed during Daily Operating Reviews and tailboards about near hits, serious incident alerts, safety recognition, psychological safety, and safety best practices.
- The SIF Capacity/Learning Model was presented at monthly Coworker Town Hall meetings that included table-top activities applying the model.
- Monthly Enterprise Safety Communications Network meetings are held with cross-functional safety representatives, Grassroots Safety Leads, and union leads to align on communication plans, actions, and improvements.
- We are improving the quality of event investigations, continuing to share event investigation results across the organization, and improving the hazard and near-miss reporting process to align expectations on what to report and when to report.
 - We continue to drive cause evaluation process improvements in several areas including: (1) Standardizing and improving Cause Evaluation training including adding case studies to reinforce training effectiveness, expanding training duration from two to three days, and rolling out a formal Cause Evaluation Qualification process with defined requirements to achieve qualification; and (2) The Cause Evaluation Standard and Procedure were updated as of May 1, 2023, and included: Extent of Condition and Extent of Cause process improvements and refreshed Cause Evaluator Roles and Responsibilities.
- Recommendation # 3: PG&E should build on its current worker training plan.
 - We are incorporating new safety-related training modalities and topics that enable all levels of the organization to develop a more proactive and curious mindset and assessing participant feedback and using it to make trainings more effective, relevant, and engaging.
 - The Corporate Security Department continues to work with an external vendor to create a new field co-worker safety training video series to be delivered through virtual reality headsets.

An additional employee input session was held on 8/16/2023. Scenario filming is targeted to begin in September 2023.

- Electrical Technical Training is currently delivering hands-on Rubber Glove refresher training. To date, we are 92 percent complete with a targeted full completion date of 9/29/23.
- Grounding refresher training began delivering hands-on training in October.
- Gas Technical Training will start delivering hands-on Work Quality Assessment refresher training to Lead Gas Service Representatives September 11th. Gas Service Representative (GSR) refresher training for the broader GSR audience is in the design and development stage, with a target to begin delivery in December.
- We are conducting post-training peer learning activities such as group discussions and also cultivating a mentoring program and/or encouraging the appointment of a senior team member to be a "safety steward"— someone experienced who can be an effective communicator about responding to real-life situations that involve judgement calls in the field that are not covered by standard policies or procedures.
 - The PG&E Grassroots Safety Initiative kicked off early June with a company-wide roundtable engaging over 100 grassroots chairs. We subsequently hosted 12 internal benchmarking sessions in July. These benchmarking sessions will inform best practices and learnings that can be applied more broadly across the company.
 - We are developing the Charter for a new Grassroots Safety Council which will include grassroots safety team members from organizations across the enterprise. Once implemented, this new forum will facilitate organization-wide information sharing.
 - We continue to develop leaders in the utility through Lean training courses and Breakthrough Training provided by GAP International, to broaden thinking and facilitate exposure of efficiency opportunities.
 - We stood-up and activated Training Alignment Committees for both Gas and Electric Operations. The intent of these committees is to bring Operations, Safety, International Brotherhood of Electrical Workers/Grassroots and Training together to ensure that the right training is provided to the right people at the right time, with a focus on making sure the appropriate hands-on training is being offered to field-based coworkers. These committees review incident trends for short-term and long-term needs, discuss the

frequency and population of current training offerings, and explore the effectiveness of training.

- Recommendation # 4: PG&E should continue to recognize and take action to mitigate the risk exposure posed by interactions with the public focusing on effective communications and worker training.
 - All PG&E Corporate Security Investigators are former law enforcement officers.
 - Following the addition of two new Corporate Security Investigators in July 2023, the Corporate Security Department has four full-time investigators embedded in the company's Vegetation Management Program. Their responsibilities are to respond to reports of threats and other hostile acts by members of the public toward PG&E Vegetation Management personnel.
 - The work of these four investigators is augmented by twelve regionally based Corporate Security Investigators, who respond to hostile acts by members of the public across all PG&E's functional areas.
 - Everbridge and LiveSafe continue to be used to provide bulletins and geofence warnings about reported hazards, including crime incidents, which may impact field crews. Corporate Security is continuing to train field personnel in the use of LiveSafe to provide awareness of properties where threats and hostile acts have previously occurred. In addition, work is being done with the City of Oakland to pass a Safe Work Ordinance for utility workers.
- Recommendation # 5: PG&E should take action to mitigate risk from employee impairment.
 - We are reviewing and updating or creating an organizational policy regarding impairment issues, including fatigue management, distracted driving, and stress management.
 - Developed a company-wide Fatigue Management Standard which includes:
 - Safety Awareness and other company-wide communications,
 - New, dedicated Fatigue Management website with Toolkit (leader and coworker resources, including tailboards, posters, etc.), and Learning sessions.
 - Completed Request for Information (RFI) to support the decisionmaking process to determine the optimal solution for Artificial Intelligence based in-cab cameras. The RFI was released in July.

- Continuing to ramp-up implementation of our TRUCE cell phone blocking solution. As of 8/31 we added an additional 977 new users.
- We are reviewing and updating work processes and scheduling to ensure alignment with its organizational impairment policy.
 - Created new Safe Driver Behavior Policy effective 8/1/2023.
- We are training supervisors to identify, mitigate, and document worker impairment.
 - We created and shared Safety Awareness communications to highlight our efforts to expand use of technology solutions to reduce distractions from company provided electronic devices.

Through our Quarterly Notification submissions, we will continue to provide Energy Safety, the Commission, and stakeholders with updates on our progress in implementing our 2023-2025 WMP and our most recent Safety Culture Assessment recommendations. We look forward to continuing to work together to improve the safety of our workers and the communities they serve.

After timely submitting this request and satisfying each of the statutory requirements and guidance conditions outlined by Energy Safety, we respectfully ask Energy Safety to issue a safety certification within the prescribed statutory period. Should Energy Safety have any questions regarding this request, please do not hesitate to contact Wade Greenacre, Regulatory Relations Director, at <u>wade.greenacre@pge.com</u>.

