Pacific Gas and Electric Company

Erik Jacobson
Director
Regulatory Relations

Pacific Gas and Electric Company
77 Beale St., Mail Code B13U
P.O. Box 770000
San Francisco, CA 94177

Fax: 415-973-3582

November 27, 2019

Advice 5700-E
(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: **Pacific Gas and Electric Company's Quarterly Advice Letter Pursuant to Assembly Bill 1054 Regarding the Implementation of Its Approved Wildfire Mitigation Plan and Its Safety Recommendations**

Per Public Utilities Code Section 8389(e)(7), Pacific Gas and Electric Company (PG&E) hereby submits this Tier 1 Advice Letter (AL) detailing the status of its approved wildfire mitigation plan (2019 WMP)[1], recommendations of the most recent safety culture assessment[2], and recommendations of the board of directors' safety committee meetings that occurred during the quarter.[3]

Purpose

The purpose of this AL is to comply with Public Utilities Code (PUC) Section 8389(e)(7), established by California Assembly Bill (AB) 1054, for the 3rd Quarter of 2019—the first quarter following PG&E's receipt of its Initial Safety Certification on August 23, 2019.

Background

On July 12, 2019, Governor Newsom signed AB 1054 into law adding Section 8389(e)(7) to the Public Utilities Code which requires, as one of the conditions to the executive director of the Commission issuing a safety certification, documentation of the following:

> The electrical corporation is implementing its approved wildfire mitigation plan. The electric corporation shall file a tier 1 advice letter on a quarterly basis that details the implementation of both its approved wildfire mitigation plan and recommendations of the most recent safety culture assessment,

[1] *See* Decisions (D.) 19-05-036 and (D.) 19-05-37.
[2] Pacific Gas and Electric Company's Safety Culture and Governance Quarterly Report No. 04-2019 In Compliance with CPUC Decision 18-11-050 Submitted October 31, 2019.
[3] Public Utilities Code Section 8389(e)(7) also requests the quarterly advice letter contain a summary of the implementation of the safety committee recommendations from the previous Advice Letter filing. Because this is the first submittal of the quarterly advice letter, it does not contain implementation of such recommendations.

> and a statement of the recommendations of the board of directors safety committee meetings that occurred during the quarter. The advice letter shall also summarize the implementation of the safety committee recommendations from the electrical corporation's previous advice letter filing. If the division has reason to doubt the veracity of the statements contained in the advice letter filing, it shall perform an audit of the issue of concern.

Q3 2019 Update

Implementation of Approved Wildfire Mitigation Plan

Based on the requirements of PG&E's 2019 WMP, PG&E is tracking 53 different initiatives to mitigate catastrophic wildfire risk associated with utility facilities. Attachment A, 2019 WMP Status, contains a snapshot of the progress of such initiatives as of September 30, 2019. Attachment B, Community Wildfire Safety Program Overview, contains additional details on implementation of the 2019 WMP through Q3 2019.

Implementation of the Recommendations of Most Recent Safety Culture Assessment. On October 31, 2019, PG&E submitted its Safety Culture and Governance quarterly report number 04-2019 in compliance with CPUC Decision 18-11-050, for the third quarter of 2019 ("Safety Culture Assessment"). Attachment C, Safety Culture and Governance Quarterly Report, reflects the implementation of the recommendations of such Safety Culture Assessment.

Recommendations of Board of Directors Safety Committee Meetings During Q3 2019

The PG&E Board of Directors' Safety and Nuclear Oversight (SNO) Committee, along with its indirect predecessor, the PG&E Corporation Nuclear, Operations, and Safety Committee (which was established in 2011), is an important part of PG&E's Board-level oversight of safety and other matters. A parallel SNO Committee also concurrently exists at the PG&E Corporation Board. The PG&E SNO Committee oversees matters relating to safety, operational performance, and compliance related to PG&E's nuclear, generation, gas and electric transmission, and gas and electric distribution operations and facilities. The PG&E SNO Committee also oversees certain enterprise risks related to, among other things, potential wildfires, workforce safety, and motor vehicle safety.

The PG&E SNO Committee is comprised entirely of independent directors. Committee members also have significant experience in relevant areas, as reflected on the attached copy of PG&E's August 2, 2019 Request for Initial Safety Certification Pursuant to P.U.C. § 8389 (*see* page 2-3, and Attachment C thereto).[4]

---

[4] The SNO Committee members are Cheryl Campbell (the Chair), Jeffrey Bleich, Nora Mead Brownell, Fred Fowler, Eric Mullins, and Kristine Schmidt.

Consistent with tenets of corporate law and the role of directors at large public companies, the PG&E Board and its committees – including the PG&E SNO Committee – provide general oversight of PG&E's operations and general direction for management.[5] In turn, management exercises responsibility for day-to-day operations.[6] Boards of directors at large public companies typically exercise this oversight responsibility by setting overall direction in substantive areas; adopting general policies and procedures; approving long-term plans and budgets, material business decisions, and other decisions as required by law or regulation; reviewing and requesting reports and information from management; selecting members of management to implement board direction and policies; and, as appropriate, removing members of management. Consistent with the oversight nature of a board's duties, California law permits a board of directors to rely in good faith on the expertise of, and information provided by, company officers, employees, and other advisors that the board believes are reliable.[7]

With respect to safety specifically, the PG&E SNO Committee exercises this oversight role through, among other things: (a) reviewing and overseeing the corporate safety function, including reviewing the appointment and replacement of PG&E's Chief Safety Officer, (b) overseeing PG&E's goals, programs, policies, and practices with respect to promoting a strong safety culture, (c) reviewing, discussing, and giving guidance on how PG&E can continue to improve its safety practices, (d) reviewing the impact of changes in law and regulations affecting safety performance, (e) advising the PG&E Corporation Board of Directors' Compensation Committee on appropriate safety and operational goals to be included in PG&E's executive compensation programs and plans, (f) meeting with the Chief Safety Officer, and advising the PG&E Board of Directors on those meetings, and (g) reviewing regular safety-related reports from the Chief Safety Officer and the Chief Ethics and Compliance Officer. As noted above, the PG&E SNO Committee also has been assigned oversight responsibility for numerous enterprise risks that have a potential safety impact.

The PG&E SNO Committee, together with the PG&E Board of Directors, regularly reviews and evaluates management's comprehensive safety plans. The Committee members have committed to making numerous visits to the field every year (over and above the three site visits per year to which all PG&E directors have committed).

The PG&E SNO Committee charter requires that the Committee meet at least six times per year. During the third quarter of 2019, the SNO Committee met three times (on July 16, 2019, August 20, 2019, and September 10, 2019) and discussed among the members and with management the following topics (among other things): (1) various "training, education or other support on safety" as reported in PG&E's Safety Culture and

---

[5] California Corporations Code § 300(a).
[6] *Id*.
[7] Cal. Corp. Code § 309(b).

Governance Quarterly Report No. 04-2019, and (2) oversight of company processes for identifying and managing risks.

The following occurred during the July 16, 2019 meeting:

- Ms. Cheryl Campbell, Chair of the PG&E SNO Committee, noted that PG&E's and PG&E Corporation's (the Companies') SNO Committees are coordinating the review of operationally focused internal audits with the Companies' Audit Committees.

- Mr. Melvin Christopher (as PG&E's Vice President (VP), Gas Operations), Ms. Laurie Giammona (as PG&Es Senior Vice President (SVP) and Chief Customer Officer, Ms. Kathy Kay (as PG&E's SVP and Chief Information Officer), Mr. Michael Lewis (as PG&E's SVP, Electric Operations), and Mr. Jim Welsch (as PG&E's SVP and Chief Nuclear Officer) presented a report on the results of operationally focused internal audits.

- Mr. Lewis, Mr. Welsch, Mr. Christopher, and Mr. Jan Nimick (as PG&E's Senior Director, Interim Lead, Safety and Health, ECAP, DOT) presented a report on safety culture. Among other matters, the Committee members discussed the Companies' safety performance, the Companies' strategy for further improving safety culture, and senior management's commitment to safety.

The following occurred during the August 20, 2019 meeting:

- Mr. Stephen Cairns (as PG&E's VP, Internal Audit and Chief Risk Officer) and Mr. Christopher Pezzola (as PG&E's Director, Internal Auditing) presented a report on results of operational audits performed by Internal Auditing during the second quarter of 2019.

The following occurred during the September 10, 2019 meeting:

- Mr. Nimick (as PG&E's Senior Director, Interim Lead, Safety and Health ECAP, DOT) presented safety tailboards on (1) electrical backfeed, (2) gas pipeline solids, and (3) dog bite prevention.

- Mr. Stephen Cairns (as PG&E's VP, Internal Audit and Chief Risk Officer) and Ms. Janaize Markland (as PG&E's Senior Director, Enterprise and Operational Risk Management and Insurance) presented a report on the Companies' Enterprise and Operational Risk Management (EORM) risk management oversight process. Among other matters, the Committee members discussed the Companies' internal governance process for reviewing enterprise risks and associated mitigations, and 2019 enterprise risks that have been assigned to the PG&E SNO Committee for oversight.

- Mr. Michael Lewis (as PG&E's SVP, Electric Operations) presented a report on a recent contractor fatality incident involving a lineman who fell from an insulated

temporary pole-mounted platform while replacing an electric transmission pole in Plumas County, and immediate actions taken by PG&E and the contractor in response to the incident. Among other matters, the Committee members discussed PG&E's Contractor Safety program, and PG&E's oversight of work performed by contractors.

