

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Further Develop a Risk-Based Decision-Making Framework for Electric and Gas Utilities.

Rulemaking 20-07-013
(Filed on July 16, 2020)

(NOT CONSOLIDATED)

Application of Pacific Gas and Electric Company (U 39 M) to Submit Its 2020 Risk Assessment and Mitigation Phase Report.

(U 39 M)

A.20-06-012
(Filed on June 30, 2020)

Application of Pacific Gas and Electric Company for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2023.

(U 39 M)

A.21-06-021
(Filed on June 30, 2021)

**PACIFIC GAS AND ELECTRIC COMPANY'S (U39M)
2021 SAFETY PERFORMANCE METRICS REPORT
IN COMPLIANCE WITH DECISION 19-04-020 AND DECISION 21-11-009**

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Dated: April 1, 2022

ATTACHMENT 1

PACIFIC GAS AND ELECTRIC COMPANY

**2021 SAFETY PERFORMANCE METRICS REPORT IN
COMPLIANCE WITH CALIFORNIA PUBLIC UTILITIES COMMISSION
DECISION 19-04-020 and DECISION 21-11-009**

APRIL 1, 2022



PACIFIC GAS AND ELECTRIC COMPANY
2021 SAFETY PERFORMANCE METRICS REPORT

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PACIFIC GAS AND ELECTRIC COMPANY
2021 SAFETY PERFORMANCE METRICS REPORT
SECTION 1
INTRODUCTION

1 **PACIFIC GAS AND ELECTRIC COMPANY**
2 **2021 SAFETY PERFORMANCE METRICS REPORT**

3 **I. Introduction**

4 Pacific Gas and Electric Company (PG&E) submits its 2021 Safety
5 Performance Metrics Report (SPMR) in compliance with Decision (D.) 19-04-020
6 and D.21-11-009 concerning the Risk-Based Decision-Making Framework
7 proceeding, Rulemaking 20-07-013. The purpose of the SPMR is to provide the
8 Commission and interested parties information on PG&E’s performance related
9 to key safety metrics.

10 Safety is PG&E’s most important responsibility. Our customers and
11 communities deserve the assurance that we will deliver their electricity and
12 natural gas safely and reliably. That is the fundamental role of any utility
13 company, and one that PG&E takes seriously.

14 PG&E is committed to continuing to improve the safety of our workforce and
15 the public. Benchmarking and safety metrics are measured and analyzed to
16 drive the right behavior as we continue to strengthen our safety efforts. PG&E
17 monitors our progress with a focus on leading indicators as well as lagging
18 metrics to show our progress over time. This helps PG&E identify and address
19 the underlying causes of safety incidents to prevent them from reoccurring.

20 The information in this SPMR confirms areas where PG&E has shown
21 significant safety progress over the past decade. At the same time, as shown in
22 other data points, we have more work to do.

23 Our focus is on building an accountable, transparent organization that
24 embraces raising issues and ideas to further the cause of safety. We look
25 forward to demonstrating, through our actions, that we are working every day
26 toward improved outcomes. We know that restoring trust can only come through
27 sustained performance and accountability. The people who rely on us need to
28 see that we are continuing to reduce risks in every corner of our system.

29 **a. Background:**

30 Pursuant to D.19-04-020, for its 2019 and 2020 reporting years, PG&E
31 reported performance against 25 Safety Performance Metrics, including
32 providing up to 10 years of historical data.

1 On November 9, 2021, through the Commission’s robust and
2 transparent Risk Based Decision Making Framework rulemaking process
3 that began on November 17, 2020, the Commission approved D.21-11-009
4 approving 32 existing, updated, and new SPMs. Accordingly, in this SPMR,
5 PG&E is providing metric data for the following 32 metrics:

- 6 1) Transmission and Distribution (T&D) Overhead Wires Down Non-Major
7 Event Days;
- 8 2) T&D Overhead Wires Down – Major Event Days (MED);
- 9 3) Electric Emergency Response Time;
- 10 4) Fire Ignitions;
- 11 5) Gas Dig-In;
- 12 6) Gas In-Line Inspection (ILI);
- 13 7) Gas In-Line Upgrade;
- 14 8) Gas Shut-in Time – Mains;
- 15 9) Gas Shut-in Time – Services;
- 16 10) Cross Bore Intrusions;
- 17 11) Gas Emergency Response Time;
- 18 12) Natural Gas Storage Baseline Inspections Performed;
- 19 13) Gas System Internal Inspection Status;
- 20 14) Employee Days Away, Restricted and Transfer (DART) Rate;
- 21 15) Rate of SIF Actual (Employee);
- 22 16) Rate of SIF Actual (Contractor);
- 23 17) Rate of SIF Potential (Employee);
- 24 18) Rate of SIF Potential (Contractor);
- 25 19) Contractor DART Rate;
- 26 20) Public Serious Injuries and Fatalities (SIF);
- 27 21) Helicopter/ Flight Accident or Incident;
- 28 22) Percentage of Serious Injury and Fatality Corrective Actions Completed
29 on Time;
- 30 23) Hard Brake Rate;
- 31 24) Driver’s Call Complaint Rate;
- 32 25) Wires-Down not resulting in Automatic De-energization;
- 33 26) Missed Inspections and Patrols for Electric Circuits;

- 1 27) Overhead Conductor Size in High Fire Threat District Tiers 2 and 3,
- 2 HFTD;
- 3 28) Gas Operation Corrective Actions Backlog;
- 4 29) GO-95 Corrective Actions (Tiers 2 and 3, HFTD);
- 5 30) Gas Overpressure Events;
- 6 31) Gas In-Line Inspections Missed; and
- 7 32) Overhead Conductor Safety Index.

PACIFIC GAS AND ELECTRIC COMPANY
2021 SAFETY PERFORMANCE METRICS REPORT
SECTION 2
METRIC DATA EXAMPLES

1 **PACIFIC GAS AND ELECTRIC COMPANY**
2 **2021 SAFETY PERFORMANCE METRICS REPORT**

3 **II. Metric Data Examples**

4 Prior to the SPMR, Pacific Gas and Electric Company (PG&E or the
5 Company) tracked many of these metrics because they provide valuable insight
6 on our safety performance. As required in Decision (D.) 19-04-020, PG&E
7 provides three to five examples of how PG&E uses these metric data to
8 (1) improve staff or contractor training and/or take corrective actions aimed at
9 minimizing top risks or risk drivers; and (2) to support risk-based
10 decision-making.

11 a) Wires Down: Informs Risk-Based Decision Making: Transmission and
12 Distribution (T&D) Overhead Wires Down data is used to inform the
13 Overhead Primary Deteriorated Conductor Replacement program. The
14 program centralizes the prioritization, tracking, and funding of conductor
15 replacement projects in non-high fire threat district (HFTD) areas and targets
16 replacement of primary conductor segments with elevated wires down rates,
17 especially small conductor and overlap of corrosion zones.

18 The program is informed with the Wires Down Database which tracks
19 high priority replacement attributes about the conductor (such as size, type,
20 known splices, annealing, etc.) as well as environmental factors and risks
21 (such as corrosion zone, snow loading zone, and HFTD). These attributes
22 and factors are used to determine conductor replacement project initiation,
23 justification, and priority, as well as to determine failure trends of types of
24 conductors and environmental factors, that may increase asset health
25 deterioration. The 2021 Overhead Primary Deteriorated Conductor
26 Replacement Program targeted areas with the greatest public safety
27 consequence, high priority replacement attributes, and areas experiencing
28 repeat Wires Down events.

29 b) Electric Emergency Response Time—Corrective Action: In January 2021,
30 major wind events significantly impacted 911 emergency response
31 performance. To improve performance, proactive measures were taken to
32 understand the main drivers contributing to higher response times, long
33 drive times and lack of available resources. Leveraging this cause analysis,

1 over 200 non-traditional response staff (from Information Technology and
2 Generation lines of business) were trained to become available stand-by
3 resources during extreme weather. In addition, further analysis was
4 conducted to identify resources that live in remote areas and they were also
5 trained to respond to emergency stand-by requests. Having these additional
6 personnel trained and ready to respond during weather events will put
7 PG&E in a better position to respond to emergency calls in a timely manner.