Sincerely,

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Sumeet Singh Executive Vice President, Operations and Chief Operating Officer Pacific Gas and Electric Corporation

Attachment A

Cheryl F. Campbell

A. <u>SNO-Specific Education and Training</u>

- Xcel Energy (Denver, CO), 2004 2018
 Senior Vice President (2011 2018); Vice President—Colorado Operations (2009 2011); Director, Asset Strategy (2004 2009)
 Participated in a number of safety programs and trainings, including several focused on developing safe workplace practices and behaviors, safety leadership, safety culture, identifying hazards, and behavioral safety in general. Participated in a number of safety meetings annually—including monthly work group safety meetings, quarterly regional safety meetings (with line workers), and annual working foreperson conferences for linepersons and fitters (which discussed safety issues at the line level, understanding risk, and communicating safety concerns with co-workers who are not following safety procedures). Also interacted regularly with safety speakers at these annual conferences, including individuals who had suffered serious injuries from safety incidents in the utility industry. Routinely interacted with and spoke about safety at annual safety kick-off meetings, mid-year safety campaigns, and on regular crew visits in the field.
- Pacific Gas and Electric Company and PG&E Corporation (San Francisco, CA), 2019

Board Member

As a member on the Boards of PG&E Corporation and Pacific Gas and Electric Company (together, PG&E), including during the on-boarding process, received general information regarding safety programs and culture at the companies, and received more targeted safety training regarding, among other things, hazards and associated mitigations for field work in connection with PG&E's gas and electric operations and power generation.

• As part of the ongoing training and education provided by PG&E, conducted 7 field visits and facility tours to meet with employees, observe employees and contractors performing work in the field, and tour safety training facilities and operating facilities.

B. Direct, Supervisorial or Management Level SNO-Specific Work Experience

Xcel Energy (Denver, CO), 2004 – 2018
 Senior Vice President (2011 – 2018); Vice President—Colorado Operations (2009 – 2011); Director, Asset Strategy (2004 – 2009)
 As Senior Vice President, led the gas business unit across eight states with 2 million customers. Responsible for both employee and public safety. Member of the Executive Safety Team, which met quarterly with the Corporate Safety VP to review and discuss successes as well as continuous improvement for safety overall. Performance metrics in both areas improved significantly during tenure in both the gas unit and enterprise wide.

Also served as Chair, President and CEO of WestGas InterState, Inc., a FERC-regulated interstate gas pipeline subsidiary of Xcel Energy.

As VP of Colorado Operations, responsible for gas operations within the state of AtchA-1

Colorado. Began the first in-line inspection (pigging) program at Xcel Energy in Colorado in 2008. Successfully led efforts to develop a distribution asset renewal

program, focused on leak prone pipe (cast iron, bare steel, and early polymers) obtaining support from both senior executives and the Colorado PUC. This program was later rolled into Xcel Energy's Distribution Integrity Management Program (DIMP). Met regularly with field employees—at job sites and service centers—discussing safety and challenges.

As Director of Asset Strategy, led the development of integrity management programs, which are developed to reduce the risk of and improve the safety of key infrastructure. Included developing programs for performing maintenance, hydrostatic pressure testing, well testing, and processes for testing and replacing assets. Also improved record keeping and data processes across a number of areas, including asset data, maintenance records, and inspection information. Developed a data-driven risk management system in partnership with various state public utility commissions to assess risk, and set acceptable risk levels. Was a member of the Executive Safety Team from 2011 to retirement in 2018. Met quarterly to discuss safety progress, culture change, and safety culture issues. Provided direction to the Corporate Safety department on the effectiveness or specific safety programs. Regularly met with line-level employees and the technical staff, along with the safety leadership team, to discuss current safety issues and potential safety issues. Attended quarterly employee driven safety meetings, where employees would raise safety issues or concerns. Workshopped solutions to quickly implement responses to those concerns together with employees and the safety leadership team.

Worked with the Corporate Vice President for Safety to set annual safety performance targets, review program effectiveness, discuss enterprise-wide as well as gas-specific safety concerns, and identify best practices at peer firms. Also worked closely with the Xcel Energy Board of Directors, particularly the Safety and Operational Committee, to discuss gas asset risks and safety culture, safety management systems, and related topics.

In addition to the regular quarterly meetings on the Safety Executive Team, and quarterly employee-led safety meetings, met monthly with gas leaders across the enterprise from 2012 to 2018 to discuss employee and public safety issues. Focus was on close calls/near misses, incidents where employees had failed to follow safety procedures, safety management systems, and effectively implementing "change management." Began implementation of American Petroleum Institute Recommend Practice 1173, concerning the development of an Enterprise Safety Management System. Completed the initial analysis and stages or implementation during tenure.

• Colorado Interstate Gas Company (Colorado Springs, CO), 1984-2003 Variety of positions, including Engineer to Director. Experience includes design, operations, strategic planning, mid-stream operations, supply management and regulatory (FERC). All leadership positions included responsibility for safety of the employees and public around system infrastructure. Member of the leadership team during the implementation of one of the first comprehensive In-line Inspection (ILI) programs in the country—now an industry standard.

 Gold Shovel Association (Tempe, AZ), January 2019 to February 2020 - Executive Director
 February 2020 to present – Vice Chair of Board of Directors for Gold Shovel Association Executive Director
 Lead non-profit organization aimed at reducing damage to underground infrastructure, including, gas, electric, water, and telecommunications infrastructure, during excavations. Companies that participate have seen significant reductions in the damage caused during excavations. Pacific Gas and Electric Company and the City of Sacramento are members of the Association.

C. <u>SNO-Specific Board of Directors Experience</u>

- PG&E Corporation and Pacific Gas and Electric Company, 2019 present. Chair of each company's Safety, Nuclear and Operations committee. Regularly interface with PG&E's Chief Safety Officer, setting expectations, discussing programs, reviewing metrics.
- American Gas Association Operations Management Committee (Washington, D.C.), 2009 2018

Executive Committee Member, Operations Management Committee Chair (2017) Group meets regularly to discuss overall gas operations and safety-specific issues, including public safety, worker safety, and cyber-security. Group consists of senior industry leaders representing about 45 companies across the nation, representing the majority of customers and assets in the gas industry. Participated in meetings in the aftermath of the San Bruno tragedy and other incidents to develop proactive industry positions on improving safety and operations. Also regularly attended annual Executive Safety Summits, focusing on industry hazards, safety management systems, safety culture, interacting with local emergency responders, worker safety, and damage prevention. Participated in the AGA Peer Review program-with Xcel Energy being reviewed in 2015. As part of that commitment/participation, acted as the Executive peer reviewer for ConEd. The program is a one-week intense review of a company's programs around safety and operations, including employee interviews and site visits. At the end of the week, the Executive peer reviewer provides the company with feedback on leading practices as well as opportunities for improvement.