- Mr. Nimick, Mr. Lewis, Mr. Melvin Christopher (as PG&E's VP, Gas Operations), and Mr. Jim Welsch (as PG&E's SVP, Generation and Chief Nuclear Officer) presented a report on the Companies' 2019 safety program, including performance targets and metrics for workforce, motor vehicle, and public safety. Among other matters, the Committee members discussed the Companies' 2019 year-to-date performance on various safety metrics.

- Mr. Sumeet Singh (as PG&E's VP, Asset, Risk Management, and Community Wildfire Safety Program) presented a report on distribution subsurface equipment failure risk and associated risk management activities.

- Mr. Welsch presented a report on nuclear generation operations and power generation operations. Among other things, he discussed the Diablo Canyon Power Plant's and the Power Generation organization's respective year-to-date safety performance, and PG&E's Dam Safety Program.

- Ms. Maureen Zawalick (as PG&E's Senior Director, Regulatory, Risk, and Decommissioning) presented a report on risk management activities associated with a potential large uncontrolled water release from a high or significant hazard dam, one of the key enterprise risks in the Companies' EORM program. She described the risk, and discussed, among other things, risk controls and mitigations.

- Ms. Zawalick then presented a report on risk management activities associated with a potential nuclear core-damaging event, a key enterprise risk addressed in the Companies' EORM program. She described the risk, and discussed, among other things, risk controls and mitigations, and independent oversight and monitoring of risk controls. Among other matters, the Committee members discussed risk drivers, and risk controls and mitigations.

- Mr. Christopher presented a report on the July 2019 earthquakes in Ridgecrest and their impact on PG&E's gas transmission and distribution systems. Among other things, he discussed PG&E's safety performance in connection with its response to the earthquakes, and proactive mitigations in place to prevent gas system failure or prevent additional consequences in the event of future earthquakes.

- Mr. Christopher then presented a report on risk management activities associated with loss of containment that would result from a hypothetical gas transmission pipeline rupture, one of the key enterprise risks in the Companies' EORM program. He described the risk, and discussed, among other things, risk controls and mitigations.

Among other matters, the Committee members discussed PG&E's Transmission Integrity Management Program.

- Ms. Campbell and the other SNO Committee members discussed various field visits and safety observations and facility tours that they had attended.

Although no formal SNO Committee recommendations were made during the third quarter of 2019, the following general guidance and direction were provided:

- The Committee emphasized that management should work to continue to strengthen accountability and transparency in how risks inherent in the business are being managed.

- The Committee reiterated the Board's expectations for creating visibility into the status of high-risk audits, endorsed use of standard methods for evaluating risks and communicating key drivers and controls, and requested that management continue to make improvements in the quality of data used for making risk mitigation decisions.

- The Committee emphasized its expectation that both strong safety culture and strong risk management program require going beyond minimum compliance obligations, and that compliance, itself, may not be a sufficient goal.

- The Committee emphasized its expectation that safety culture must address multiple elements of safety, including employee safety, public safety, and asset management.

- The Committee emphasized that PG&E leaders are responsible for creating behavioral and culture changes that lead to meaningful improvement in behavior and positive expectations regarding the safety of the work environment.

Protests

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile or E-mail, no later than December 17, 2019, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

Erik Jacobson
Director, Regulatory Relations
c/o Megan Lawson
Pacific Gas and Electric Company
77 Beale Street, Mail Code B13U
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-3582
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

PG&E requests that this Tier 1 advice submittal become effective upon date of submittal, which is November 27, 2019.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for R.18-10-007, R.18-12-005, and I.15-08-019. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter submittals can also be accessed electronically at: http://www.pge.com/tariffs/.

/S/

Erik Jacobson
Director, Regulatory Relations

Attachments:
Attachment A – 2019 WMP Status
Attachment B – Community Wildfire Safety Program Overview
Attachment C – Safety Culture and Governance Quarterly Report

cc: Service Lists R.18-10-007, R.18-12-005, and I.15-08-019

California Public Utilities Commission

ADVICE LETTER SUMMARY

ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (ID U39E)

Utility type:
- [x] ELC
- [ ] GAS
- [ ] WATER
- [ ] PLC
- [ ] HEAT

Contact Person: Kimberly Loo
Phone #: (415)973-4587
E-mail: PGETariffs@pge.com
E-mail Disposition Notice to: KELM@pge.com

EXPLANATION OF UTILITY TYPE
ELC = Electric GAS = Gas WATER = Water
PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 5700-E

Tier Designation: 1

Subject of AL: Pacific Gas and Electric Company's Quarterly Advice Letter Pursuant to Assembly Bill 1054 Regarding the Implementation of Its Approved Wildfire Mitigation Plan and Its Safety Recommendations

Keywords (choose from CPUC listing): Compliance

AL Type: [ ] Monthly [x] Quarterly [ ] Annual [ ] One-Time [ ] Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:
N/A

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested? [ ] Yes [x] No

If yes, specification of confidential information:
Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? [ ] Yes [x] No

Requested effective date: 11/27/19

No. of tariff sheets: 0

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed[1]: N/A

Pending advice letters that revise the same tariff sheets: N/A

[1]Discuss in AL if more space is needed.

Clear Form

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102
Email: EDTariffUnit@cpuc.ca.gov

Name: Erik Jacobson, c/o Megan Lawson
Title: Director, Regulatory Relations
Utility Name: Pacific Gas and Electric Company
Address: 77 Beale Street, Mail Code B13U
City: San Francisco, CA 94177
State: California Zip: 94177
Telephone (xxx) xxx-xxxx: (415)973-2093
Facsimile (xxx) xxx-xxxx: (415)973-3582
Email: PGETariffs@pge.com

Name:
Title:
Utility Name:
Address:
City:
State: District of Columbia Zip:
Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

Clear Form

Attachment A

2019 WMP Status

2019 WMP Status

WSP Initiative Status (as of 9/30)

1. Wildfire Safety Inspections Program (WSIP)

Transmission

- 1.1 Inspections: 99.8% complete
- 1.2 Corrective Actions
- 1.3 Quality: 98.2%
- 1.4 Drone Inspections: 99.6% complete
- 1.5 Helicopter Inspections

Distribution

- 1.6 Inspections: 694,250 poles
- 1.7 Corrective Actions
- 1.8 Quality: 96.7%

Substation

- 1.9 Inspections: 222 substations
- 1.10 Corrective Actions

2. System Hardening

- 2.1 45 Miles by 6/30
- 2.2 150 Miles by EOY
- 2.3 Quality
- 2.4 Non-exempt fuses
- 2.5 System Protection Trip-Savers
- 2.6 System Sectionalization

3. Vegetation Management

- 3.1 EVM 1,000 circuit miles by Q2
- 3.2 EVM 2,450 circuit miles by EOY
- 3.3 VM CEMA inspections
- 3.4 VM CEMA Corrective Actions:
- 3.5 VM Inspections for Strike Potential
- 3.6 EVM Quality: QC 100% of Work

4. Public Safety Power Shut-Off (PSPS)

- 4.1 Recloser Operations
- 4.2 Customer Services: Backup Generation and Community Resource Centers (CRC)
- 4.3 PSPS Impact Mitigation
- 4.4 Re-energization Strategy
- 4.5 Customer Notifications
- 4.6 First Responders and Critical Services: Advanced notification
- 4.7 Medical Baseline Notifications
- 4.8 Customer Outreach: Notification tools
- 4.9 Mitigate impact on Telecom / Water Utilities
- 4.10 Mapping and Communication Protocols

5. Resilience Zones

- 5.1 Pilot: Angwin, Napa County
- 5.2 Additional Resilience Zones

6. Operations and Technology

- 6.1 Response, Recovery & Restoration
- 6.2 Personnel Work Procedures
- 6.3 Situational Awareness
- 6.4 Rapid Earth Fault Current Limiter, Pilot
- 6.5 Enhanced Wires Down Detection
- 6.6 Disable Manual Reclosers
- 6.7 Recloser Daily Operations

7. Safety Infrastructure Protection Team (SIPT), Wildfire Safety Operations (WSOC) and Weather

- 7.1 Aviation: Helicopters to aid fire suppression and restoration
- 7.2 Safety & Infrastructure Protection Teams (SIPT)
- 7.3 SIPT support WSOC
- 7.4 HD Cameras by Q2
- 7.5 HD Cameras by EOY
- 7.6 Meteorological Situational Awareness: Improving accuracy
- 7.7 Fire Spread Model
- 7.8 Fire Detection System
- 7.9 Storm Outage Prediction Model (SOPP)
- 7.10 Weather Stations by Q2
- 7.11 Weather Stations by 9/1/19
- 7.12 WSOC: Integrate new technology and processes

Color Legend: *Completed on Time* | *Completed Late* | *On Track* | *At Risk* | *High Risk*

Following the wildfires in 2017 and 2018, some of the changes included in this presentation are contemplated as additional precautionary measures intended to further reduce future wildfire risk.

Advice 5700-E
November 27, 2019

Attachment B

Community Wildfire Safety Program Overview

Community Wildfire Safety Program Overview

Wildfire Reduction Measure	2018 (Approx.)	2019 (Approx.)	Percentage/ Capacity Increase (Approx.)	2019 Planned Work Completion thru Sept 30[1]
Vegetation Management	160,000 trees worked	375,000 trees worked	235%	~39% [2]
	760 circuit miles of fuel reduction, overhang clearing, or Enhanced Vegetation Management (EVM)	2,450 circuit miles of EVM	320%	37%
Inspections - Distribution	517,500 distribution poles for routine inspections	685,000 distribution poles in High Fire Threat District (HFTD) areas with enhanced inspections in five months in addition to routine inspections	130% -400% (excluding substations)	100%
Inspections - Transmission	9,400 transmission structures with enhanced inspections; 76,000 routine inspections of transmission structures	40,600 transmission structures in HFTD areas with enhanced inspections in four months in addition to routine inspections		99.8%
Inspections - Substations	960 monthly routine inspections	200 enhanced risk-based inspections in HFTD areas in four months in addition to routine, monthly inspections		100%

Notes:

[1] Percentage of 2019 Planned Work Completion as of end of September per 2019 Target

[2] Reflects weighted average of EVM program tree work being 37% complete through end of September and CEMA program being 47%; actual number of trees to be removed in 2019 may not end up being 375,000 based on actual trees identified for work in the field by pre-inspectors.