8 c) Fire Ignitions: Informs Risk-Based Decision Making: PG&E started
9 cataloging reportable ignition data in June 2014 per our Fire Incident Data
10 Collection Plan (Risk-6306S) and has used the data to gauge performance
11 and drive data-driven wildfire risk reduction strategies.

12 PG&E observed a significant reduction in ignitions in HFTD during late
13 Q3 and through the entirety of Q4 2021, primarily influenced by Enhanced
14 Powerline Safety Settings (EPSS) enablement in late July 2021. PG&E can
15 expect to see improved performance on this metric through continual
16 execution of the Wildfire Mitigation Plan and maturation of key wildfire
17 mitigation strategies, including:

- 18 • Enablement and expansion of the EPSS program;
- 19 • Public Safety Power Shutoff; and
- 20 • System hardening inclusive of undergrounding.

21 d) Employee Days Away, Restricted and Transfer (DART): Corrective Action
22 and Informs Risk-Based Decision Making: PG&E has developed mitigations
23 and uses controls to address employee safety, which was informed by the
24 Employee, Lost Work Day (LWD), and Employee DART Rate metrics.
25 These controls and mitigations include:

- 26 • Injury Management:
 - 27 – On-site Clinics: Expanding services in on-site clinics to provide
 - 28 PG&E coworkers with convenient access to both occupational and
 - 29 non-occupational health care services which can lead to a healthier
 - 30 workforce by reducing the duration of DART cases, including LWD
 - 31 cases.
 - 32 – Telephonic Case Management (TCM) program: PG&E's TCM
 - 33 program provides early case management intervention through the
 - 34 assignment of a TCM nurse on all new Workers' Compensation

1 (WC) claims requiring a clinic visit. Program goals include reduction
2 in claim costs and injury severity (DART and LWD cases), and aid in
3 better recovery outcomes.

4 – Nurse Care Line (NCL): The NCL provides 24/7 support and access
5 to trained medical professionals for PG&E coworkers experiencing
6 work-related discomfort or injury. Enhancements to the injury
7 reporting process that will streamline the process and improve the
8 coworker experience include the implementation of a new app and a
9 closed-caption option for the hearing impaired.

10 – Injury containment: Partner with the lines of business and provide
11 enhanced injury management to ensure appropriate containment
12 strategies are being utilized on occupational injuries at risk for
13 escalation to DART.

14 • Ergonomic programs:

15 – The Industrial Athlete (IA) program efforts include targeted
16 interactions with an IA specialist with an emphasis on high-risk
17 areas identified by data analysis, and biomechanical observations.
18 Program enhancements include increased staffing of IA specialists
19 and Occupational Health Physicians, a more streamlined approach
20 for injury management, and new wearable technology. The
21 expansion further supports a reduction in DART, including LWD
22 cases.

23 – Office ergonomic specialists use data to proactively work with
24 coworkers prior to them experiencing discomfort and identify and
25 provide targeted interventions for those with a high-risk of
26 injury through predictive modeling. Program efforts are intended to
27 prevent or reduce serious ergonomic symptoms and injury (DART
28 and LWD cases).

29 – The Industrial ergonomics program goals are to reduce the risk of
30 injury through engineering, administrative and behavior controls.
31 Program uses a risk-based approach to identify the most physically
32 demanding tasks, perform a task analysis, and then develop a
33 proactive approach for solutioning improvements for risk reduction.

1 – The Vehicle ergonomics program is designed to educate coworkers
2 on good ergonomics while driving and address preventative and
3 discomfort resolution measures. Program enhancements include
4 the automation of assessment forms and focusing on the highest
5 risk work groups for vehicle ergonomic injuries.

6 e) Employee Serious Injury and Fatality (SIF): Corrective Actions follow-up:
7 Power Generation conducted a Failure Modes and Effects Analysis to
8 identify failure mode criticality and priority and develop hazard risk ranking
9 methodology and criteria to establish allowable use (type of vehicle) for each
10 road hazard type. As follow-up in 2021, a Hydro Generation Road Safety
11 Program standard was developed and published to the PG&E guidance
12 library for use by all Power Generation employees in conjunction with the
13 Hydro Generation Road Inspections and Hydro Generation Road
14 Classifications procedures. The documents provide requirements to
15 consistently risk rank road and road segments for minimizing hazards prior
16 to their use. In addition, Power Generation also developed a Hydro
17 Generation Road Safety Program - Critical Vehicle Considerations Checklist
18 for determining vehicle restrictions and mitigating actions required for roads
19 that are not yet classified.

20 f) Employee SIF, Public SIF – Motor Vehicle Safety Risk Informed Decision
21 Making: In 2021, PG&E conducted a three-month pilot on cell phone
22 blocking technology, an engineering control to block phone activity and use
23 while driving to reduce the potential for distracted driving. The risk factors
24 analysis study conducted by the UCLA B. John Garrick Institute for the Risk
25 Sciences as part of the RAMP analysis indicate distraction as the highest
26 percentage contributing factor based on available PG&E MVI data.
27 Eliminating distracted driving can result in a reduction in employee motor
28 vehicle incidents, including those that result in serious injuries and fatalities
29 to employees and the public. The goal of the pilot was to test the
30 technology, compatibility and determine if it is a potentially viable solution for
31 the Company. In the Pilot there were two groups, the Audit Group, who had
32 full access to their phone, and the Protected Group, who had access only to
33 specific emergency numbers and application programs (apps) on their

1 phone. This technology does not block access to company decided
2 emergency cell phone features.

3 Results from the pilot:

- 4 • Without cell phone blocking technology in place, the Audit Group had:
 - 5 – One distraction every 6 miles; and
 - 6 – 260 hours of talk time.
- 7 • With cell phone blocking technology in place, the Protected group was
8 allowed access to fourteen company approved emergency phone
9 numbers and nine work apps. The Protected Group had:
 - 10 – One distraction every 36 miles; and
 - 11 – 17 hours of hands-free talk time.

12 Results indicate the Audit group had 14.5 times more talk time,
13 3.5 times more app usage, and 7 times more “rings, dings, or touches” on
14 their device while driving than the Protected Group. Based on the pilot
15 results and opportunities for improvement, PG&E will continue to assess this
16 technology with a targeted group of 1,000 users over a 2-year period.

17 g) Gas Dig-in, Shut In The Gas Average Time – Services, Cross Bore
18 Intrusions, and Gas Emergency Response: Informs Risk-Based Decision
19 Making: In 2021, Gas Operations continued the journey of Process Safety
20 Management maturity. The Process Safety Indicator (PSI) dashboard,
21 based on a pyramid framework, is reviewed monthly at Operational Review
22 Meetings and other senior leadership platforms. This includes review of
23 relevant metrics, including Safety Performance Metrics such as gas dig-ins,
24 shut in the gas average time, cross bore intrusions, and gas emergency
25 response. Gas Operations continued to be compliant, per a third-party
26 assessment, with the intent of API RP754, Process Safety Performance
27 Indicators, demonstrating a commitment to incident prevention.

28 The metrics alignment framework helps to drive ownership and
29 accountability to ensure leading indicators are acted upon to prevent a major
30 gas incident that can lead to serious injuries, fatalities, or cause significant
31 interruption to the gas business. These metrics continue to be evaluated
32 during the Daily Operating Reviews (or huddles) beyond those calibrated at
33 the beginning of the year to ensure that Gas Operations drives the

1 appropriate continuous improvement conversations. The DORs include a
2 Lean visual management dashboard.

3 The dashboard was expanded to be presented at the Quality and
4 Process Improvement Committee and Process Safety Moments are a
5 standing agenda item within Gas Operations' monthly Risk and Compliance
6 Committee meetings. Updates to metric alignment to the correct mega
7 process also took place, ensuring ownership and accountability.

8 h) Third Party Dig-Ins: Corrective Action and Informs Risk-Based Decision

9 Making – New Web-Based Trainings (WBT) (Safety Awareness For
10 Excavator (SAFE)-0811 and SAFE-0812) created in cooperation with the
11 academy for improving internal safe excavation practices and limiting
12 unintentional impacts on locating resources through inefficient or improper
13 USA tickets (i.e., over delineation, unnecessary re-marks, etc.).