• Department of Transportation Gas Pipeline Advisory Committee (GPAC) (Washington, D.C.), 2014 – 2018 Member

The GPAC is an integral part of the process for making changes to the federal safety regulations for gas pipelines. It includes representatives from industry, government and the public. During tenure on the GPAC, the group discussed regulatory updates/changes to a wide variety of safety regulations including pipeline integrity management (transmission and distribution), plastic piping, construction inspection, damage prevention, management of change Operator Qualification, and record keeping. Also discussed and provided guidance on the implementation of congressional mandates passed in the wake of the San Bruno AtchA-3

tragedy. Participated in a task force aimed at reducing barriers to implement pipeline safety management systems (SMS). Worked with industry groups and individual companies to assess SMS adoption and implementation status, and assess impediments to rapid implementation.

• Dynamic Risk (Calgary, Canada), December 2018 – present Consultant and Independent Panel Member The Massachusetts Department of Utilities retained Dynamic Risk to perform an assessment of the safety and integrity of gas infrastructure within the state of Massachusetts after the Merrimack Valley event in September 2018. As an Independent Review Panel member, reviewed 11 companies—including investorowned utilities, privately-owned providers, and municipal utilities—including plans and programs, Operations & Maintenance manuals, work procedures, and overall operations. Performed field site visits, discussing processes & procedures, employee safety and public safety with various field crews. Final report complete and available online.

The Massachusetts Department of Utilities hired Dynamic Risk in fall 2019 to perform a safety assessment of the newly installed facilities due to several identified shortfalls in abandonment and leaks on newly installed assets. Participated and directed work on assessment – final report available in 2020.

D. Other Previous and Current Board Positions

- Hoffman Southwest (Orange County, CA), 2018 Present Independent Director, Audit Committee Member
- JANA Technology (Toronto, Canada), January 2020 present. Advisory Board member for privately held company focused on asset risk assessment/prediction and data management. Privately held.
- Colorado Oil & Gas Association (Denver, CO), 2010 2018 Director
- Engineering Advisory Council—College of Engineering, Colorado University, Boulder (Boulder, CO), 2016 – 2018 Member
- Building Opportunity Through Leadership & Diversity (BOLD) —College of Engineering, Colorado University, Boulder (Boulder, CO), 2012 2015 Advisory Council Member
- Public Education and Business Coalition (PEBC) (Denver, CO), 2010 2014 Member of the Finance Committee
- Junior Achievement of Southern Colorado (Colorado Springs, CO), 1990 2002 Board Member, Member of Strategic Planning Committee

E. <u>Other Current Professional Commitments</u>

• N/A

Jessica L. Denecour

A. <u>SNO-Specific Education and Training</u>

- (Masters Degree awarded) M.S., Cyber Security Operations and Leadership, University of San Diego, San Diego, CA - 2017 (attended 2015-2017)
- Yearly Corporate Employee Safety and Security training at Varian Medical Systems (2006-2017)
- Stanford University Executive Institute (2008) included some material on risk management

B. Direct, Supervisorial or Management Level SNO-Specific Work Experience

- Lead cybersecurity function as Chief Information Officer at Varian Medical Systems from 2006-2017
- Lead cybersecurity function as VP of Infrastructure at Agilent Technologies (2000-2004)
- At Varian Medical as a member of the executive team, we built a safety and security culture as our products and software were under FDA regulation and our mission was to save lives (our products treated cancer). Safety was critical as we were dealing with radiation and people lives as a result.

C. <u>SNO-Specific Board of Directors Experience</u>

- Chair of CyberSecurity Committee (board director) at MobileIron (2017-2020)
- Member of Audit committee (board director) at MobileIron (2017-2020)
- Chair of Technology and CyberSecurity committee (board director) at Pacific Gas and Electric (June 2020 June 2021)

D. Other Previous and Current Board Positions

• Board Director at the Children's Discovery Museum of San Jose (2010-2017) which included oversight on risk, safety, and technology/security

E. <u>Other Current Professional Commitments</u>

• N/A

Admiral Mark E. Ferguson III

A. <u>SNO-Specific Education and Training</u>

- Qualified as damage control assistant and gas fee engineer, US Navy Firefighting School, Philadelphia, PA (1992).
- Qualified as Landing Signal Officer to oversee shipboard aviation safety for operation of helicopters from vessels at sea (1992).
- Qualified as a nuclear propulsion engineer by US Navy/Department of Energy (1992). Trained in radiological controls, electrical safety and shipboard safety programs incident to the operation and maintenance of naval nuclear power plants. Qualified as engineering officer of the watch for naval nuclear power plants.

B. Direct, Supervisorial or Management Level SNO-Specific Work Experience

- Damage Control Assistant, USS South Carolina (CGN 37) (1989-1992). Responsible for management of all shipboard firefighting, flooding control, damage control, and fire safety programs for a vessel with crew of over 400 personnel. Certified as the ships' gas free engineer.
- Nuclear Propulsion Engineer, USS South Carolina (CGN-37) (1979-1983). Engineering officer of the watch, supervised the operation of shipboard nuclear power plants.
- Reactor Officer, USS Dwight D. Eisenhower (CVN-69) (1989-1992). Responsible for the safe operation, maintenance, and training and certification of 400 assigned personnel for two nuclear reactors onboard an aircraft carrier.
- Commanding Officer, USS Benfold (DDG 65) (1995-1997). Responsible for operations and the management of all safety programs for a vessel with crew of 300 personnel.
- Commander, Destroyer Squadron 18 (2000-2001). Responsible to certify safe operation and provide oversight of safety programs for six ships and 1500 personnel.
- Co-Chair, US Navy Safety Council (2011-2014). Responsible for safety policy, funding, and management of accident reporting and lost work statistics for the Navy Department and a 320,000 workforce.
- Chair, Nuclear Weapons Council (2011-2014). Responsible for management of physical security and security personnel certification for the Navy's nuclear weapons stockpile.
- Commander, US Naval Forces Europe and Africa (2014-2016). Responsible for physical security of five installations and management of personnel security, operational safety programs and vehicle safety programs for over 10,000 personnel stationed in Europe and Africa.