Community Wildfire Safety Program Overview

Wildfire Reduction Measure	2018 (Approx.)	2019 (Approx.)	Percentage/ Capacity Increase (Approx.)	2019 Planned Work Completion thru Sept 30
System Hardening	17 circuit miles-tree wire projects	150 circuit miles	880%	65%[3]
Situational Awareness	200 weather stations	400 additional weather stations	200%	100%
	9 cameras	70 additional cameras	780%	134%[4]
	N/A	Developing fire spread model capabilities – Phase 1	N/A	N/A
Resilience Zones	N/A	At least 1 resilience zone operationalized	N/A	100%
PSPS	7,100 distribution circuit miles in Program (Tier 3 HFTD area)	25,200 distribution circuit miles in Program (Tier 2 and Tier 3 HFTD areas)	355%	100%
	370 circuit miles of transmission lines at 70kV and below	5,500 circuit miles of transmission lines at 500kV and below	1,485%	100%
	570,000 electric customer premises potentially impacted by PSPS events	5.4 million electric customer premises potentially impacted by PSPS events	950%	100%

Notes:

[3] As of 9/30, 98 miles had full QC completed

[4] As of 9/30, 94 Cameras had been installed in 2019, exceeding 2019 target

Advice 5700-E
November 27, 2019

Attachment C

Safety Culture and Governance Quarterly Report

PACIFIC GAS AND ELECTRIC COMPANY

SAFETY CULTURE AND GOVERNANCE QUARTERLY REPORT

NO. 04-2019

IN COMPLIANCE WITH CPUC DECISION 18-11-050

SUBMITTED OCTOBER 31, 2019

PACIFIC GAS AND ELECTRIC COMPANY
SAFETY CULTURE AND GOVERNANCE QUARTERLY REPORT
NO. 04-2019
IN COMPLIANCE WITH CPUC DECISION 18-11-050
SUBMITTED OCTOBER 31, 2019

TABLE OF CONTENTS

I. Introduction 1

II. Executive Summary 2

III. Implementation Update 3

IV. Sustainability Update 4

V. Board of Directors Reporting 5

A. BOD and Safety and Nuclear Committee Meeting Minutes 5

B. BOD Safety-Related Training 6

VI. One PG&E Occupational Health and Safety Five-Year Plan and Key Safety Metrics 7

A. Introduction 7

B. Employee Safety 7

1. Musculoskeletal Disorders (MSD), Sprains and Strains 7

2. Safety Leadership 8

3. Serious Injury and Fatality Prevention 9

4. Injury Management 10

5. Health and Wellness 10

C. Contractor Safety 12

D. Motor Vehicle Safety 14

E. Safety Management System 15

VII. Conclusion 16

PACIFIC GAS AND ELECTRIC COMPANY
SAFETY CULTURE AND GOVERNANCE QUARTERLY REPORT
NO. 04-2019
IN COMPLIANCE WITH CPUC DECISION 18-11-050

I. Introduction

Pacific Gas and Electric Company (PG&E or the Company) submits this fourth Safety Culture and Governance Quarterly Report (Report) in compliance with California Public Utilities Commission (CPUC or Commission) Decision 18-11-050.[1] In that decision, the Commission directed PG&E to implement the recommendations of the Commission's Safety and Enforcement Division (SED), as set forth in a report prepared by NorthStar Consulting Group (NorthStar), no later than July 1, 2019, and to serve quarterly reports on the status of its implementation and ongoing execution to the service list for this proceeding. In addition, in compliance with Decision (D.) 19-06-008, adopted by the Commission on June 13, 2019, PG&E and PG&E Corporation also provide details of safety-specific training, education, and support given to the PG&E and PG&E Corporation Board of Directors (BOD).

PG&E collaborated closely with SED and NorthStar on the form and content of PG&E's previous quarterly Reports, and this Report is consistent with the agreed-upon approach. This Report provides an update on PG&E's ongoing execution and sustainability of NorthStar's recommendations between July 1, 2019, and September 30, 2019. Additionally, this Report discusses BODs safety training, education, and support for the same time period, and the One PG&E Occupational Health and Safety Five-Year Plan (One PG&E Plan) and associated safety performance metrics.

This Report is organized as follows:

- Executive Summary
- Implementation Update
- Sustainability Update
- Board of Directors Reporting
- One PG&E Plan and Key Safety Metrics

In the past quarter, PG&E's BOD appointed Andrew M. Vesey as Chief Executive Officer (CEO) and President of the Utility and subsequently also elected him as a member of the PG&E BOD. Mr. Vesey has more than 35 years of diverse utility experience, and his remit is to help PG&E improve its safety and operational performance. Prior to joining PG&E, Mr. Vesey served as the Managing Director and CEO of Sydney-based AGL Energy Limited, an integrated Australian energy company serving about 3.7 million electric and natural gas

---

1 See Order Instituting Investigation (OII) on the Commission's Own Motion to Determine Whether Pacific Gas and Electric Company and PG&E Corporation's Organizational Culture and Governance Prioritize Safety (I.15-08-019).

customers and operating 20 percent of the country's power generation capacity. As AGL's top leader, he committed to closing all of the company's coal-fired generation by 2050. Before AGL, Mr. Vesey also served in a number of successively greater leadership roles at energy companies such as AES Corporation, where he was the Chief Operating Officer, and Entergy Corporation and Niagara Mohawk Power Corporation, where he served in senior leadership positions. Mr. Vesey also spent a number of years as an energy industry consultant and leader at firms that included FTI Consulting and Ernst & Young. He also served as Managing Director and CEO of Melbourne-based CitiPower in Australia.

Mr. Vesey reports to the Utility BOD and has responsibility for all aspects of PG&E's operations, including Safety, Electric Operations, Gas Operations, Generation (including Diablo Canyon Power Plant (DCPP), and Customer Care.

II. Executive Summary

In this fourth update to the CPUC, we are highlighting several areas that show how PG&E is focused on improving safety and quality at the source of the work we do. Specifically, the report notes several steps taken to develop leadership capabilities, build expertise at multiple levels of the company, and provide coaching and feedback to improve performance.

The investment being made in PG&E's workforce reflects our belief that programs alone are insufficient to protect our workforce and the public. It must be—and is—reinforced by expectations of proper procedures and rules, ensuring employees feel comfortable speaking up with concerns and ideas, and workers not only stopping jobs when it's no longer safe, but following essential controls so that we start work only when it's safe to do so.

We have increased our time and investment into reporting and tracking tools to assess our progress. This includes building new dashboards that provide leaders better visibility into safety performance, and updating our primary observation tool to make it more efficient for users. These enhancements and more, underscore our commitment to a culture that values learning and continuous improvement.

With this approach in place, we have seen improvements in certain areas of employee safety. Of note, the quality and timeliness of corrective actions—our responses to incidents and near hits to avoid recurrence—is ahead of goal, as is timely reporting of injuries.

However, we remain in lower quartiles across our key performance measures and know there is still much progress to make. Although a great deal of value-added work has been accomplished in the time since the Safety OII recommendations, it is recognized that PG&E's performance in workforce safety does not meet expectations. PG&E remains challenged by a large workload in upgrading our equipment, the implementation of a thorough and effective Community Wildfire Safety Program, and safe operations in a changing environment. PG&E is further challenged by recent changes in senior leadership, lack of clarity in some of our safety procedures and standards, and creating enough time for leaders to be present in the field reinforcing and coaching on safety.

PG&E is monitoring the ongoing execution and sustainability of the NorthStar recommendations that have a sustainability component and are ongoing in nature. In a few areas, PG&E is implementing improvements stemming from the independent sustainability assessment[2] of NorthStar recommendations performed in the second quarter. See Section IV of this Report for more details on these efforts.

In D.19-06-008, the Commission directed PG&E to provide certain BOD-related information "in the quarterly reports submitted to SED pursuant to D.18-11-050." Information in compliance with this requirement is provided in Section V of this Report.

Consistent with PG&E's previous quarterly Reports, Section VI of this Report has a progress update on the One PG&E Plan, including third quarter safety performance.

Attachment 1 to this Report contains the Completion Narrative for two NorthStar recommendations (one implementation plan) reviewed and approved by PG&E's Internal Audit (IA) department in the third quarter.

Attachment 2 to this Report provides a Glossary of Safety Terms.

III. Implementation Update

PG&E provides more information on its implementation of two NorthStar recommendations under the implementation plan "F-2 Supervisor in the Field." The Completion Narrative[3] was approved by PG&E's IA department as part of the Safety OII governance process.[4] This plan is not only designed to increase the time that leaders spend in the field with their employees, but to use that time to model and support safe behaviors and practices via regular open dialogue. The plan has strong support from PG&E's senior leadership and a robust sustainability component, as described in the Completion Narrative. See Attachment 1 for more details.

As described in the previous quarterly Report,[5] PG&E is implementing a new process to verify the ongoing execution of its Safety OII plans in MetricStream, a new enterprise compliance management tool. The Safety OII Program Management Office (PMO) piloted the MetricStream platform with a sample of Safety OII plans. The full roll-out and change management efforts will take place in the next quarter and will inform subsequent quarterly reports to the Commission.