- 14 • Driven by dig-in ratios and American Gas Association quartile
15 performance for 1st and 2nd Party dig-ins.

16 Risk Mitigation – 3rd Party Dig-in data supported the development of the
17 GPS devices in development by the Research and Development team. The
18 GPS devices are affixed to pieces of excavation equipment and have
19 geo-fence alerts on them to notify the equipment operator that they are
20 approaching a PG&E Gas Transmission facility. They are also trackable on
21 a master system and they have telemetry sensors that detect movements of
22 the equipment consistent with excavation activity. Based on location and
23 excavation activity, use of the equipment in an area without a USA ticket
24 could/would initiate contact with the excavation company to generate
25 communication and remedy any identified unsafe excavation. This
26 technology was included in the 2020 RAMP as Alternative Plan 2: Mitigate
27 Transmission Pipeline Third Party Damage 1 Events.

28 In 2021, continuation of new WBT and ongoing utilization of the GPS
29 devices in PG&E's excavation equipment were just some efforts that
30 contributed towards:

- 31 • Locator At Faults were down 17 percent compared to 2020;
- 32 • Total Dig-ins were down 4 percent compared to 2020;
- 33 • 1st Party Dig-ins were down 21 percent compared to 2020;
- 34 • 3rd Party Dig-ins were down 5 percent compared to 2020; and

1 • PG&E achieved 1st Decile for total dig-in, ending the year with a ratio of
2 0.98.

3 Of those assigned to SAFE-0811 and SAFE-0812, 92 percent have
4 completed this training. The remaining 8 percent will be completed in 2022.

5 Additional changes implemented in 2021:

6 • Locate & Mark Field Training Program provided updated training to all
7 Locators and helped drive down Locator At Faults;

8 • Working with Contractor Safety to reduce 2nd Party Dig-ins through
9 After Action Review and Education; and

10 • Break through Ideas to reduce No USA ideation session.

11 i) Gas Over Pressure Events – Risk-Informed Decision Making – PG&E has
12 identified human performance and equipment failure as the two most
13 common causes for Overpressure events. As result of benchmarking with
14 other utilities and in alignment with our internal strategic objectives, PG&E
15 presented our industry leading Over Pressure Protection (OPP)
16 Enhancement Program in both the 2019 Gas Transmission and Storage
17 Rate Case and 2020 General Rate Case testimony. In 2021, the Slam Shut
18 installation program (a method of secondary OPP) ramped up momentum
19 while installing 281 Gas Distribution system slam shuts and 18 Gas
20 Transmission system slam shuts. Sixteen Slam Shut activations that
21 prevented larger over pressure events have occurred since late December
22 2020.

23 j) Gas Over Pressure Events – Improving Staff Training – PG&E has identified
24 human performance and equipment failure as the two most common causes
25 for Overpressure events. In 2021, PG&E implemented the HU (Human
26 Performance) Tools and Capability Training series that consisted of
27 capability building activities with the goal to reduce over pressure linked to
28 HU causes. 100 percent of Supervisors and Grassroots leads were trained.

PACIFIC GAS AND ELECTRIC COMPANY
2021 SAFETY PERFORMANCE METRICS REPORT
SECTION 3
BIAS CONTROLS AND METHODOLOGY

1 **PACIFIC GAS AND ELECTRIC COMPANY**
2 **2021 SAFETY PERFORMANCE METRICS REPORT**

3 **III. Bias Controls and Methodology**

4 PG&E utilizes multiple bias controls and systems to ensure reporting of the
5 metric data cannot be manipulated or skewed. PG&E incorporates internal and
6 external auditing, third-party data collection and resources, and state mandated
7 reporting to safety regulators such as the OSHA. PG&E utilizes automated
8 processes such as the Supervisory Control and Data Acquisition system to
9 actively monitor potential issues in our gas equipment. PG&E uses database
10 systems such as the Energy Management tool and SAP for accurate data input
11 and automatically generates a change log for every notification down to the
12 field-by-field basis to ensure system controls and retention of record history.
13 Additionally, only specific personnel or teams can enter or edit data such as the
14 Centralized Inspection Review Team. The data is reviewed by the process team
15 to ensure accuracy. Many of the metrics included in this report are reviewed by
16 Business, Process, and Governance teams and leadership at meetings to
17 discuss performance and take action.

18 PG&E's Internal Audit and Law Department also regularly review many of
19 the metrics identified in this report.

20 For a description of the bias controls applicable to each metric, see the bias
21 control section within the metric discussion.

22 Individual or Group Performance Tied to Metrics

23 PG&E sets goals annually for employees in our goals system iConnect, that
24 cascade throughout each line of business (LOB). For a given year:

- 25 1) Senior Leaders identify the most significant areas of focus;
- 26 2) Senior Leaders set high level goals (e.g., Short-Term Incentive Plan metrics)
27 and provide direction on other areas of focus;
- 28 3) Goal setting is disaggregated and managed within the LOBs;
- 29 4) Downstream leaders set operational goals to meet objectives; and
- 30 5) Goal setting is managed locally.

31 For this report, to determine if a metric is tied to a specific goal PG&E
32 reviewed all available 2021 goals and metrics for Officers and Directors for the
33 Enterprise. PG&E met this requirement by searching all LOB goals for

- 1 each SPMR metric name and identified the officers and Directors with
- 2 performance goals that are tied to each SPMR metric.

PACIFIC GAS AND ELECTRIC COMPANY
2021 SAFETY PERFORMANCE METRICS REPORT
SECTION 4
2021 IMPUTED ADOPTED VALUES FOR SAFETY-RELATED
RISK MITIGATION ACTIVITIES

1 **PACIFIC GAS AND ELECTRIC COMPANY**
2 **2021 SAFETY PERFORMANCE METRICS REPORT**

3 **IV. 2021 Imputed Adopted Values for Safety-Related Risk Mitigation Activities**

4 The total estimated risk mitigation spending level as adopted in the 2020
5 General Rate Case for 2021 and the recorded spend is provided in Table 4-1
6 below.

TABLE 4-1
2021 TOTAL SAFETY-RELATED RISK MITIGATION IMPUTED ADOPTED VALUES AND
RECORDED COSTS

<u>Line No.</u>		<u>Expense</u>	<u>Capital</u>
1	2021 Imputed Regulatory Values	\$1,834,867.05	\$3,457,126.98
2	2021 Recorded	\$3,297,352.01	\$4,208,541.55

Note: This table is comprised of all Major Work Categories or Maintenance Activity Types that are related to safety-related risk mitigation activities.

PACIFIC GAS AND ELECTRIC COMPANY
2021 SAFETY PERFORMANCE METRICS REPORT
SECTION 5 – SAFETY PERFORMANCE METRICS

1 **Metric 1: T&D Overhead Wires Down Non-Major Event Days**

2 **Metric Name and Description:** T&D Overhead Wires Down Non-Major Event
3 Days – Number of instances where an electric transmission or primary
4 distribution conductor is broken, or remains intact, and falls from its intended
5 position to rest on the ground or a foreign object; a conductor is considered
6 energized unless confirmed in an idle state (i.e., de-energized); excludes down
7 secondary distribution wires and “Major Event Days” (MED) (typically due to
8 severe storm events) as defined by the Institute of Electrical and Electronics
9 Engineers (IEEE) Standard 1366.