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C. <u>SNO-Specific Board of Directors Experience</u>

• VSE Corporation, Alexandria VA (2017- Present). As member of audit and governance committees, oversees the VSE industrial safety programs in the refurbishment and repair of military and commercial vehicles, ships and aircraft.

D. Other Previous and Current Board Positions

- Navy Federal Credit Union, Merrifield, VA (2007-2008). Volunteer official and board member for world's largest credit union, serving members of the armed forces.
- Navy Marine Corps Relief Society, Arlington, VA (2008-2011). Society provides financial assistance, counseling, and in-home nurse care to Navy and Marine Corps service members and their families.
- Center for Naval Analyses, Arlington, VA (2017-Present). Chairman of the audit committee and member of ethics and governance committee for a not-for-profit federally-funded research and development center.
- VSE Corporation, Alexandria, VA (2017-Present). Member of the audit committee, compensation and human resources committee, and governance committee.

E. Other Current Professional Commitments

- Institute for Defense Analysis: Senior Advisor to the Defense Science Study Group (DSSG). This is a program of education and study that introduces science and engineering professors to the security challenges of the United States. The program is directed by the nonprofit Institute for Defense Analyses (IDA) and is sponsored by the Defense Advanced Research Projects Agency (DARPA).
- MK3 Global LLC: Defense consulting firm that advises on leadership, digital transformation, operational design, and planning of military operations. Evaluates the NATO exercise program with a focus on leader performance. MK3 Global LLC is a service-disabled, veteran-owned small business.

W. Craig Fugate

A. <u>SNO-Specific Education and Training</u>

• State of Florida: Certified Paramedic/Firefighter.

B. Direct. Supervisorial or Management Level SNO-Specific Work Experience

- Emergency Manager, Alachua County, Fl (1987-1997). Disaster Planning and Response Coordination, included hazardous materials, and the Crystal River Nuclear Power Plant (50 miles Emergency Planning Zone).
- Director, Florida Division of Emergency Management (2001-2017). Oversaw the State's Nuclear Power Plant Exercise Program, Hazardous Material Program, and response to all Governor Declared Disasters as the Governor's Authorized Representative and State Coordinating Officer.
- Administrator, FEMA (2009-2017). Coordinated on behalf of the President response and recovery to all Federally declared disasters.

C. <u>SNO-Specific Board of Directors Experience</u>

• N/A.

D. Other Previous and Current Board Positions

- America's Public Television Stations.
- At-Large Trustee (2017 Present).

E. Other Current Professional Commitments

- Craig Fugate Consulting LLC.
- One Concern, Chief Emergency Management Office.
- North Florida Amateur Radio Club (Amateur Radio Emergency Services).

Michael R. Niggli

A. <u>SNO-Specific Education and Training</u>

- As an executive officer and director of several companies, participated in safety education and training for electric, natural gas, water and nuclear facilities. Involved in setting corporate safety metrics, establishing safety reporting procedures, directing the installation of substantial safety related equipment, and implementing new safety protocols designed to improve the level of safe operations for our employees, customers and the general public.
- Safety education and training includes body mechanics, safe work processes, hazardous chemical awareness and handling, the use of radiation measuring devices, cardio-pulmonary resuscitation, electrocution, fire response, hypothermia responses, ignition prevention and emergency communications.
- Merchant Mariners certification (Captain's License) which indicates proficiency in safe operation of small vessels.

B. Direct, Supervisorial or Management Level SNO-Specific Work Experience

- President & COO, San Diego Gas & Electric Co (2006-2013). Served in various roles including President & COO wherein had responsibility for all electric and gas operations for the Company. This included the safe operation of the electric and gas facilities, safety of employees, contractors, customers and the general public.
- President of Sempra Generation (2001-2006). President of Sempra Energy's international power generation company. This included the development, construction, operation and maintenance of power plants in California, Arizona, Nevada, Texas and the Republic of Mexico. Responsible for safe operation and compliance with all State and National standards for power plant operation.
- Chairman of the Board, CEO, & President of Sierra Pacific Resources & Nevada Power Company (1998-2001). Served in various roles with overall responsibility for operation of these two companies which were independent entities and later merged operations. The companies provided regulated utility service for electric, natural gas and water operations. Safe operation of these facilities and the production of safe drinking water for customers were top priorities.
- San Onofre Nuclear Power Plant; Administrative Committee Representative for SDG&E (approx. 1984-86). Served as the Owner's Representative for administration and operation of the SONGS facility, including reviews of safety protocols, safety protocols and operating performance.
- Following the devastating wildfires in San Diego County in 2007, had the lead responsibility for the company's efforts to enhance the safety and effectiveness of electric facilities, the safety practices of employees, and communication with customers and the general public. Instituted many new programs, processes, safety protocols and innovations over the next half dozen years. These included the first "Power Safety Power Shutoff" (PSPS) program in the State of California, installation of weather monitoring stations, employment of professional meteorologists, extensive collaboration with state and local firefighting agencies, development of

new communications tools and websites for informing the public of the status of service in fire prone areas and the potential for PSPS events, purchase of the world's largest water carrying helicopter for dual use with firefighting and construction activities, the use of "pan, tilt and zoom" cameras mounted on our electric transmission towers and equipped with infrared detection capabilities, advanced vegetation management practices, the prohibition of cell phone use in company vehicles, the "electronic tagging" of our impacted field employees to ensure that we knew of their field location during fire season, the establishment of an "aircraft operations center" to coordinate with local authorities as we constructed major electric facility additions, the mounting of high capacity fiber optic lines on our electric transmission towers for joint use of agencies and universities in our fire prevention efforts, among other initiatives.