---

2 As described in PG&E's third quarterly Report (Section IV, pp. 10-11), in conversations with NorthStar, representatives expressed concern over whether the implemented recommendations have been operationalized and sustained. Accordingly, PG&E tasked an independent assessment team from DCPP to review each of the 65 NorthStar recommendations directed at PG&E and associated plans to evaluate implementation and sustainability of the actions. This was completed and files with the CPUC.

3 A Completion Narrative is developed to evidence completion and demonstrate sustainability of plans as part of the governance process.

4 Final approval received on October 1, 2019.

5 See, e.g., PG&E's third quarterly Report, pp. 11-12.

For this fourth quarterly Report, the PMO confirmed the sustainability of actions for the NorthStar's recommendations that have a sustainability component and are ongoing in nature directly with the Plan Owners and Sponsors.

IV. Sustainability Update

1. Summary of Improvements

PG&E assessed the sustainability of its plans to address NorthStar's initial recommendations. That assessment--performed in the second quarter and summarized in PG&E's third Report—highlighted several opportunities to improve process adoption, tools, and documentation. In response to the assessment, PG&E has taken the following actions:

- Improved communications for the One PG&E Plan. Information about the One PG&E Plan is now prominently featured on PG&E's Safety and Health (S&H) intranet page, discussed in Line of Business (LOB) Safety Summits, and communicated to employees via PG&E's Daily Digest all-employee newsletter and LOB Leader packets.
- PG&E's Power Generation refresher training reviews and updates are governed by HR-08 Technical Refresher Training Policy. In addition, Power Generation is creating a governance charter as an important step in establishing the overall governance program.
- PG&E enhanced its safety observation tool, SafetyNet, to make it easier to enter data and extract learnings from the system. This tool helps sharing of best practices across the enterprise.
- PG&E developed a Safety Observation Dashboard to enhance visibility and provide consistency of observations on a monthly basis. PG&E is aligning roles and responsibilities for the Field Safety Specialists (FSS) and deepening the engagement with participating LOBs through the FSS performance goals for 2019.
- PG&E is simplifying and automating the process to identify and monitor safety-related expenditures. This should improve the timeliness and accuracy of reporting and provide a clear line of sight from identified risks to spending for associated controls and mitigations.

The Safety OII PMO is working closely with Plan Owners and Sponsors and monitoring the improvement efforts through completion.

2. Changes to PG&E Execution of Plans

As recommended by NorthStar, PG&E will continue to report to the Commission on any significant changes that might affect the sustainability of the recommendations.

In early 2019, PG&E redesigned its Business Plan Review (BPR) meetings to focus on a smaller number of key safety, operational, and financial metrics, providing additional qualitative and quantitative data to enable more substantive discussions for each metric. While PG&E did not track all prior Short-Term Incentive Plan (STIP) metrics in the enterprise BPR forum as result, it did track all but one metric in other leadership forums, such as in its Executive Safety Committee meetings and in Senior Vice President LOB

leadership meetings. Going forward, PG&E will resume tracking former STIP metrics and trending in its BPR discussions, as well as discuss them in its November Quarterly Business Review (QBR) discussion.

PG&E is also providing an update on its Integrated Planning Process, which was directly referenced in NorthStar's recommendation to better link Session D to Session 1 and 2 (VI-4).

Given that the Chapter 11 process and unknown outcomes made long-term planning difficult, PG&E changed its planning process in 2019. The revised 2019 planning process consisted of Session D (risk planning), which focused on emerging risks and on making faster, sustainable risk-reduction and compliance progress; a QBR process run for Quarter 1 and Quarter 3 to focus on near-term performance, execution and results; and Session C (talent review and succession planning). Risk remains a central focus of the planning process, and each QBR includes a risk component to identify any challenges and/or support needed to meet enterprise risk reduction goals. PG&E expects to re-institute a revised, long-term planning process in 2020 that continues to strongly link Session D and risk evaluation to its near- and long-term business planning activities.

V. Board of Directors Reporting

In D.19-06-008, the Commission directed PG&E to provide the following information in the quarterly reports submitted to SED pursuant to D.18-11-050:

1) Non-confidential versions of the minutes of all board meetings and safety committee meetings.
2) All training, education or other support on safety that PG&E and PG&E Corporation are providing to board members so that they can adequately perform their duties on safety issues.[6]

A. BOD and Safety and Nuclear Committee Meeting Minutes

There are no new responsive documents for BODs or Safety and Nuclear Oversight (SNO) Committee meetings held on or after June 13, 2019 (the effective date of D.19-06-008).

Meeting minutes for the BODs and SNO Committees must be formally reviewed and approved by the relevant governance body prior to finalization. The timing for this process varies, and in many cases the minutes will be finalized in a different quarter than the quarter in which the meeting was held.

Given this timing, PG&E intends to include in these quarterly reports non-confidential versions of any approved minutes from BODs or SNO Committee meetings held on or after June 13, 2019, to the extent such materials have not been provided in connection with a prior quarterly report.

---

6 D.19-06-008, *mimeo*, p. 4.

B. BOD Safety-Related Training

PG&E is submitting information regarding "all training, education or other support on safety that PG&E and PG&E Corp." provided "to board members to ensure that they can adequately perform their duties on safety issues".

- Starting during the third quarter of 2019, in-person regular meetings of the BODs and the SNO Committees have included a safety tailboard similar to those presented to employees. Topics covered during the third quarter of 2019 included: (1) electrical backfeed, (2) gas pipeline solids, (3) dog bite prevention, and (4) marijuana grow site hazards.
- In July 2019, SNO Committees also received a report on safety culture.
- In September 2019, the BODs received briefings from PG&E's management regarding the Community Wildfire Safety Program and from the Chair of the Compliance and Public Policy (CPP) Committee of the PG&E Corporation Board regarding the CPP Committee's second quarter 2019 Oversight Report on PG&E's progress against the 2019 Wildfire Safety Plan.
- In July, August, and September 2019, the SNO Committees reviewed summaries of open high-risk audit issues with operational risks, including safety, and the status of action plans to address these issues. Examples include issues that were identified in IA's evaluation of controls and processes relating to: (1) the gas carrier pipe checklist (a safety-focused checklist designed to test for the presence of plastic pipe prior to welding and prevent uncontrolled releases of gas), (2) the electric and hydro Supervisory Control and Data Acquisition systems, (3) the brake inspection program for regulated vehicles and equipment, (4) distribution wood pole asset management, (5) the dam surveillance, monitoring, and inspection program, and (6) cathodic protection systems designed to protect gas facilities from corrosion.
- In September 2019, the SNO Committees received a report regarding PG&E and PG&E Corporation's Enterprise and Operational Risk Management program risk oversight process. The SNO Committees also received reports on top enterprise risks, including large uncontrolled water release, nuclear core-damaging event, and loss of containment-transmission pipeline failure.
- In September 2019, the SNO Committees also a received: (1) an Electric Operations update on distribution subsurface equipment risk, (2) performance and operational updates on nuclear generation and power generation, and (3) a Gas Operations update on the Ridgecrest earthquake.
- In September 2019, the SNO Committees received a safety report, which included a review of a contractor fatality incident and a review of performance in the areas of workforce safety, motor vehicle safety, and public safety.
- During the third quarter of 2019, consistent with the directors' commitment to each conduct at least three site visits per year, non-employee directors

of PG&E and PG&E Corporation made various 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. Activities during the third quarter included: (1) visiting various job sites to observe vegetation management, system hardening, and electric work being done by field employees and contractors, (2) touring the Cresta Powerhouse, (3) touring the Gas Safety Academy, (4) touring the Wildfire Safety Operations Center, (5) visiting the Oakport Service Center and meeting with gas and electric crews, (6) attending the Lineman's Rodeo where employees compete in various events where safety is the most important factor, and (7) touring the Livermore Training Center.

VI. One PG&E Occupational Health and Safety Five-Year Plan and Key Safety Metrics

A. Introduction

The One PG&E Plan encompasses three substantive safety categories—Employee Safety, Contractor Safety and Motor Vehicle Safety—and the Enterprise Safety Management System (ESMS), as well as eight focus areas to facilitate execution and reporting.

B. Employee Safety

1. Musculoskeletal Disorders (MSD), Sprains and Strains

PG&E's MSD program supports the prevention of injury though changes and re-design of five key programs (office, vehicle, industrial ergonomics, Industrial Athlete, and stretch program) by:

a) Redesigning the processes for more efficiency, providing employees with access to sports medicine trained professionals to assist with discomfort quickly for better resolution. Currently, the Industrial Athlete Program is piloting enhancements within Gas Operations, including increasing the amount of time trainers spend in the field, focusing on work areas with the highest physical demands, and improving data recording via SafetyNet.

b) Identifying the most physically demanding tasks, assessing the risk, introducing mitigations to those for risk reduction, then re-designing tasks and engineering controls.

c) Deploying software across the enterprise that allows PG&E office ergonomics to identify high-risk populations, thereby managing risks and reducing injuries in a targeted way.

d) Incorporating ergonomics into the design phase for new vehicles, ensuring that employees have a better fit and working conditions, and reducing the amount of discomfort reports.

Key activities that occurred during the third quarter of 2019 include:

- Working with LOBs to deploy Industrial Athlete specialists in the field to support supervisors and employees. In working with Gas

Operations, approximately 90 employees were seen, and 2,075 ergonomic observations were performed between June 1 and September 30, 2019. The approach resulted in coaching on body positioning (shoulder, elbow and neck), lifting, and material handling, mainly due to equipment, tools, and the environment. Grassroots teams, leaders, and ergonomic specialists identify and review potential solutions and tools to reduce muscle strain.