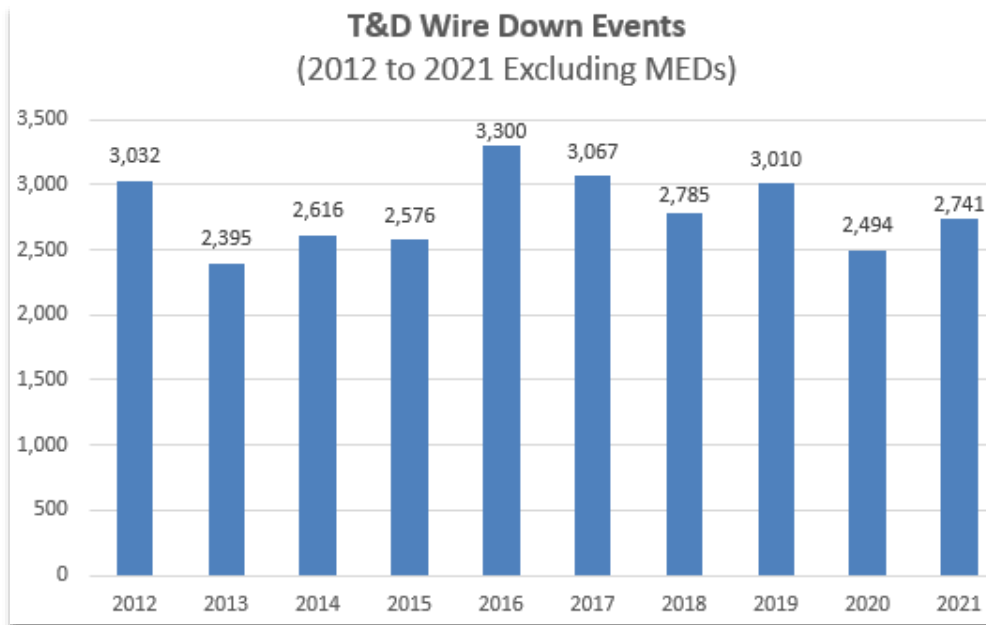
10 **Risks:** Wildfire, Transmission Overhead Conductor, and DOCP¹

11 **Category:** Electric

12 **Units:** Number of wire down events

13 **Summary:**

**FIGURE 5-1
T&D OVERHEAD WIRES DOWN METRIC DATA EXCLUDING MEDS (ANNUAL)**



1 The Corporate Risk Register now has the following risks: (1) Wildfire, (2) Failure of Electric Transmission Overhead Assets; and (3) Failure of Electric Distribution Overhead Assets. Transmission Overhead Conductor and Distribution Overhead Conductor – Primary (DOCP) no longer exist as separate risks.

1 **Narrative Context:** In 2012, PG&E initiated the Wires Down Program (including
2 introduction of the wires down metric) to address the Company's increased
3 focus on public safety by reducing the number of conductors that fail and result
4 in a contact with the ground, a vehicle, or other object. Before 2012, wires down
5 data was collected in the OUTAGE and ESLIC databases but not tracked or
6 used as a metric. As part of the Wires Down Program, in an effort to identify and
7 mitigate the root cause of wires down incidents, Electric Operations
8 implemented a program to visit wires down locations to gather essential data,
9 understand the cause, and develop work plans to mitigate future wires down
10 incidents.

11 Significant work has been performed to reduce wires down, including
12 replacing overhead conductors, vegetation clearing, hardening of distribution
13 circuits, infrared inspections of overhead lines to identify and repair hot spots,
14 and investigating wire down incidents and implementing learnings/corrective
15 actions.

16 PG&E's Vegetation Management team conducts site visits of
17 vegetation-caused wires-down events as part of its standard tree-caused service
18 interruption investigation process. The data obtained from site visits supports
19 efforts to reduce future vegetation-caused wires-down events. The data
20 collected from these investigations also helps identify failure patterns by tree
21 species that are associated with wires-down events.

22 2021 experienced 2,741 wire down events compared to 2,494 in 2020,
23 roughly a 10 percent increase. However, performance is in line with the 10-year
24 historical average of 2,802. Improvements have been made to the wires down
25 forecast model to include weather day and non-weather day information to
26 better understand events not related to weather. This provided better insights to
27 blue sky day conductor performance and improved forecasting performance.

28 **Is Metric Used for the Purposes of Determining Executive (Director Level**
29 **or Higher) Compensation Levels and/or Incentives?**

30 Yes, in 2021, T&D Overhead Wires Down Non-Major Event Days is a STIP
31 metric as part of Wire-Down Events Due to Equipment Failure.

1 **Is Metric Linked to the Determination of Individual or Group Performance**
2 **Goals?**

3 Yes, the T&D Overhead Wires Down metric is linked to 2021 performance
4 goals for one or more Director-level position or higher.

5 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

6 Yes, the T&D Overhead Wires Down metric is linked to all individual goals
7 as part of 2021 STIP plan. In addition, this metric may be included as part of an
8 individual's performance goals.

9 **Bias Controls:** The T&D Wires Down metric is a strong proxy of the overall
10 goal of reducing the potential contacts with wires down and improving the
11 reliability of the electric system along with reducing public safety risk. From the
12 metric data, performance, and target-setting perspective, there are several
13 controls put in place that have been verified by Internal Audit.

- 14 – The wires down events are reported by field and control center personnel
15 per uniform reporting guidelines as the events occur.
- 16 – Engineers conduct post wire down event reviews (typically for the non-MED
17 events) and will initiate corrections to the data via the outage quality team to
18 ensure the reporting guidelines were followed and the records align with
19 information reported by repair crews.
- 20 – The outage quality team processes all valid change requests received and
21 also initiates corrections based on their reviews and findings of the collected
22 outage information.

23 **Rate Case Safety Goal Progress:** The T&D Wires Down metric (excluding
24 downed secondary distribution wires and MEDs) is not a 2020 GRC or RAMP
25 stated safety goal. This metric has been one of the key indicators that PG&E is
26 using to track Public Safety Performance.

27 Significant work was performed to reduce wires down, including replacing
28 overhead conductor, vegetation clearing, hardening of distribution circuits,
29 infrared inspections of overhead lines to identify and repair hot spots,
30 investigating wires down incidents, and implementing learnings/corrective
31 actions.

32 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 2: Transmission and Distribution (T&D) Overhead Wires Down –**
2 **Major Event Days (MED)**

3 **Metric Name and Description:** T&D Overhead Wires Down – MEDs – Number
4 of instances where an electric transmission or primary distribution conductor is
5 broken, or remains intact, and falls from its intended position to rest on the
6 ground or a foreign object; a conductor is considered energized unless
7 confirmed in an idle state (i.e. de-energized). Includes MEDs (typically due to
8 severe storm events) as defined by the Institute of Electrical and Electronics
9 Engineers (IEEE) Standard 1366.

10 **Risks:** Wildfire, Transmission Overhead Conductor, DOCP²

11 **Category:** Electric

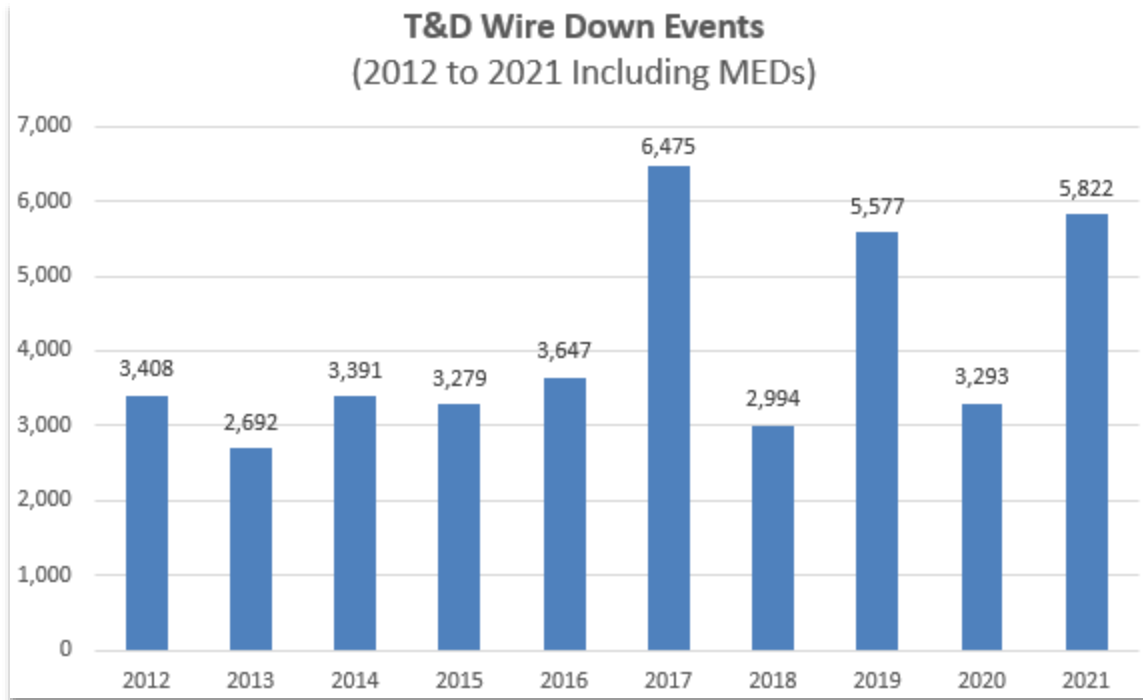
12 **Units:** Number of wire down events

2 The Corporate Risk Register now has the following risks: (1) Wildfire; (2) Failure of Electric Transmission Overhead Assets; and (3) Failure of Electric Distribution Overhead Assets. Transmission Overhead Conductor and Distribution Overhead Conductor – Primary no longer exist as separate risks.