C. <u>SNO-Specific Board of Directors Experience</u>

- Board of Directors, ESS, Inc. (2015-present).
- Board of Directors, American Transmission Co. (2016-present).
- Board of Directors, ESVAL Water Company (2015-present).
- Board of Directors, ESSBIO Water Company (2015-present).
- While serving on these Boards of Directors, acted as a primary advocate for safe operations, establishment of appropriate safety metrics, contractor safety improvement programs and employee safety improvement.

D. Other Previous and Current Board Positions

- ESS Inc. (2018 Present).
- American Transmission Company (2017 Present).
- ESVAL (2015 Present).
- ESSBIO (2015 Present).
- Sierra Pacific Resources, Chairman of the Board, CEO, President (2000-2001).
- Nevada Power Co., Chairman of the Board, CEO, President (1998-2000).

E. Other Current Professional Commitments

• Beyond the current Board assignments, also serves on the Board of Directors of the Great Basin National Park Foundation, a non-profit organization which supports the mission of environmental stewardship, public outreach and interpretation of the resources of the Great Basin National Park.

William L. Smith

A. <u>SNO-Specific Education and Training</u>

- Completed numerous safety and safety management classes over 37-year career with BellSouth/AT&T (1979-2016). These included general safety, safe driving, aircraft safety, office safety, trenching and shoring safety, and a variety of safety classes relating to working in aerial plant facilities.
- Completed all PG&E corporate safety classes during 2020, including helicopter safety and nuclear safety.

B. Direct, Supervisorial or Management Level SNO-Specific Work Experience

- Managed AT&T's Technology Operations organization of over 100k employees and approximately 50k contractors for several years. These responsibilities included all aspects of operational safety in a large field organization.
- Worked closely with all US Government agencies on cyber security cases, involving cyber security attacks from foreign and domestic entities.
- Worked in the heavy construction industry and operated many types of large construction equipment.

C. <u>SNO-Specific Board of Directors Experience</u>

- Served on several public company boards over the last twenty years, most in the tech or related to the tech industry. All included general employee safety issues.
- Represented PG&E one EEI during the second half of 2020.
- Serve on the Advisory Board of Tillman Global Holding, LLC, a provider of communications infrastructure around the world.

D. Other Previous and Current Board Positions

• Previously served as a director of Oclaro, Inc. (telecommunications) (2009 to 2012, 2018).

E. Other Current Professional Commitments

• N/A

Attachment B

Pacific Gas and Electric Company CALIFORNIA PUBLIC UTILITIES COMMISION SAFETY BRIEFING

July 6, 2023







1 Governance and Safety Monitoring









PG&E Participants

Cheryl F. Campbell

Chair of the Board of Pacific Gas and Electric Company, and Chair, Safety and Nuclear Oversight Committee

Sumeet Singh

Executive Vice President, Operations and Chief Operating Officer

Matt Hayes

Vice President, Enterprise Health and Safety and Chief Safety Officer

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

Governance and Safety Monitoring







We are making progress and we have more work to do.



Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

Safety Governance

Safety governance is embedded at the highest levels of the company, with direct involvement from the Board of Directors and SNO Committee.

Board of Directors

15 members

- Supports and approves oversight of safety metrics tied to executive compensation
- **Reviews annual performance**



We have not altered our governance structure since successfully standing it up in 2021.

Safety and Nuclear Oversight Committee (SNO) 6 members

- Reviews safety, risk, and operational performance and results of cause evaluations
- Provides feedback to PG&E management for action
- Oversees the Wildfire Mitigation Plan, including Enhanced Powerline Safety Settings (EPSS) and Public Safety Power Shutoff (PSPS) programs
- Independent, with deep expertise in wildfire safety, prevention, mitigation, emergency response and management, workforce and public safety, natural gas systems, risk management, cyber security and nuclear safety

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

PG&E's Board of Directors

The knowledge and experience of PG&E's Board of Directors improves and informs safety outcomes.

Key experience areas include:

- Financial planning, performance and literacy
- Public policy
- Customer experience and community leadership
- Workforce and public safety
- Audit
- Technology and cybersecurity
- Leadership in energy and utility industry
- Engineering, procurement and construction
- Clean energy innovation and technology

- Climate change mitigation and resilience
- Natural gas transmission, distribution, operation and safety
- Utility operation and engineering
- Wildfire safety, preparedness, prevention, mitigation, response and recovery
- Nuclear generation safety
- Federal and state-wide emergency management
- Risk management



Our newest board member, a PG&E customer and member of the Latino community, has extensive expertise in risk management, audit, financial planning, performance, and literacy.



Phasing Out Classified Board PG&E expects to adopt governance best practice of annual director elections in 2024.

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

New Board Member

How We're Improving

SNO Committee Recommendations



SNO Committee Recommendations

We continue to implement recommendations from our SNO Committee which focus on several key areas.

SNO Committee Recommendations	Actions Taken
Address serious workforce safety incident root causes	 Creating a "failsafe" approach for high hazard wo Conducting contractor safety Quality Assurance R prioritization approach Incorporating the Hazard Wheel into pre-job safe
Reduce reliability impacts of Enhanced Powerline Safety Settings (EPSS) without compromising wildfire safety	 Targeting our reliability improvement work on curoutage impact Implemented daily outage reviews where trends impacts are identified and implemented at a region Refining circuit patrols and installing fault indicate Conducting vegetation management work and installing devices to reduce impacts to custor
Continue to improve the efficacy of our wildfire safety work, refine our vegetation management and inspection efforts, and foster innovative solutions to further reduce wildfire risk	 Building on existing layers of protection and deple as Downed Conductor and Partial Voltage Force C Refining our situational awareness capabilities to Building quality at the source for vegetation mana to perform the work the right way the first time a Improving our communications and engagement

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

ork Reviews following a risk

ety briefings

ustomers experiencing the greatest

and actions to reduce outage gional level tors to reduce outage durations nstalling animal guards and omers

oloying innovative technologies such Out capabilities o further target the scope of PSPS nagement and inspections programs around

t with customers and agencies

Safety Performance





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୧ଟ Everyone and Everything is Always Safe 59
Our Core Safety Efforts are Embedded at All Levels of Our Company



Continuing to evolve and mature our safety culture – at PG&E, we are evolving safety from being a compliance-focus to being value-based



Implementing an enterprise safety management system that builds on proven safety standards from high hazard industries



Continuing to make progress on our stands that "Catastrophic Wildfires Shall Stop" and "Everyone and Everything is

Always Safe" – and we have more work to do

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

10

Measuring Our Safety Culture

We are evolving our safety culture and we have more work to do.