- Conducted meetings with the Customer Care Contact Center leaders to review the office ergonomic process and identify opportunities to improve the process. The opportunities include educating the LOB ergonomic leads on the "how-to" of the reporting system, increasing the knowledge of external evaluators on PG&E's processes, and clarifying the roles between the LOB and S&H evaluators. The work is in progress and expected to be completed in January 2020.
- Enhanced the Stretch and Flex program with an integrated tool that is efficient, user-friendly, and customizable. The tool will include a self-serve feature whereby groups can create custom posters demonstrating stretches that meet their workplace needs. Expected launch is in November 2019.

2. Safety Leadership

All employees who are new to operational leadership positions (which includes union represented crew leaders who work in a capacity that has Serious Injury or Fatality (SIF) potential) will be required to attend Safety Leadership Development (SLD) workshops by the end of 2019.

PG&E's FSSs conduct Safety Culture observations using the SafetyNet observation tool. The Safety Culture observation checklist was developed from the concepts and skills taught in the SLD workshops and incorporated into the SafetyNet observation tool. FSSs are now actively using it, and the observations should provide lessons learned and opportunities that may result in enhancements to the SLD workshops.

PG&E continues to advance the concepts of Operational Learning and Learning Teams by training additional facilitators who work with front-line employees to learn about how work is performed, address challenges and barriers to success, and develop sustainable solutions to safety and operational related issues.

PG&E is looking for new ways to integrate the skills and language from the SLD Program into new and existing safety programs, such as Leader in the Field (LIF), to build and reinforce PG&E's desired safety culture.

Key activities that occurred during the third quarter of 2019 include:

- Eleven additional individuals from various LOBs have received academic training on Learning Team facilitation, two of whom have since participated in Learning Teams as Learning Team facilitators. Learning Teams have been stood up in PG&E's operational LOBs.

- Safety Leadership program leads supported the roll-out of LIF by co-authoring LIF program documentation to include language specific to the SLD program and Safety Leadership.

3. Serious Injury and Fatality Prevention

PG&E's SIF Prevention Program focuses on the specific exposures that lead to serious injuries at PG&E. Initial analysis of SIF data found 22 exposure factors, many of which are common across LOBs.

PG&E identifies incidents with SIF potential through the review of all injuries and near hits. By focusing investigative resources on incidents with SIF potential, PG&E is better positioned to identify the conditions that led to the incident and learn from our employees. This supports the development of corrective actions to reduce the likelihood of recurrence. This is the same process for SIF actuals, which are for serious injuries or fatalities.

Through training and process simplification. PG&E is improving the quality of investigations and corrective actions. This includes identifying the critical steps (i.e., processes or human actions) that could result in a SIF; assessing the extent of the condition throughout PG&E to examine if the same or similar equipment, conditions, or processes exist elsewhere; using human performance tools to identify "what" versus "who" failed; using operational learning to gain in-depth understanding on how work happens; and ensuring that corrective actions are specific, measurable, achievable, realistic, and sustainable. PG&E is seeing this translate into above-goal performance in timeliness and quality of corrective actions.

Third-party evaluations of the completed investigations continue to show improvement. Investigation results and corrective actions are managed in the Corrective Action Program to drive timely completion and effectiveness. In addition, all SIF incidents are communicated to all employees for their awareness.

Key activities that occurred during the third quarter of 2019 include:

- Completed 13 SIF potential investigations, including 8 injuries, 3 Motor Vehicle Incidents (MVI) with 1 Gas Operations and 1 Power Generation injury, 1 equipment damage and 1 Near Hit.
- Opened 7 new SIF and SIF potential investigations.
- Three SIF actual Electric Operations investigations involving contractors:
  - A subcontractor groundman performing work was in a trench when the wall of the trench gave way and collapsed on top of him.
  - Two contractors working on an electric transmission project in steep terrain in Plumas County apparently fell from an insulated work platform attached to a transmission pole. One of the men died and the other was injured.
  - An Osmose crew member was drilling a pilot hole, and while hammering the half inch lag bolt into the pilot hole, it contacted

remnants of the pilot drill bit which remained inside the pole, causing the half inch lag bolt to spring back at and strike the employee in the eye.

- SIF potential investigations including 1 MVI, 1 injury resulting in transportation to emergency, 1 equipment damage and 1 Near Hit.

4. Injury Management

PG&E is enhancing its Injury Management programs, including timely injury reporting, Return to Work (RTW), physician outreach, on-site medical clinic model, and piloting a new program called Fit4U for employees with multiple injuries to improve their overall well-being and prevent future injuries.

PG&E has established a RTW Task Program that allows employees to return to work with medical restrictions that might otherwise prevent them from working. According to a RAND[7] study completed in 2010, having a return to work program is associated with a 15-week reduction in the average injury duration.

Key activities that occurred during the third quarter of 2019 include:

- Placed 29 employees with medical restrictions and an inability to perform their regular positions into temporary task assignments within the RTW Task Program. This resulted in injured employees being able to heal while working, which studies have shown reduces recovery time. It also resulted in increased productivity.
- Twenty-seven eligible employees (with multiple injuries/claims) participated in the second phase of the Fit4U pilot, which ended on September 30, 2019. Participant results from Phase 1 and Phase 2 will be analyzed in November 2019 and will guide a recommendation to expand the program companywide if determined to be feasible.
- A Request for Proposal (RFP) for the Nurse Care Line service was completed and recommendations are being reviewed and considered. The 2019 target for timeliness of injury reporting is 72 percent and PG&E has achieved 75.6 percent year-to-date (YTD).
- On-site clinic expansion Project Kickoff was launched with one medical provider vendor for implementation in San Ramon and Concord in the fourth quarter of 2019 and first quarter of 2020, as the first step towards expanding the availability of on-site health care.

5. Health and Wellness

PG&E's Health and Wellness programs use employee education and engagement to help improve employee overall well-being and reduce risks of health conditions and injuries. Summary reports of the health status of our workforce show that 50 percent have at least one chronic condition,

---

7 RAND is a nonprofit, nonpartisan research organization that helps improve policy and decision making through research and analysis.

and individuals with at least one chronic condition are up to three times more likely to be injured on the job.

To address this risk, PG&E is promoting healthy lifestyles by improving access and awareness of available health and wellness programs and resources.

Key activities that occurred during the third quarter of 2019 include:

- Launched a replacement mobile and online Health and Wellness portal in mid-August that builds healthy habits across all areas of well-being to drive long-term health. Features include activities such as team healthy habit challenges, nutritional guides, health coaching and a sleep guide. Employee enrollment in the replacement portal has steadily increased since inception. As of September 30, approximately 680 employees (3%) had enrolled. Year-over-year trending of adoption and utilization is limited since Provant, the former vendor, went bankrupt in the third quarter of 2018.
- Over 18,000 employees (84%) completed a health screening as of September 30, 2019. When an employee understands his/her health risks, then (s)he can take action by seeing a primary care doctor, stopping use of tobacco products, and taking advantage of health coaching or mental health support programs like the Employee Assistance Program.
- Provided educational venues to employees on mindfulness and suicide prevention, and launched an opioid awareness campaign.
- On-boarded new Wellness Ambassadors who volunteer to support, lead, or engage in PG&E health and wellness activities at their location. There are 345 Wellness Ambassadors across the company.

PG&E has identified key performance metrics tied to the Employee Safety focus areas above. We recognize that our performance is falling short, especially in the event that employees sustain injuries that restrict their work activity ("Days Away Restricted or Transferred" and "Lost Work Days" performance). To address this challenge, we are taking action to change the Safety Observation program and to align the FSSs with leaders in field to improve the understanding of hazards, identification of controls, and most importantly, to provide coaching to our leaders. Additionally, PG&E is increasing the number of clinics, introducing mobile nurses, and increasing the time the Industrial Athlete specialists spend with leaders and employees in the field.

For 2018 to 2019 year-over-year comparison, SIF potentials have increased in Electric Operations and Gas Operations. We are also experiencing same or similar incidents occurring, including dropped objects and truck booms encroaching into energized lines. PG&E is in the process of evaluating SIF potential events from 2017-2019 to determine whether appropriate or adequate controls are in place.

Table 1 below summarizes key metrics performance and established targets for 2018-2020. Figure 1 below provides current performance with respect to employee safety metrics as of September 30, 2019.

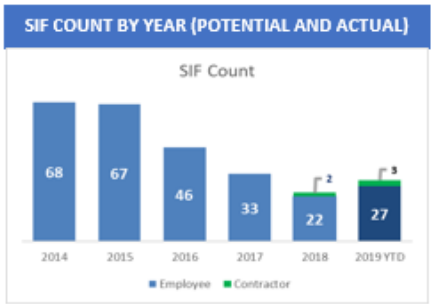
TABLE 1
2018 - 2020 PERFORMANCE AND ESTABLISHED TARGETS

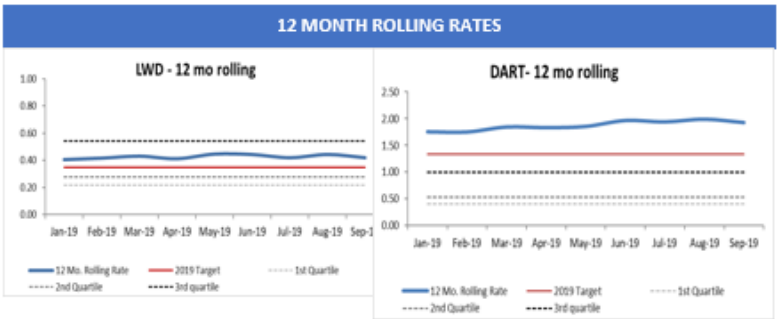
Key Metrics Performance	2018 Actual	2019 Target	2020 Target
SIF: # of Employee Serious Injuries & Fatalities	24[(a)]	Track Only[(b)]	Track Only
SIF Prevention: SIF Timely Corrective Action Completion	90%	90%	90%
SIF Prevention: SIF Quality of Corrective Actions	12	12	12
Injury Management: Lost Work Day Cases Count	90	81	70
Sprains/Strains: DART[(c)] Case Count	416	308	198
Sprains/Strains: OSHA[(d)] Case Rate	675	Track Only	Track Only
H&W: Workforce Unavailable Due to Health	7.9%	7.7%	7.5%
Injury Management: Timely Reporting of Injuries	75%	72%	72%

(a) 2018 SIF actuals have been updated from 25 to 24. One SIF event was moved to non-SIF category as it did not meet the criteria for a serious event.
(b) No target set for this metric.
(c) Days Away, Restricted or Transferred.
(d) Occupational Safety and Health Administration.