1

Summary:

**FIGURE 5-2
T&D OVERHEAD WIRES DOWN METRIC DATA (ANNUAL)**



Historical Number of MEDs

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
4	4	5	10	3	30	7	31	14	25

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Narrative Context: The metric, inclusive of MEDs is not being used for internal reporting purposes. PG&E focuses on transmission and primary distribution conductor wire down events, excluding MEDs. As can be seen in the data above, particularly in 2017, 2019, and 2021 the results for this metric fluctuate heavily based on the number of severe weather event days in a particular year. PG&E uses the IEEE 1366 Standard titled IEEE Guide for Electric Power Distribution Reliability Indices to define and apply excludable MEDs to measure the performance of its electric system under normally expected operating conditions. Its purpose is to allow major events to be analyzed apart from daily operation and avoid allowing daily trends to be hidden by the large statistical effect of major events. Per the Standard, the MED classification is calculated from the natural log of the daily System Average Interruption Duration Index (SAIDI) values over the past five years. The SAIDI index is used as the basis

1 since it leads to consistent results and is a good indicator of operational and
2 design stress. The 2021 performance was roughly 77 percent worse than that of
3 2020, primarily due to January wind events and historic snowstorms that
4 occurred in December. Given the fluctuations driven in this metric from weather
5 patterns, PG&E does not view it as an appropriate metric to properly assess
6 system performance or improvement.

7 **Is Metric Used for the Purposes of Determining Executive (Director Level**
8 **or Higher) Compensation Levels and/or Incentives?**

9 No, the T&D Overhead Wires Down–MEDs metric was not used as a
10 Short-Term Incentive Plan metric for 2021.

11 **Is Metric Linked to the Determination of Individual or Group Performance**
12 **Goals?**

13 No, the T&D Overhead Wires Down–MEDs metric is not linked to 2021
14 individual or group performance goals for Director-level, or higher, positions.

15 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

16 No, the T&D Overhead Wires Down–MEDs metric is not linked to individual
17 performance goals for Director-level, or higher, positions in 2021.

18 **Bias Controls:** While PG&E does not focus on this metric with MEDs included,
19 the following is in place for the traditional measure (with MEDs excluded):
20 The T&D Wires Down metric is a strong proxy of the overall goal of reducing the
21 potential contacts with wires down and improving the reliability of the electric
22 system along with reducing public safety risk. From the metric data,
23 performance, and target-setting perspective, there are several controls put in
24 place that have been verified by Internal Audit.

- 25 – The wires down events are reported by field and control center personnel
26 per uniform reporting guidelines as the events occur.
- 27 – Engineers conduct post wire down event reviews (typically for the non-MED
28 events) and will initiate corrections to the data via the outage quality team to
29 ensure the reporting guidelines were followed and the records align with
30 information reported by repair crews.

1 – The outage quality team processes all valid change requests received and
2 initiates corrections based on their reviews and findings of the collected
3 outage information.

4 **Rate Case Safety Goal Progress:** This metrics is not a safety goal in the 2020
5 GRC. PG&E does not focus on this metric inclusive of MEDs; therefore, it is not
6 used to track safety performance. The T&D Wires Down metric excluding MEDs
7 is used to track Public Safety Performance. See Metric 1 discussion for
8 additional detail.

9 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 3: Electric Emergency Response Time**

2 **Metric Name and Description:** Electric Emergency Response Time –
3 Average time and median time in minutes to respond on-site to an electric
4 related emergency notification from the time of notification to the time a
5 representative (or qualified first responder) arrived onsite. Emergency
6 notification includes all notifications originating from 911 calls and calls made
7 directly to the utilities’ safety hotlines. The data used to determine the average
8 time and median time shall be provided in increments as defined in (GO) 112-F
9 123.2 (c) as supplemental information, not as a metric.

10 **Risks:** Wildfire, Overhead Conductor, Public Safety, Worker Safety³

11 **Category:** Electric

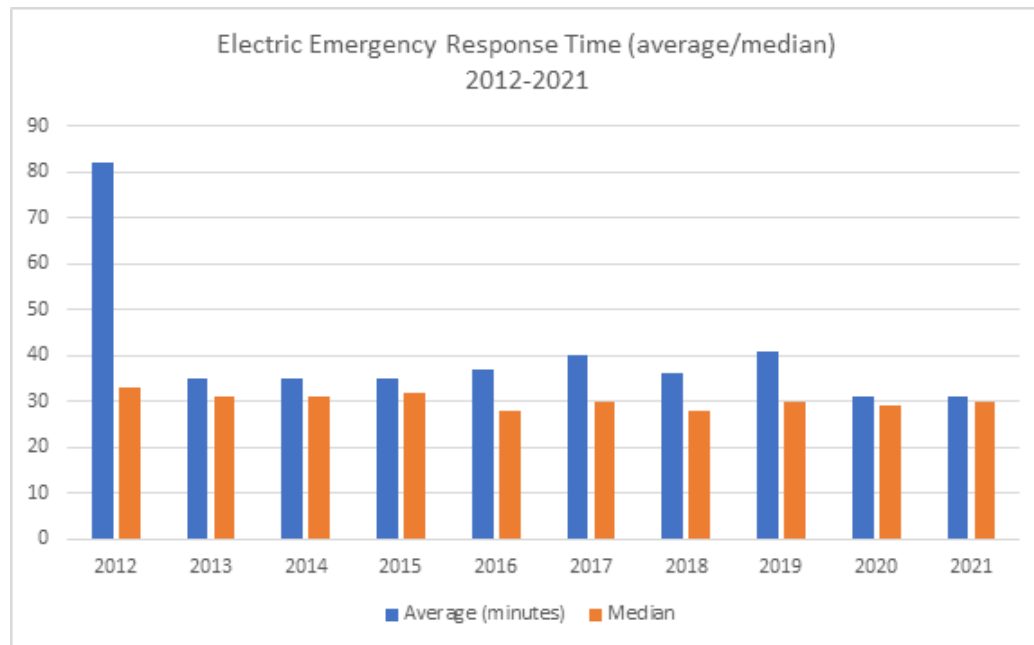
12 **Units:** The time in minutes that an electric crew person or a qualified first
13 responder takes to respond after receiving a call which results in an emergency
14 order.

³ The Corporate Risk Register now has the following risks: (1) Wildfire, (2) Failure of Electric Distribution Overhead Assets, (3) Third-Party Safety Incident (4) Employee Safety Incident; and (5) Contractor Safety Incident. Distribution Overhead Conductor – Primary no longer exists as a separate risk.

1

Summary:

**FIGURE 5-3
ELECTRIC EMERGENCY RESPONSE TIME (AVERAGE AND MEDIAN)
(ANNUAL)**



2 **Narrative Context:** PG&E’s response to 911 calls and the amount of time it
3 takes field resources to respond to those calls is primary performance metric
4 used to evaluate PG&E’s commitment to public safety. There is a direct linkage
5 between public safety and a utility’s response to emergency situations, which is
6 why PG&E selected emergency response time for this element of the
7 performance metric.

8 The keys to performing well on this metric are accurately predicting when
9 large volumes of calls will come in (based on weather forecasts) and ensuring
10 there are enough resources on hand to respond to all calls. This requires
11 coordinating across departments (like Electric and Gas Operations) to share
12 resources to respond when high volumes of 911 calls are anticipated. These
13 tactics are especially important during stormy weather; high call volume during
14 bad weather days may vary from year-to-year.