Safety Barometer Survey Results (2020-2022)

- Response rate improved from 58% to 64%
- Overall score improved from 68.8% in 2020 to 78.8% in 2022, representing 2nd quartile performance
- All six performance categories increased in percentile score compared to 2020 with **Supervisor Engagement** scoring highest at 94%

Wildfire Safety Culture Assessment **Results and Recommendations*** (2021-2022)

- 52% coworker survey response in 2022, compared to 20% in 2021
- 22% estimated contractor survey **response in 2022**, compared to 1.8% in 2021
- 97% of workforce survey statements showed year-over-year improvement
- Safety score improvement from 4.12** in 2021, to 4.39 in 2022
- PG&E is an organization with leadership that values and prioritizes safety, is moving in the right direction and has opportunities for further improvement

*Recommendations are similar to 2021 **Scale from 1 - 5

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.



Building Safety Leadership

- **Optimizing Safety** (\checkmark) Communications and Safety-Enabling Systems
- Managing Public $\langle \rangle$ **Risk Exposure**
- **Creating Worker** (\checkmark) **Training Plans**
- Mitigating Employee (\checkmark) Impairment





Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

We are also reducing the risk of ergonomic injuries with technology by:

Analyzing ergonomic tasks with computer vision software

Using predictive modeling for office ergonomics

Concentrating efforts on home office ergonomic evaluations

Serious Incidents and Fatalities (SIF)

We are focused on addressing SIF root causes and have an unwavering focus to improve our workforce safety performance.







Key Actions to Address Root Causes

- Shifting the mindset to creating "fail safe" approach for high hazard work
- Performing contractor safety Quality Assurance Reviews for highest risk contractors
- Incorporating the Hazard Wheel into pre-job safety briefings to identify high energy hazards and control for them
- Utilizing our Rollover Campaign to reduce contractor rollover incidents

A						
.3	Aug	Sep	Oct	Nov	Dec	

A Robust Capacity Model To Prevent SIFs

Our SIF capacity model incorporates key safety programs to ensure safety is a value throughout our company.

Keys to Life

Resources to guide daily decisions to prevent serious injuries and incidents



Direct/Essential Controls

Task-level controls that directly target lethal sources of energy, prevent or mitigate exposure to risk and provide capacity to fail safely

Essential Controls **NEVER START A JOB** if controls are not present No Controls → No Work!

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

Hazard Wheel

Hazard recognition in the workplace to ensure coworkers and contract partners are identifying safety risks and issuing a "stop work" if needed



Enterprise-Wide Safety Management System



Enterprise-Wide Safety Management System

Our safety management system uses safety culture as its foundation, is inspired by successful existing programs and aligns with international standards.



The 13 Elements of PSEMS is our Vision for Safety Standards



- **1. Leadership Commitment and Engagement**
- 2. Communication and Stakeholder Engagement
- 3. Risk Management
- 4. Strategy, Objectives, and Planning
- 5. Operational Control
- 6. Training and Competence
- 7. Emergency Preparedness and Response
- 8. Incident Reporting, Investigation, and Corrective Action
- 9. Contractor Management and Third-party Services
- 10. Management of Change (MOC)
- 11. Information, Documentation, and Records Management
- 12. Performance Evaluation and Improvement
- 13. Assurance



Key Safety & Operational **Metrics Performance**



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GR Everyone and **Everything is** Always Safe ୨୭

Key Safety Metrics to Analyze Operational Performance

METRICS	2022 EOY ACTUAL	MAY 2023 YTD ACTUAL	PERFORMANCE
Electric 911 emergency response (within 60 minutes)	98.23%	96.15%	Top DECILE
Total dig-ins reduction rate	0.94	0.93	1st quartile
Gas customer emergency response	19.9 minutes	20.2 minutes	1st QUARTILE
DCPP reliability and safety indicator	97	100	1st QUARTILE
Large overpressure events	9	5	44% CHANGE VS. 2022
Safe Dam Operating Capacity (SDOC)	97%	97.4%	0.4% CHANGE VS. 2022

May 2023 YTD Actual vs. 2022 EOY Actual

Performance Improvement

Performance Decline

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

PG<mark>s</mark>E

Wildfire Safety





৫৫ Catastrophic Wildfires Shall Stop 59

Evolving Wildfire Risk

2022

31%

DG_SF

more days in R3+ conditions

2nd

driest year in the last 128 years through peak wildfire season

PG&E Utility Fire Potential Index Ratings



Valid for 05/22/2022

2023

Start of 2023 Wildfire Season delayed due to winter storms.

However, there will be an increase in the density of the dry grass crop later in the year.

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Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

PG&E Utility Fire Potential Index Ratings



Valid for 05/22/2023

Our Wildfire Mitigation Plan Goals

Our 2023-2025 Wildfire Mitigation Plan goals will help us meet our stand that "Catastrophic Wildfires Shall Stop" using our Layers of Protection approach.



Construct, maintain, and operate our electrical lines and equipment in a manner that will **minimize the risk of catastrophic wildfire** posed by them.



Implement programs to limit customer disruption from our wildfire mitigation efforts.



Continue to enhance our situational awareness and intelligence capabilities.

Building on Layers of Protection

We are building on existing layers of protection to reduce more wildfire risk in 2023.



*Based on a comparison in the Utility's GRC testimony of the wildfire risk score for a baseline risk level to a risk level reflecting the Utility's mitigation work. Risk scores are calculated using the scoring methodology established by the CPUC in the Safety Model Assessment Proceeding, which reflects the frequency with which various risks are expected to occur and the potential safety, reliability, and financial impacts of varying degrees of wildfire severity.