FIGURE 1
CURRENT PERFORMANCE AS OF SEPTEMBER 30, 2019

Metric	RAG	YTD Actual	YTD Prior Year	EOY Target
Serious Injury or Fatality (SIF) Count Actual and Potential		30	17	
SIF % Timely Corrective Action Completion (12 mo. rolling)		93%	96%	90.0%
SIF Quality of Corrective Actions (12 mo. rolling)		12.8	11.6	12.0
Lost Workday (LWD) Count		68	65	81
DART Injury Count		349	330	308





C. Contractor Safety

PG&E's Contractor Safety Program requires contractors performing medium- and high-risk work to meet minimum pre-qualification requirements in order to perform work on behalf of PG&E. All primary contractors and subcontractors performing medium- and high-risk work (roughly

2,200 individual contractor companies that employ approximately 21,000 employees) have been assessed using a thorough pre-qualification safety review process with PG&E's vendor ISNetworld.

Since the pre-qualification process is designed for businesses with three or more years in business, PG&E performs a Management and Organization Assessment (MOA) of contractors who are new in business (less than three years) or have experienced rapid growth (significant increase in employees) to review management oversight of safety programs and employee training.

As part of the Contractor Safety Program, PG&E's LOBs have implemented contractor oversight procedures that establish how they will implement the requirements of the program. Such procedures include reviewing safety plans, conducting safety observations, and completing post-project evaluations.

As part of the governance of the program, PG&E's S&H Organization conducts regular compliance assessments to ensure that the program is being implemented by the LOB and to identify any gaps.

Key activities that occurred during the third quarter of 2019 include:

- Communicated Cal/OSHA 5141.1. Protection from Wildfire Smoke emergency regulation to contractors and required them to have compliant, written safety programs and training.
- Launched the OSHA Training Qualification platform in ISNetworld to track contractor trainings.
- Conducted 51 LOB compliance assessments on the implementation of their LOB Contractor Safety procedures.
- Twenty-one MOAs were conducted and approved.

Table 2 below summarizes key metrics performance in 2018-2020. Figure 2 below provides current performance with respect to contractor safety metrics as of September 30, 2019.

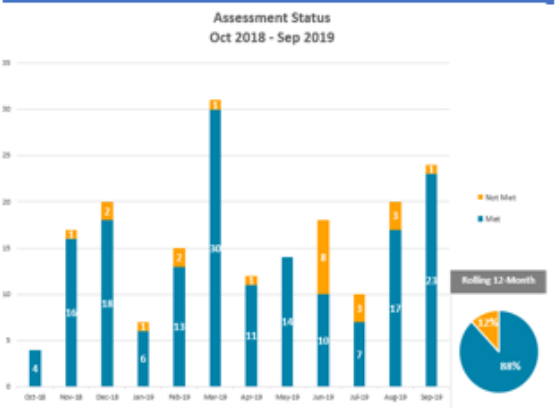
TABLE 2
2018 - 2020 PERFORMANCE

Key Metrics Performance	2018 Actual	2019 (YTD)	2020
# of Contractor Serious Injuries & Fatalities	3	3	Track Only
% of Contractor Assessments with Non-Conformance Findings	10.3%	13.4%	Track Only

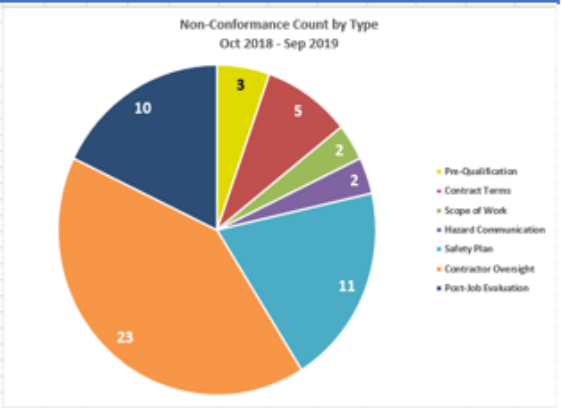
FIGURE 2
CURRENT PERFORMANCE AS OF SEPTEMBER 30, 2019[(a)]

Metric	RAG	YTD Actual	YTD Prior Year	EOY Target
% Contractor Assessments with Non-Conformance Findings		13.2%	11.2%	

ASSESSMENT STATUS



NON-CONFORMANCE COUNT BY TYPE



(a) An assessment is determined to be not met if one or more non-conformances are found.

D. Motor Vehicle Safety

PG&E's Motor Vehicle Safety program is increasing its focus on reducing the severity of incidents to mitigate harm to employees and the public. PG&E has begun to leverage the use of technology and data to inform opportunities for driver feedback and interventions to reduce risks associated with driver behaviors. Despite these efforts, PG&E has experienced an increased number of serious and preventable incidents this year. This is an area of concern that PG&E is focused on understanding and developing actions to mitigate the risk of incidents. To address the frequency and types of incidents PG&E drivers are involved in, PG&E is improving availability of data to field leaders to enable targeted risk assessments and promote focused leadership reviews and driver coaching.

Key activities that occurred during the third quarter of 2019 include:

- Drafted post-accident review process and solicited LOB feedback for implementation and enterprise-wide approach.
- Developed Safe Backing web-based training to reinforce and demonstrate company policy and best practices to all employees who drive for company business. Course is expected to be finalized and available in the Company's learning management system in the fourth quarter of 2019.
- Demos of two additional vendors were conducted as part of the RFP for vehicle safety technology that was launched in the second quarter.

- Increased visibility and reporting of driver motor vehicle incident history. Combined complaint calls and incidents in LOB leader reports to enable better risk identification and coaching opportunities with drivers.

Table 3 below summarize key metrics performance in 2018-2020. Figure 3 provides current performance with respect to motor vehicle safety metrics as of September 30, 2019.

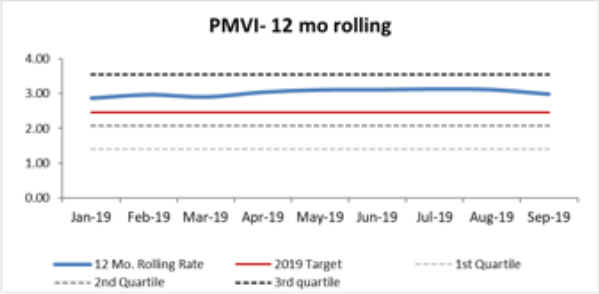
TABLE 3
2018–2020 PERFORMANCE AND ESTABLISHED TARGETS

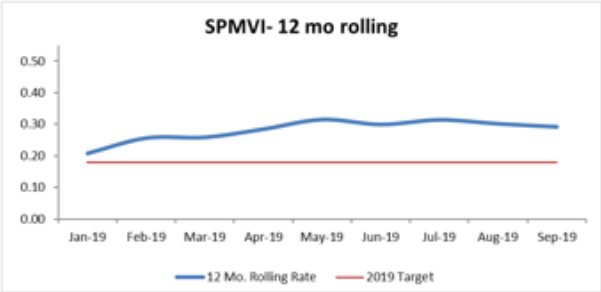
Key Metrics Performance	2018 Actuals	2019 Target	2020 Target
SPMVI Count	27	26	25
PMVI Count	400	352	302

FIGURE 3
CURRENT PERFORMANCE AS OF SEPTEMBER 30, 2019

Metric	RAG	YTD Actual	YTD Prior Year	EOY Target
Preventable Motor Vehicle Count (PMVI)		305	278	352
Serious Preventable Motor Vehicle Count (SPMVI)		36	19	26

12 MONTH ROLLING RATES





E. Safety Management System

In the 2019 update to the NorthStar report, NorthStar recommended PG&E "develop a comprehensive safety strategy" based on its assessment that "a Corporate Safety Plan was developed but does not include all aspects of safety" and that "NorthStar continues to be concerned about silos" in PG&E's approach to safety. PG&E acknowledges NorthStar's concerns and PG&E senior leadership committed to develop the ESMS to define how PG&E consistently manages all safety domains under a single, comprehensive governance framework. PG&E held a cross-functional session with safety and operational leaders and defined the primary focus areas for the ESMS. The ESMS will establish governance and oversight of:

- Public safety practices, which primarily includes asset management.
- Occupational Health and Safety practices, which primarily affect workforce safety for employees and contractors.

- Environmental management practices, which affect the S&H of the environment, the public, and our workforce.
- Safety-related business functions, which support all of the practices outlined above.

To support ESMS definition, PG&E completed the following activities:

- Developed a proposal to design and implement a capability and maturity model to help consistently measure progress of the ESMS efforts. This effort will leverage and scale up work already done in Gas Operations.
- A corporate-level Safety Policy has been drafted and routed to PG&E senior leadership for review.
- An outline for the corporate ESMS Standard has been drafted and will incorporate definitions from the capability and maturity model as it is developed.
- A high-level roadmap and more detailed project plan with proposed resources and controls to define and deploy the ESMS that meets that scope.