15 Metric performance has been driven by proactive scheduling of resources
16 for 911 response, coordination across multiple LOBs on training and availability
17 of resources for weather days and improved understanding of shifts in storm

1 fronts and impacts on the system. Additional actions include faster resource
2 notification, utilization of GPS to integrate vehicle and the 911 standby tag
3 locations and use of supplemental (non-traditional) resources.

4 PG&E's response to 911 electric-related emergencies improved by roughly
5 50 percent from 2011-2020. In 2021, both PGE's average and median response
6 time increased nearly a minute, respectively (driven by weather events
7 experienced in January and December), from 2020 performance but was
8 ~50 percent better than the Company goal (and tracked metric) of responding
9 on-site to an Electric emergency within 60 minutes. First quartile response times
10 were also maintained

11 PG&E began benchmarking its response to 911 calls with other utilities in
12 2012. PG&E's 2011 performance was 3rd quartile, improving to 2nd quartile in
13 2012-2014, and reaching 1st quartile in 2015. Since 2015, PG&E's historical
14 performance has been within the first quartile and best-in-class in some years.

15 **Is Metric Used for the Purposes of Determining Executive (Director Level**
16 **or Higher) Compensation Levels and/or Incentives?**

17 Yes, the Electric Emergency Response (within 60 minutes) is a 2021 STIP
18 goal.

19 **Is Metric Linked to the Determination of Individual or Group Performance**
20 **Goals?**

21 Yes, the Electric Emergency Response (within 60 minutes) metric is linked
22 to 2021 performance goals for one or more Director-level position or higher.

23 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

24 Yes, the Electric Emergency Response (within 60 minutes) metric is linked
25 to all individual goals as part of 2021 STIP plan. In addition, this metric may be
26 included as part of an individual's performance goals.

27 **Bias Controls:** Several controls, verified by Internal Audit, are in place for this
28 metric. The metric performance data is captured and stored in the Outage
29 Information System (OIS) database. Each 911 call has a time stamp. The start
30 time of a 911 call involves receipt by utility personnel and entry into the OIS
31 database (creation of a tag). The tag is created in the OIS database when the
32 PG&E personnel is on the phone with the 911 dispatch agency (there is a direct

1 911 stand-by line into Gas dispatch, where all 911 stand-by calls are routed).
2 This process removes the delay between the time the call is received and
3 entered into the system.

4 **Rate Case Safety Goal Progress:** This safety metric does not support a 2020
5 GRC safety goal.

6 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 4: Fire Ignitions**

2 **Metric Name and Description:** Fire Ignitions – The number of fire incidents
3 annually reportable to the California Public Utilities Commission (CPUC) per
4 Decision (D.) 14-02-015.

5 **Risks:** Overhead Conductor, Wildfire, Public Safety, Worker Safety,
6 Catastrophic Event Preparedness⁴

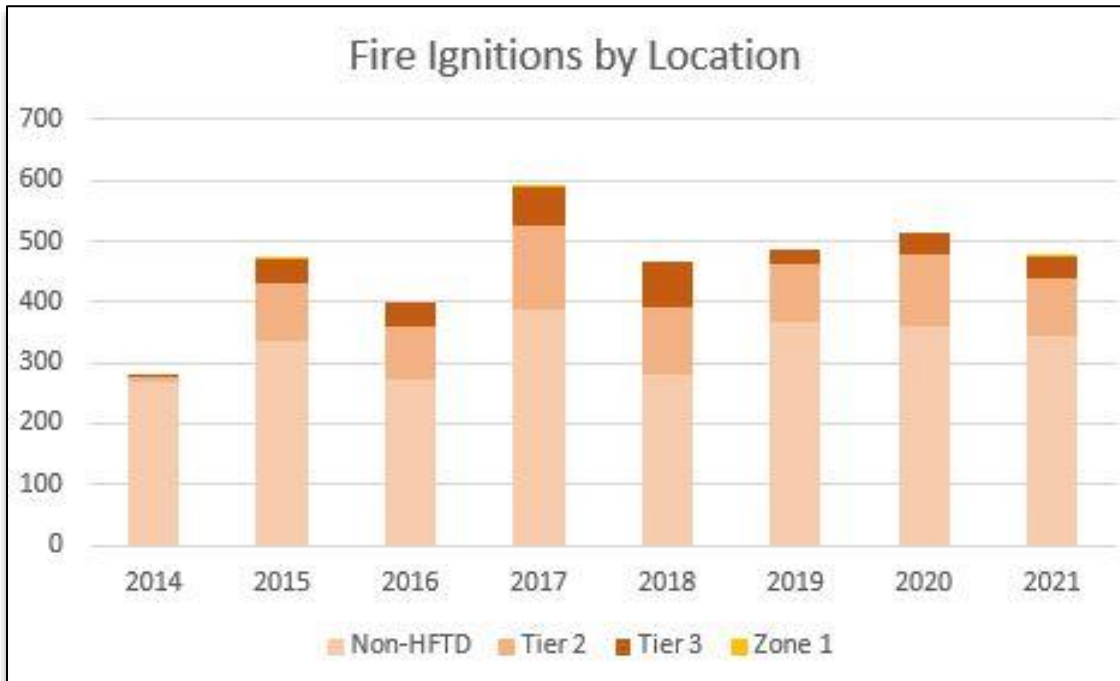
7 **Category:** Electric

8 **Units:** Number of reportable ignitions.

9 **Summary:**

4 The Corporate Risk Register now has the following risks: (1) Wildfire, (2) Failure of Electric Distribution Overhead Assets, (3) Third-Party Safety Incident, (4) Employee Safety Incident, (5) Contractor Safety Incident, and (6) Emergency Preparedness and Response. Distribution Overhead Conductor – Primary no longer exists as a separate risk.

FIGURE 5-4A
FIRE IGNITION METRIC DATA (ANNUAL)^{5,6,7}



- 5 The 2015-2019 fire ignition metric data reflects fire ignitions previously not included in the 2019 Safety Performance Metrics Report due to a misidentification in a field-based documentation system. Pacific Gas and Electric Company (PG&E or the Company) has concluded an audit of field-based systems that could have contained these misidentified ignition records and these records are reflected in the totals above.
- 6 This report reflects 4 ignitions in 2021 that meet Electric Incident Report criteria, defined by Appendix B to CPUC D.06-04-055, for which PG&E has not formed a conclusion about the origin or cause.
- 7 PG&E has included the Zogg Fire in this ignition count because California Department of Forestry and Fire Protection has announced that the cause of the Zogg Fire was a pine tree contacting PG&E overhead electric lines. PG&E's investigation into the cause of the Zogg Fire is ongoing.

**TABLE 5-4B
FIRE IGNITIONS METRIC DATA BY LOCATION (ANNUAL)**

Year	Non-HFTD	Tier 2	Tier 3	Zone 1	Total
2014	270	8	1		279
2015	336	96	40	2	474
2016	272	90	37		399
2017	389	137	63	1	595
2018	280	114	73		467
2019	367	95	24		486
2020	360	117	39		516
2021	345	93	39	1	478

1 **Narrative Context:** Reportable Fire Ignitions is a primary metric used to
 2 evaluate PG&E’s commitment to public safety. This metric tracks the number of
 3 electrically involved fire ignitions with the conditions that meet the CPUC
 4 definition in D.14-02-015 within PG&E’s service territory. PG&E began tracking
 5 this data in July 2014. The data is collected from multiple sources and validated
 6 through our Fire Incident Data Collection Process (RISK-6306S/P):

- 7 • The Field Applications System provides ignition information from Distribution
 8 Troublemakers as they respond to Field Orders. When a Troublemaker arrives
 9 at an incident location and identifies signs that an ignition occurred, the
 10 Troublemaker selects “Yes” in the “Fire Incident” field of their data entry
 11 device. This then opens an “Ignitions” tab where the Troublemaker enters
 12 information related to the ignition, including the fire location, suppressing
 13 agency information, whether media is on site, if the fire was extinguished,
 14 equipment ID numbers, weather, facility impacted, estimated wind, event
 15 element, fire size, type of construction, and evidence collected. The
 16 Troublemaker has an option to attach pictures and other documents to the
 17 Field Order. This information is received by the Wildfire Risk Management
 18 team who quality check (QC) and further investigate the ignitions.
- 19 • The Transmission Outage Tracking and Logging system provides
 20 information about any planned or unplanned outages on Transmission and
 21 Substation assets. This system indicates if an ignition resulted from an
 22 unplanned transmission system outage or interruption. The information is
 23 logged by the Grid Control Operators. The interruptions resulting in an
 24 ignition are sent to EII who reviews and further investigate the ignitions.