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

reduction in wildfire risk from **94%** reduction in wildlife fisk in PG&E equipment in 2023*

Downed Conductor Detection

Partial Voltage Force Out

Transmission Operational Controls

Transmission Pole Clearing



Q	Lindergrounding Our Lines	2019 COMPLETED	PRO
A	Undergrounding Our Lines Undergrounding powerlines to reduce wildfires caused by equipment	O MILES COMPLETED***	MIL
	System Hardening ** Strengthening our grid by installing stronger poles, covered powerlines and undergrounding	171 LINE MILES HARDENED	LIN
	Sectionalizing Devices and Transmission Switches Separating the grid into smaller sections and narrowing the scope of Public Safety Power Shutoffs	241 DEVICES INSTALLED	DI
	Enhanced Vegetation Management* Addressing vegetation that poses a higher potential for wildfire risk	2,498 LINE MILES COMPLETED	LINE
	High-Definition Cameras Monitoring and responding to wildfires through increased visibility	133 CAMERAS INSTALLED	ST
₽ ₽ ₽ ₽	Weather Stations Better predicting and responding to severe weather threats	627 STATIONS INSTALLED	ST
*Has been integra vegetation manag	ited into the distribution **Includes 10,000-Mile Undergrounding Program miles, reported collectively in our Wildfire Mitigation Plan	***Completed as part of the 10,000-Mile Undergrounding Program, launched in 2021	









How We Prioritize Our Wildfire Safety Efforts

PG<mark>s</mark>e

Programs	Prioritization Approach	Estimated Cost (Per Year)	Reliability	Effectiveness *	2023 Risk Reduction ^	Public Safety	RSE
EPSS	 Capability implemented across all circuits in HFRA and adjacent buffer areas Used when wildfire risk is elevated 	 \$40M capital \$130M expense Initial deployment cost is low Ongoing operating cost is medium 	 Lower reliability Improvements made year-over- year to improve reliability 	68%	64%	 Impact to Wildfire Risk: High Impact to Reliability AFN, customers 	• 106
PSPS	 Capability across all circuits in HFRA Used when wildfire risk is elevated during high-wind days 	 \$20M event \$40M non-event Initial deployment cost is low Ongoing operating cost is medium 	 Lower reliability Improvements made year-over- year to improve reliability 	78%	25%	 Impact to Wildfire Risk: High Impact to Reliability, AFN customers 	 RSE not calculated per WSD-002, that was issued by the CPUC, as the full societal impact will not be captured
Undergrounding	 Targets riskiest 10,000 miles of 25,000 total HFRA miles Wildfire risk models with a feasibility overlay provide prioritization approach 	 \$1,300M Upfront cost is high (capital) Lifetime operating cost is low 	Highest reliability	99%	1%	 Best benefits for public safety and reliability overall 	 5 (2023 – 6 (2026) Varies by project
Overhead Covered Conductor	 Targets the remaining 15,000 riskiest HFRA miles Wildfire risk models guide prioritization approach 	 \$70M Upfront cost is medium Lifetime operating cost is medium 	Medium reliability	67%	.1%	 Medium benefits for public safety and reliability overall 	 6 (2023) – 5 (2026) Varies by project
Vegetation Management	 Compliance-driven Wildfire risk models guide prioritization approach for hazard tree work 	 \$800M+† Ongoing cost that will increase over time 	Limited reliability benefit	~7% ⁺	1% ⁺	Limited public safety benefit	• 4 ⁺
Downed Conductor Detection	 Targets low current, high impedance faults not fully mitigated by EPSS Used in conjunction with EPSS 	\$41M capitalOngoing operating cost is medium	Lower reliability	12%	3%	 Impact to Wildfire Risk: Medium-High Addresses known gap in EPSS protection 	-
Partial Voltage Force Out	 Targets low and very low current faults not fully mitigated by EPSS Used when wildfire risk is elevated during hot/dry summer days 	<\$1M expenseOngoing operating cost is low	Lower reliability	-	-	 Additional layer of protection to further reduce wildfire risk and improve public safety 	-

*Based on the most accurate and current empirical data. ^Additional programs contribute to overall risk reduction. † Enhanced Vegetation Management (EVM), program transitioned in 2023; cost as of 2022. Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

Ramping Up Our Undergrounding Efforts

We are ramping up our efforts to underground hundreds of miles per year.



Pending California Public Utilities Commission (CPUC) and California Office of Energy Infrastructure Safety (OEIS) approval.



Undergrounding is the Best Long-term Solution For Our Customers and Our Hometowns

Undergrounding Benefits

70%

PGSE

Sustained HFRA risk reduction once program is complete

99%

Ignition risk reduction in undergrounded locations compared to 67% reduction for overhead hardening

\$3.3M

Undergrounding cost per mile target for 2023, anticipated to be \$2.8M per mile by 2026

Optimizing Design and Construction Standards

Deploying More Efficient Construction Methods













Despite 31% more days in R3+ conditions last year, we saw a:



Data is approximate; *Based on 2022 performance for CPUC-reportable ignitions in HFTD compared to 2018-2020 weather-normalized performance; **Relative to 2018-2020

Some of the measures included in this presentation are contemplated as additional precautionary measures intended to further reduce the risk of wildfires.

99% reduction in ignition impact as measured by fire size**

EPSS Improvements: Turning Learnings into Action

By turning 2021 learnings into action, we simultaneously			2022	Improvements
expanded and improved the EPSS Program last year.	Average outage length	~7 hrs	<3 hrs	56% decrease
 Key 2022 improvements based on 2021 learnings: Engineered and installed coordinated settings 	Average customers impacted per outage	~1,100	877	20% decrease
 Developed and executed circuit-level enablement to maximize risk reduction and reliability Refined circuit patrols and better 	Customers protected	~380,000	~1.82M	374% expansion
 identified fault locations Leveraged the Regional Service Model to institute daily outage reviews locally where trends and actions to reduce outages were performed 	Miles protected	45% of HFRA	100% of HFRA	122% increase

Data is approximate

PGSE

Minimizing Customer Impacts

2022 EPSS Performance

Through real-time and continuous improvements, we mitigated customer impacts without compromising the wildfire prevention benefits of EPSS.



2023 EPSS Improvements

Continuing to improve reliability for all customers protected by EPSS and taking additional actions for the most impacted customers.