The new Utility CEO acknowledged and reinforced the importance of the ESMS by committing a team to report to him in order to execute the plan. The team will focus on the following five foundational standards:

- Enterprise Safety Management System
- Public Safety
- Workforce Safety
- Safety Culture
- Management of Change

By January of 2020, these foundational standards will be drafted by the team, reviewed by senior leadership, and published across the enterprise. The team will prepare additional plans for further implementation consistent with publication.

VII. Conclusion

PG&E is committed to continuing to improve its safety culture and performance. While we have made progress, we have more work to do. The areas of opportunity identified by NorthStar in its Final Report and in its First Update are at the core of a strong and proactive safety culture that requires a consistent “One PG&E” approach and a comprehensive strategy focused on improving safety performance, aligning different organizations, and reaching every employee. PG&E looks forward to continuing this important work and providing the Commission with quarterly updates on its progress.

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT 1

COMPLETION NARRATIVE

PACIFIC GAS AND ELECTRIC COMPANY
Attachment 1
Completion narrative

TABLE OF CONTENTS

RECOMMENDATIONS F-2_includes V-4..... 1

PACIFIC GAS AND ELECTRIC COMPANY

RECOMMENDATIONS F-2_includes V-4

Recommendation F-2
The need for clear definition of supervisory requirements, including an assessment of workload requirements, ongoing field monitoring efforts and time requirements, and associated staffing levels.
Recommendation V-4
Reevaluate staffing, roles, responsibilities and work requirements to increase Supervisor's time in the field supervising crews.

Recommendation Summary: This recommendation, created by NorthStar Consulting but strongly supported by PG&E, has two parts, both aimed at dramatically increasing the amount of time our operations leaders spend in the field with our most important assets; the men and women performing work on our behalf.
Recommendation F-2, the need for clear definition of supervisory requirements, including an assessment of workload requirements, ongoing field monitoring efforts and time requirements and associated staffing levels, intends to alleviate the administrative and management burdens currently affecting our field supervisor's ability to optimize their time in the field.
Recommendation V-4, a reevaluation of staffing roles, responsibilities and work requirements to increase supervisor's time in the field supervising crews, intends to calibrate span of control within our Electric, Gas and Power Generation field facing groups to ensure adequate span of control to enable supervisor's prioritizing time in the field supporting their personnel.
These recommendations, separate and distinct yet similar in principal, are significant change efforts for PG&E and led to the following approach:

Phase I

- Develop a Utility Policy (GOV-06) that establishes the principals of a safety and quality at the source culture (F-2)
- Create a Utility Standard (GOV-3901S) that prescribes the amount of time leaders spend in the field (F-2)
- Establish an SAP Time Code (1040 Field Working Time) to track leaders time in the field (F-2)
- Develop additional bands within field facing supervisors job families to allow alignment with HR guidance on leadership spans, and to reduce administrative burden on supervisors (V-4)

Phase II

- Build a change and communications plan to prepare the organization for a new way of leading (F-2, V-4)
- Deploy "Leader Standard Work" across Electric, Gas and Power Generation business units to support time management for prioritization of field time (F-2)
- Develop and deploy "effective coaching" training where required via Safety Leadership Development programs (F-2)

Phase 1 Approach: As stated previously, this NorthStar Consulting recommendation was strongly supported by PG&E and the recommendation(s) prompted a One PG&E response to a long-standing problem. PG&E recognized a cross-business unit effort was required to make this change an organizational

imperative and commissioned a team to effect sustainable change.
The team, consisting of director level leaders in electric, gas and power generation, started by assessing “as is” conditions for field supervisors in these business units. The high-level timeline for this assessment was as follows:

Action	Rec Item	Date	Supporting Documentation
Cross-functional team identified	F-2/V-4	April 2018	
Internal/External Benchmarking	F-2, V-4	June 2018	“Safety Culture and Governance OII_DR_NorthStar_940Atch05”
Time in Field Survey	F-2	June 2018	“Leader in the Field – Impact Survey Results”
Identification of Administrative burdens	F-2	July 2018	“Leader in the Field – Impact Survey Results”
Short Term Actions Identified (see description below)	F-2/V-4	September 2018	“NS_1024_Atch01_Leader in the Field”
Implementation Lead Identified	F-2/V-4	December 2018	“FW Sup in Field – Action Plan and Supporting Documents”
Working Committee Established	F-2/V-4	February 2019	“Safety Culture OII-Working Team”
Span of Control Review	V-4	March 2019	“March Spans”
Brief Enterprise Safety Committee-Item #7: Leader in the Field update	F-2/V-4	March 2019	“03.26.19 Safety Committee Materials”
Implementation Plan Identified	F-2/V-4	April 2019	”D. Powell_Brief”
External benchmarking with Safety.net peer companies	F-2	April, 2019	”SafetyNet Benchmarking Lead”
N-1 Leadership Briefing (Lewis, Powell, Soto)	F-2/V-4	April 2019	“SVP PreRead_LIF”
Create Utility Policy for Leader Time in Field	F-2	May 2019	”Final_Leader in the Field_Policy”
Span of Control Review	V-4	May 2019	“May Spans”
Brief Enterprise Safety Committee	F-2/V-4	May 2019	”Final_ESC_Deck_LIF_wtpoints”
Develop SAP Time Code (1040 – Field Working Time)	F-2/V-4	June 2019	”Completion Narrative_SAPCode”
Develop Supervisor Band	V-4	June 2019	”Assoc_Supervisor_Job Families”

Short Term Actions: As stated previously, senior leadership strongly supported this recommendation and the team, consisting of director level leaders from Electric, Gas and Power Generation, recognized this to be a significant change effort. As a result, the team moved to implement short term actions, to effect transitional change in advance of the larger organizational imperative, commenced as early as March 2018 continuing through September 2018 to incrementally improve the amount of time leaders spend in the field. Those actions are included in the following pieces of supporting documentation:
“Leader Standard Work_Gas”
“PG ELT Leaders in the Field”
Power Gen Leaders in the Field 5MM”
Power Gen May Leader in the Field”

“Blocking time_go”

These actions included:

- Leadership support in “blocking” calendars to ensure the entire leadership prioritizes time in the field in gas operations
- Direction to the Power Generation leadership team about increasing leadership field presence
- Guidance from, and role modeling of, “Field Thursdays” across the Electric business unit by senior leadership

Longer Term Plan: The team recognized more was needed to deliver sustainable improvement in this mission critical imperative and, at the end of Q3, started formulating their longer-term strategy. However, the effort paused in November as a result of our Camp Fire response to Paradise, California.
In December 2018, an enterprise implementation lead was identified and onboarded to the effort. With a new executive sponsor, and enterprise implementation lead, the team met in December to plan out the longer- term strategy.

”Leader in the field working session”

Over the next several weeks the team held ideation sessions on how to solve a systemic, long-standing problem. In time, the team developed consensus on the following four improvements as part of phase I of the Leader in the Field recommendation:

1. Create a Utility Policy that establishes the principals of a safety and quality at the source culture and how supervisors support these attributes while in the field (F-2)
2. Create a Utility Standard that prescribes the amount of time leaders spend in the field with their people (F-2)
3. Establish an SAP Time Code to track leaders time in the field (F-2)
4. Revise the job families for field facing leaders in Electric, Gas and Power Generation allowing for an entry level supervisor (associate), operations supervisor (Electric), as well as a senior supervisor, to reduce administrative burdens and management obstacles preventing our leaders from being in the field (V-4)

Rationale: The following is the rationale for choosing these improvement items:

Utility Policy: PG&E lacks formal documentation or training on what leaders do while they are in the field. For several years PG&E senior leadership has articulated a strong desire for leaders to model a servant leadership approach aimed at increasing the levels of employee engagement and truly being an asset to the men and women performing work on our behalf. The following is the finalized Utility Policy GOV-06 intent to accomplish this:

”Final_Leader in the Field_Policy”

Utility Standard: Beyond cursory mention in job descriptions, job families and job postings, PG&E lacks a clear standard on the amount of time field

facing leaders should spend with their people. This newly created standard GOV-3901S prescribes the percentages of time each level of the organization should spend in the field and can be found here:

"GOV-1039S_Leader in the Field"

SAP Time Code: Until now, all management time has been "charged" to SAP Time Code 1036. PG&E has been roundly criticized, rightfully so, of the amount of time our leaders spend in the field. However, throughout the Safety Culture OII, no one can affirmatively state how much time each level of the organization spends in the field. This narrative has been framed for us because we are unable to prove differently. The implementation of SAP Time Code 1040 – Field Working Time will enable us to differentiate field time from office time and, then, problem solve those areas where we are struggling to achieve our objectives. A screen shot of this new Time Code and FAQ document are included below:

"Completion Narrative_SAPCode" and "LITF-timecoding FAQ-081519"

Develop Supervisor Band: Many supervisors legitimately struggle to get in the field resulting from administrative burdens or management obligations. The creation of new bands within the supervisor job families is intended to provide alternative management resource to perform some of the more mundane, administrative tasks, that are still managerial in nature, to alleviate the burden on more experienced supervisors who should be in the field. The job families where these positions will reside follows:

"Assoc_Supervisor_Job Families"