- 1 • The Integrated Logging Information System (ILIS)/Outage Information
2 System (OIS) systems contain information related to outages and switching
3 to restore customers that were de-energized due to an equipment failure or
4 electric incident. This information applies only to ignitions that result in an
5 outage and contains information about the fault, potential causes of the fault,
6 location and circuit information, customers affected by the outage, and steps
7 and times to restore power to affected customers.
- 8 • The information received from these systems goes through a thorough
9 investigation process. This process ensures that all required information for
10 an event is received shortly after the event has occurred, and also ensures
11 the ignition data is complete and accurate. The information is received by
12 the EII team and entered into the Fire Ignition Tracker. The EII team then
13 verifies the fire location, High Fire Threat District (HFTD), event element,
14 suspected initiating cause and other fields. The Wildfire Risk Management
15 team also communicates with Troublemakers and responding fire agency
16 incident leads and creating executive summaries to communicate findings.
- 17 • Discrepancies identified in our system of records
18 (ILIS/OIS/FAS/Transmission Operation Tracking and Logging) are corrected
19 during this investigation phase.
- 20 • The data is also sent to the appropriate Asset Family Owners to help those
21 teams identify and address failure trends and align mitigation strategies with
22 areas of risk. This data is also utilized to inform the wildfire risk model.

23 **Is Metric Used for the Purposes of Determining Executive (Director Level**
24 **or Higher) Compensation Levels and/or Incentives?**

25 Yes, the Fire Ignitions metric is a component of the Wildfire Risk Reduction
26 which was used as a Short-Term Incentive Plan (STIP) metric for 2021. Wildfire
27 Risk Reduction measured all CPUC Reportable Ignitions attributed to PG&E
28 equipment that burned greater than 100 acres.

29 **Is Metric Linked to the Determination of Individual or Group Performance**
30 **Goals?**

31 Yes, the Fire Ignitions metric is linked to 2021 group performance goals for
32 one or more Director-level position or higher.

1 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

2 Yes, the Fire Ignitions metric is linked to all individual goals as part of 2022
3 STIP plan. In addition, this metric may be included as part of an individual's
4 performance goals.

5 **Bias Controls:** The EII team has an ignition review process to ensure that all
6 required information for an event is received shortly after the event occurred, is
7 complete, and is accurate. The EII Metrics team updates the Fire Ignitions
8 Tracker by doing the following:

- 9 • Inputs data from the various data sources into tracker;
- 10 • Performs initial QC to verify the fire Lat/Long, HFTD, Event Element, and
11 Suspected Initiating Cause;
- 12 • Once the information is added to the tracker and the initial review is
13 complete, the EII team performs an in-depth QC and an investigation when
14 necessary by doing the following:
 - 15 – Reviews information received from data sources for accuracy;
 - 16 – Confirms or revises the initial assessment made at intake; and
 - 17 – Interviews the Troublemakers and/or responding fire agencies as
18 necessary.

19 **Rate Case Safety Goal Progress:** While this metric was not a stated safety
20 goal in the 2020 General Rate Case (GRC), PG&E tracks the number of fires
21 (ignitions) as one of its key performance measures. PG&E's 2020 GRC
22 testimony⁸ discussed planned work to mitigate the risk of wildfires, and indicated
23 that the controls for this risk will continue to be strengthened in the future due to
24 the increasing severity of drought conditions, the size of PG&E's electric system,
25 and the quantity and diversity of trees in the Company's service territory.

26 **Monthly Data:** See attachment A at the end of this report.

8 See 2020 GRC Exhibit (PG&E-4), Chapter 2A (Wildfire Risk and Policy Overview) for a complete description of PG&E's wildfire controls and mitigations.

1 **Metric 5: Gas Dig-In**

2 **Metric Name and Description:** Gas Dig-In – The number of third-party gas
3 dig-ins per 1,000 Underground Service Alert (USA) tags/tickets received for gas.
4 The ticket count excludes fiber and electric tickets. A gas dig-in refers to any
5 impact or exposure that results in the need to repair an underground facility due
6 to a weakening or the partial or complete destruction of the facility, including, but
7 not limited to, the protective coating, lateral support, cathodic protection or the
8 housing for the line device or facility. A third-party dig-in is damage caused by
9 someone other than the utility or a utility contractor.

10 The Company participates in a one-call “811” public service program
11 administered by USA. USA provides the Company notification of activities that
12 could be damaging to the Company’s gas pipelines. These notifications are
13 referred to as USA tickets. A ticket is the receipt of information by the Company
14 from USA regarding onsite meetings, project designs, or a planned excavation.
15 The ticket component of this metric includes PG&E gas tickets received from all
16 parties (i.e., first-, second-, and third-parties).

17 **Risks:** Transmission Pipeline Failure – Rupture with Ignition and Distribution
18 Pipeline Rupture with Ignition (non-Cross Bore), Catastrophic Damage involving
19 Gas Infrastructure (Dig-Ins)⁹

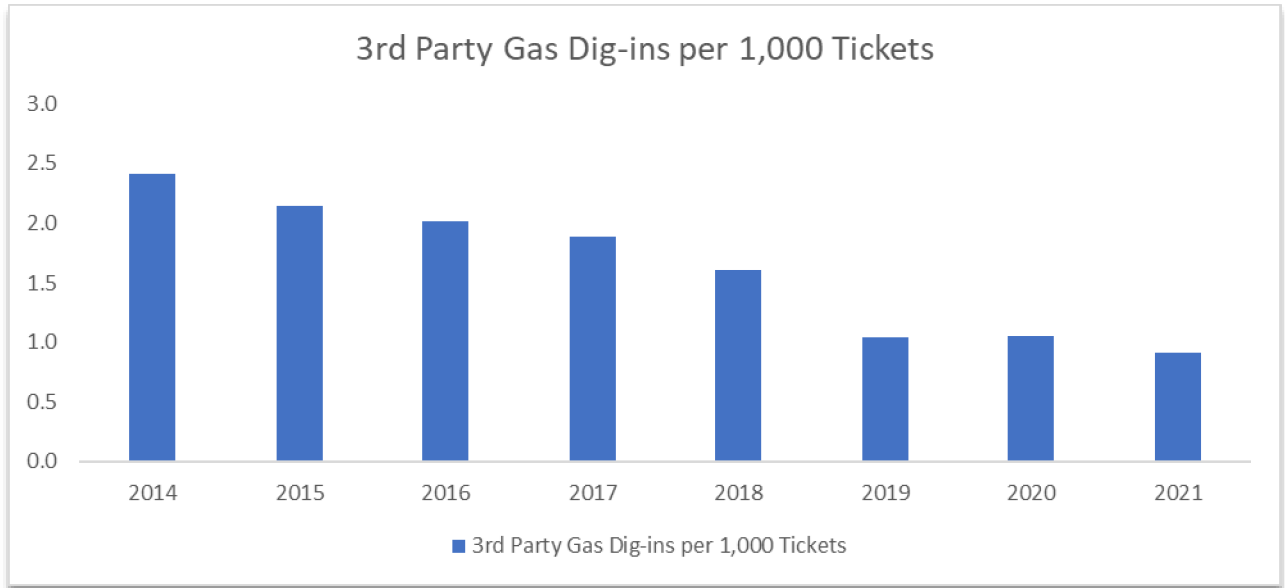
20 **Category:** Gas

21 **Units:** The number of third-party gas dig-ins per 1,000 USA tags/tickets.

⁹ The Corporate Risk Register now has the following risks: Loss of Containment on Gas Transmission Pipeline and Loss of Containment on Gas Distribution Main or Service.