We are targeting mitigation efforts on the most impacted devices, these include:

Proactive animal mitigation consisting of bird retrofitting and critter abatement

Proactive expanded vegetation management work

Comprehensive reliability work push on targeted circuit protection zones

We have also expanded access to customer resiliency programs.

Data as of 1/30/23

Year-Over-Year PSPS Comparison

PSPS impacts have declined significantly through new, advanced technologies and improvements to the electric system infrastructure.

Event Details	2019	2020
PSPS Events	7	6
Customers Impacted	2,014,000	653,000
Average Number of Counties Impacted	17	17
Average Outage Duration (hours)	43	35
Average Outage Restoration Time (hours)	17	10
Damage/Hazards	722	257
Peak Wind Gusts	102 MPH	89 MPH
Potential Impacted Acreage Prevented	3.5M	912K
Potential Damaged Structures Prevented	280K	196K

2021	2022
5	0
80,400	-
10	-
31	-
12	-
442	-
102 MPH	-
691K	-
86K	-

Helping More Customers Access Support

Program	Total Inception-To-Date	Program Penetration in HFTD and EPSS Circuits	2023 Targets
Portable Battery Program (PBP)	18,627 batteries delivered	 41% of MBL customers in HFTD received portable batteries (14,341 customers out of ~35,000 MBL customers in HFTD based on 2020 - 2022 eligibility) 11.7% of MBL participants on EPSS circuits (12,265 MBL customers out of ~105,000 on EPSS circuits) 2023 targeting next tranche of customers based on new eligibility criteria (MBL or Self-Identified Vulnerable (SIV) 5+ EPSS in 2022 or 1+ PSPS event in 2021) 	4,700 batteries
Disability Disaster Access and Resources (DDAR)	 4,391 batteries delivered 7,806 assessments 898 hotels* 1,248 food vouchers* 86 gas cards* 32 transportation* 	 2,272 customers have received at least one portable battery (program eligibility criteria includes MBL customers, customers with disabilities and independent living needs living in HFTD or experienced 2+ PSPS since 2020) 	800 batteries
Self-Generation Incentive Program (SGIP) Interconnections	4,746 Equity Resiliency Budget (ERB) projects interconnected 16,234 other SGIP projects interconnected	 6,557 total SGIP interconnected customers in HFTD 12,138 total SGIP interconnected customers on EPSS circuits 	950 ERB 1,850 other SGIP
Fixed Power Solutions: Residential Storage Initiative	88 permanent battery storage installations	 88 customers, program eligibility focuses on CEMI-8+ 2022 EPSS MBL or income- qualified CARE customers 	650 permanent battery storage installations
Generator and Battery Rebate Program (GBRP)	4,684 rebates paid	 3,577 customers received rebates in HFTD 4,099 customers received rebates on EPSS circuits 	2,500 rebates
Backup Power Transfer Meter Program	2,477 transfer meters installed	 1,881 customers received a BPTM in HFTD 2,318 customers received a BPTM on EPSS circuits 	3,000 installations

*As of March 2023, YTD, **No PSPS events in 2023

PG<mark>s</mark>e

Lower-Cost Technologies Help us Further Reduce Ignition Risk and Mitigate Reliability Impact



Partial Voltage Detection detects and locates a wire down condition within minutes, reducing the amount of time a line may be energized while down.



Ground-Level Distribution Systems, developmental technology that places powerlines in fire-proof casing at ground level, without the need for trenching. We are planning to pilot this technology this year.



Downed Conductor Detection detects and isolates high impedance (or low current) faults before an ignition can occur.



Backup Power Transfer Meter, a free program that allows customers to safely connect generator power during emergency outages.



Early Fault Detection (EFD), early detection of failing equipment with the potential to detect vegetation encroachment.



XPrize, a four-year competition aimed at developing innovative technologies to improve the detection and suppression of destructive wildfires. PG&E is a co-title sponsor.

Thank You



Appendix



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Customer Support Provided

		EXPANDED ACCESS/SUPPORT	
Program	2022 Qualifications	2023 Qualifications	Customer Offerings
Portable Battery Program (PBP)	 Enrolled in PG&E's Medical Baseline Program (MBL) and Located in a Tier 2/3 HFTD or have experienced 2+ PSPS outages since 2020 	 Enrolled in MBL or Self-Identified as Vulnerable and have assistive technology or durable medical equipment Must have experienced at least one PSPS outage in 2021 or 5 or more EPSS outages in 2022 	No-cost portable battery, mini- fridge, and insulin cooler wallet
Generator and Battery Rebate Program (GBRP)	 Have a residential/business PG&E electric account and Located in a Tier 2/3 HFTD, served by an EPSS-capable line and experienced 2+ PSPS outages and Products purchased must be on the qualified products list 	 Have a residential or business PG&E electric account and Located in a Tier 2/3 HFTD or served by an EPSS- protected circuit and Products purchased must be on the qualified products list 	\$300 rebate to offset cost of a portable generator or battery and \$200 rebate (or \$500 total) if customer is CARE/FERA
Disability Disaster Access and Resources (DDAR)	 Must be an electricity-dependent individual with Access and Located in a Tier 2/3 HFTD and experienced 2 or more PSPS 	No-cost portable battery, in-event support such as accessible hotel rooms, transportation, fuel cards for generators and food vouchers	
	General market funds available to all customers, offsetting	15% - 20% of home battery cost	\$1,500 Incentive on permanent battery
Self-Generation Incentive Program (SGIP)	 Equity Resiliency Budget incentives are available for custom Live in Tier 2/3 HFTD or have experienced 2+ PSPS outage Are a MBL, Low Income, SASH, DAC-SASH, MASH, SOMA 	ges and	100% Incentive offsetting full cost of permanent battery
Fixed Power Solutions: Residential Storage Initiative	 Must be enrolled in CARE and meet eligibility 	No-cost permanent battery and installation	
Backup Power Transfer Meter Program	 Focused on Tier 2 or Tier 3 HFTD and/or served by an EPSS- Participant must be the PG&E customer of record Participant is the owner of the site or has the owner's perm 		No-cost meter and installation

*Individuals who are at an increased risk of harm to their health, safety and independence during a PSPS)