Electric Operations developed a peer supervisory role, Distribution Operations Supervisor, in August 2019. This leadership role will operate alongside existing supervisor roles and assume several duties previously held by the T200 Distribution Supervisor and other leaders. The initial candidates for the Operations Supervisor position will be oriented to the new role in September 2019. Approval to formally post and fill 20 permanent Operations Supervisor roles across EDO M&C departments was granted in August 2019.
JOB FAMILY UPDATE EFF. 8/23/19 JOB ROLES COMPARISON
"Sept2019_Roles & Responsibilities"
"Sept2019_Job Descriptions – Electric"

Next Steps: All of these changes are effective July 1st. However, this is a significant change effort. The items within this narrative should be considered tools, and tools alone will not change culture. The following is the communications plan for these changes:

"Leader in the field_FiveMinuteMeeting"
"2019 Leader in the Field Launch"

Completion Date	Communications Cascade	Owner	Audience	Channel
early w/o 6/24	Note to O&D in Gas, Electric and Power Gen, indicating 7/1 start; invite for con call	Powell	O&D in Gas, Electric and Power Gen	Email (Include 5M link to policy; neec charge codes)
w/o 6/24	LOB Conference Call	Powell, MacAleese	O&D in Gas, Electric and Power Gen	Conference Call
w/o 7/1	Director-lead conference calls	LOB directors	LOB People leaders	Conference Call
mid-July	Reminder about start of Leader in the Field	Corporate Comms	People leaders	Daily Digest
July	Updates on new Associate Supervisor openings	LOB directors	LOB People leaders	Email
July	New WBT on program	LOB VP	LOB People leaders	
August	@ Work article, featuring LOB leaders and crew	Corporate Comms	All Employees	Email/Intranet
September	*Review timesheets; discuss how program is going*	*HR LOB leads, Directors*	*LOB People leaders*	*In person*
October	@ Work article, featuring LOB leaders and crew	Corporate Comms	All Employees	Email/Intranet
November	*Review timesheets; discuss how program is going*	*HR LOB leads, Directors*	*LOB People leaders*	*In person*
December	@ Work article, featuring LOB leaders and crew	Corporate Comms	All Employees	Email/Intranet

NOTE: LIF was featured in the company-wide Safety Leader Packet vs @ Work article for August 2019

Sustainability: July 1st is the start, and not the end, of this new way of leading. As stated above, the tools developed and deployed as part of Phase 1 are just that-tools. However, it is behavior that changes culture and these tools alone will not accomplish our desired outcomes. To that end, the Leader in the Field team will kick off a Phase II that will be coordinated with other corporate safety culture initiatives and inclusive of the following:

1. In partnership with Gas Lean Capability Center deliver facilitative training for all field facing leaders (Supervisors, Managers and Directors) on Leader Standard Work. Leader Standard Work is a documented set of actions, tools and behaviors that are incorporate in to daily, weekly or monthly deliverables to enable leaders to better manage time and focus on their most important assets-their people
2. In partnership with Corporate Safety, Human Resources, and in collaboration with the IBEW, re-emphasize Effective Coaching training concepts from Safety Leadership Development programs to field-facing leaders in Electric, Gas and Power Generation as determined by the business unit (all levels of leadership)
3. Review and recommend changes to compensatory time policies to ensure leaders are able to be in the field with their people.

4. Deploy Safety Leadership Development training for the officer and director team to introduce key concepts and tools on how to effectively role model our new way of leading.
5. Identify leaders who are already role models of the Leader Standard Work, Effective Coaching, and other desired safety leadership behaviors, and assign them as peer level mentors and coaches
6. Monitor adoption of leader in the field time keeping codes via monthly reporting dashboards to ensure all departments are increasing time in field and addressing identified roadblocks.

It is the team's expectation that these items will begin in July 2019, but take a significant amount of time to complete.

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT 2

GLOSSARY OF SAFETY TERMS

ATTACHMENT 2 - GLOSSARY

SIF Timeliness of Corrective Actions:

The total number of Serious Injuries or Fatalities (SIF) corrective actions completed on time (as measured by the due date accepted by Line of Business Corrective Action Review Boards (CARB)) divided by the total number of SIF corrective actions past due or completed. A SIF corrective action is one that is tied to a SIF actual or potential injury or near hit. This metric includes Electric Operations, Gas Operations, Generation, Information Technology (IT), Supply Chain and Customer Care, as well as any SIF actual events from any line of business. Includes corrective actions with initial due date on or before month end reporting and corrective actions with initial due date after month end reporting but already completed.

SIF Quality of Corrective Actions:

The quality of SIF corrective actions as determined by the corrective action quality framework created by Dr. Mark Fleming. Quality is determined by assessing whether or not the corrective actions address all incident causes identified, extent of condition, hierarchy of controls, if the corrective action's effectiveness is measurable, and if the corrective actions have appropriate timelines for completion. A SIF corrective action is one that is tied to a SIF actual or potential injury or near hit. The assessment is performed by an independent third party after acceptance by Line of Business CARBs.

SIF Index: SIF Effectiveness of Action Completion

The effectiveness of corrective actions as measured by the number of repeat SIF Exposure Factors over a 36-month period. Only SIF incidents in Electric Operations, Gas Operations or Generation are included in this metric. Only investigations that have been approved by the Line of Business-specific CARBs are included in Long-Term Incentive Plan reporting.

SIF Exposure Factors List

1. Animal Attack or Bite
2. Assault or Violent Attack
3. Confined Space
4. Heavy Equipment Operation or Traffic Hazards
5. Control of Hazardous Energy
6. Dropped Object of Sufficient Mass to Cause Injury
7. Excavation
8. Hazardous Chemicals/Material
9. Heat Exposures
10. Helicopter Use
11. Welding, Grinding, Cutting, Hot Work Permits
12. Live Electrical Work
13. Grounding (Live Electrical Work Supplement)
14. Mobile Equipment Use (i.e., Lifts, Cranes, Forklifts, etc.)
15. Off-road Vehicle Use
16. Powered Tool use
17. Public Safety
18. Work at Heights (4 ft. or Greater)

19. Suspended Loads and Rigging

SIF Exposure Rate: SIF Exposure rate is the number of actual or potential SIF per 200,000 hours worked. Includes Electric, Gas, Generation, IT, Supply Chain, Customer Care.

Days Away, Restricted and Transfer (DART) Rate: includes Occupational Safety and Health Administration (OSHA)-recordable injuries that result in lost time or restricted duty per 200,000 hours worked.

Preventable Motor Vehicle (PMVI) Rate: the total number of motor vehicle incidents for which the driver could have reasonably avoided, per 1 million miles driven.

Lost Work Day Case Rate (LWD)

This measures the number of Lost Workday (LWD) cases incurred for employees and staff augmentation per 200,000 hours worked, or for approximately every 100 employees. A LWD Case is a current year OSHA Recordable incident that has resulted in at least one LWD. An OSHA Recordable incident is an occupational (job related) injury or illness that requires medical treatment beyond first aid, or results in work restrictions, death or loss of consciousness.

Workforce Unavailable Due to Health

This is a percentage of PG&E's workforce that is out due to the following:

- Sick time
  - Family sick time excluded
- Short Term Disability (<1 year)
- Long Term Disability (> 1 year)
- Workers Compensation
- Family and Medical Leave Act
  - Due to one's own medical condition
- Company medical leave

PG&E Gas and Electric
Advice Submittal List
General Order 96-B, Section IV

AT&T
Albion Power Company
Alcantar & Kahl LLP

Alta Power Group, LLC
Anderson & Poole

Atlas ReFuel
BART

Barkovich & Yap, Inc.
P.C. CalCom Solar
California Cotton Ginners & Growers Assn
California Energy Commission
California Public Utilities Commission
California State Association of Counties
Calpine

Cameron-Daniel, P.C.
Casner, Steve
Cenergy Power
Center for Biological Diversity

Chevron Pipeline and Power
City of Palo Alto

City of San Jose
Clean Power Research
Coast Economic Consulting
Commercial Energy
County of Tehama - Department of Public Works
Crossborder Energy
Crown Road Energy, LLC
Davis Wright Tremaine LLP
Day Carter Murphy

Dept of General Services
Don Pickett & Associates, Inc.
Douglass & Liddell

Downey & Brand
East Bay Community Energy
Ellison Schneider & Harris LLP
Energy Management Service
Engineers and Scientists of California
Evaluation + Strategy for Social Innovation
GenOn Energy, Inc.
Goodin, MacBride, Squeri, Schlotz & Ritchie
Green Charge Networks
Green Power Institute
Hanna & Morton
ICF
International Power Technology
Intestate Gas Services, Inc.
Kelly Group
Ken Bohn Consulting
Keyes & Fox LLP
Leviton Manufacturing Co., Inc. Linde
Los Angeles County Integrated Waste Management Task Force
Los Angeles Dept of Water & Power
MRW & Associates
Manatt Phelps Phillips
Marin Energy Authority
McKenzie & Associates

Modesto Irrigation District
Morgan Stanley
NLine Energy, Inc.
NRG Solar

Office of Ratepayer Advocates
OnGrid Solar
Pacific Gas and Electric Company
Peninsula Clean Energy

Pioneer Community Energy
Praxair

Redwood Coast Energy Authority
Regulatory & Cogeneration Service, Inc.
SCD Energy Solutions

SCE
SDG&E and SoCalGas

SPURR
San Francisco Water Power and Sewer
Seattle City Light
Sempra Utilities
Southern California Edison Company
Southern California Gas Company
Spark Energy
Sun Light & Power
Sunshine Design
Tecogen, Inc.
TerraVerde Renewable Partners
Tiger Natural Gas, Inc.

TransCanada
Troutman Sanders LLP
Utility Cost Management
Utility Power Solutions
Utility Specialists

Verizon
Water and Energy Consulting Wellhead Electric Company
Western Manufactured Housing Communities Association (WMA)
Yep Energy