1 **Summary:**

**FIGURE 5-5
THIRD-PARTY DIG-INS PER 1,000 TICKETS (ANNUAL)**



2 **Narrative Context:** There has been a downward trend in the number of third-
3 party dig-ins per 1,000 USA tickets since 2014, with a slight uptick in 2020. At
4 the same time, the number of USA tickets has increased. From 2014-2021,
5 PG&E experienced a 149 percent increase in USA tickets. With the increase in
6 USA tickets received between 2014-2017 the third-party dig-in count climbed,
7 peaking in 2017, with 1,780 third-party dig-ins and then began a steady decline
8 to 1,531 third-party dig-ins in 2021. PG&E attributes the reduction in the number
9 of third-party dig-ins per 1,000 USA tickets to PG&E’s increase in Damage
10 Prevention activities.

11 To continuously focus on improving performance, metric results are reported
12 monthly and reviewed at leadership meetings and weekly huddles to discuss
13 results and actions to take, as needed.

14 **Is Metric Used for the Purposes of Determining Executive (Director Level
15 or Higher) Compensation Levels and/or Incentives?**

16 Yes, the Gas Dig-In metric was used as a STIP metric for 2021.

1 **Is Metric Linked to the Determination of Individual or Group Performance**
2 **Goals?**

3 Yes, the Gas Dig-In metric is linked to 2021 group performance goals for
4 one or more Director-level position or higher.

5 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

6 Yes, the Gas Dig-In metric is linked to all individual goals as part of
7 2021 STIP plan. In addition, this metric may be included as part of an
8 individual's performance goals.

9 **Bias Controls:** All dig-ins are reviewed by the Damage Prevention team to
10 determine appropriate delineation of first-party, second-party or third-party
11 dig-in. Total USA tickets are determined by the California one-call system,
12 independent to PG&E.

13 The metric definition for this metric including targets, target setting
14 methodology, and exclusions, is documented and approved by Gas Operations
15 Leadership. Metric results are reported monthly by the Gas Operations
16 Business Process Governance team and reviewed at leadership meetings to
17 discuss performance and take action as needed. In the event there is a
18 resulting need for additional budget or other resources, approval must be
19 obtained from the Gas Operations Senior Leadership team at the Work, Finance
20 and Resource Committee meeting.

21 On a quarterly basis, a supporting documentation package is prepared by
22 the Damage Prevention team, reviewed by the Business Process Governance
23 team, and then routed for Gas Operations Senior Leadership approval. The
24 support packages are also reviewed quarterly by Compensation and Internal
25 Audit.

26 **Rate Case Safety Goal Progress:** This metric supports and reflects progress
27 in PG&E's safety goal of dig-in prevention for the safety of both PG&E
28 contractors and the public at large by reduced dig-ins per 1,000 tickets.¹⁰
29 Specific Damage Prevention and Public Safety initiatives that contribute to dig-in
30 reduction included in the 2020 GRC were: (1) continued participation in the

¹⁰ See 2020 GRC (1) Exhibit (PG&E-14), Chapter 12, pp. 14-26 through 14-30;
and (2) Exhibit (PG&E-3), Chapter 6, pp. 6-13 through 6-14.

1 Gold Shovel Program including providing certification to the contracting
2 community on dig-in prevention, (2) the use of caution tape in PG&E's
3 construction activities, which provides excavators with a clear sign that gas
4 facilities are present, (3) additional training for PG&E excavators to conduct a
5 "pre-sweep" prior to excavation, ensuring that all structures are identified, (4) a
6 Damage Prevention Manual to provide clear instruction around critical
7 processes, including troubleshooting of difficult to locate facilities, and (5) the
8 Public Awareness program which aims to improve public awareness by sending
9 bill inserts in the mail, making education links available on e-mail bill pay,
10 sending separate mailers, running ads in newspapers and the radio, and
11 conducting companywide campaigns for Call 811 Before You Dig.

12 PG&E's transmission-related Locate and Mark activities are discussed in the
13 2019 Gas Transmission and Storage (GT&S) Rate Case.¹¹ Additionally, PG&E
14 describes its goal to maintain a "Line of Sight" for all pipeline markers in the
15 2019 GT&S Rate Case.¹² Pipeline markers are effective for preventing dig-ins
16 or accidental damage of PG&E assets.

17 PG&E's Locate and Mark program is identified as a control to the Loss of
18 Containment on Gas Transmission Pipeline¹³ as well as Loss of Containment
19 on Gas Distribution Main and Service¹⁴ risk in the 2021 RAMP.

20 **Monthly Data:** See Attachment A at the end of this report.

¹¹ See 2019 GT&S Rate Case Prepared Testimony, Volume 1, Chapter 9, pp. 9-12 through 9-15.

¹² See 2019 GT&S Rate Case Prepared Testimony, Volume 1, Chapter 9, p. 9-29.

¹³ See 2020 RAMP, p. 7-20.

¹⁴ See 2020 RAMP, pp. 8-25 through 8-25.

1 **Metric 6: Gas In-Line Inspection (ILI)**

2 **Metric Name and Description:** Gas ILI – Total miles of transmission pipe
3 inspected annually by ILI and percentage of transmission pipelines inspected
4 annually by inline inspections.

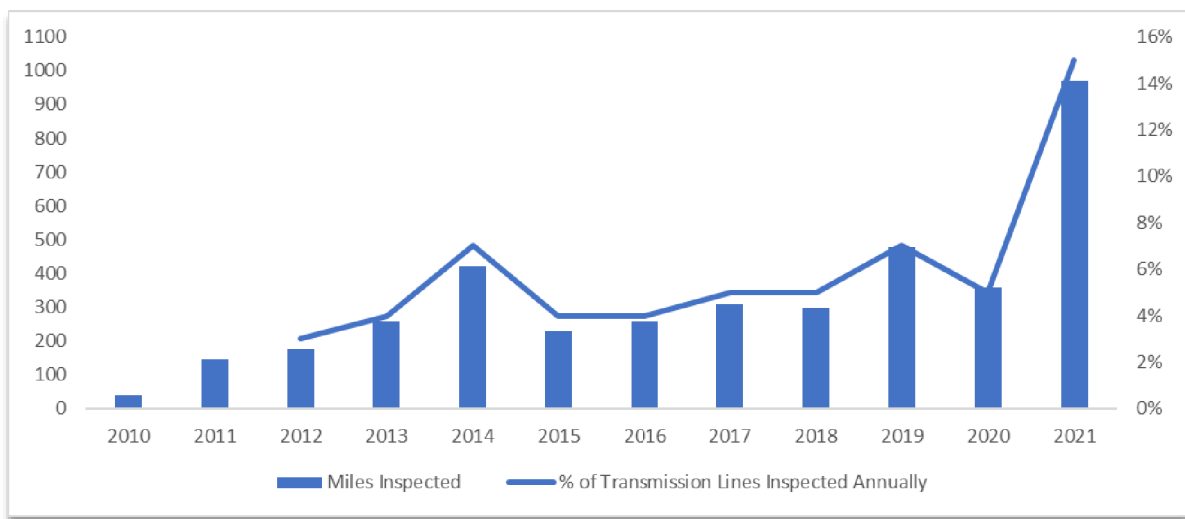
5 **Risks:** Catastrophic Damage Involving High-Pressure Pipeline Failure¹⁵

6 **Category:** Gas

7 **Units:** Total number of miles of inspections performed and percentage
8 inspected by ILI annually.

9 **Summary:**

**FIGURE 5-6
MILES OF PIPELINE INSPECTED (ANNUAL)**



10 **Narrative Context:**

11 This metric measures Pacific Gas and Electric Company’s (PG&E) ILI work
12 completed, including activities that exceed current code requirements. After the
13 pipeline is upgraded to accommodate an ILI tool, cleaning and inspections are
14 conducted to collect data about the pipe. This data is analyzed for pipeline
15 anomalies that must be remediated through the Direct Examination and Repair
16 process where the anomaly is exposed, examined and repaired as necessary.

¹⁵ The Corporate Risk Register now has the following risk: Loss of Containment on Gas Transmission Pipeline.

1 The information from Direct Examination and Repair is used to generate
2 additional prevention/mitigation activities to improve the long-term safety and
3 reliability of the pipeline.

4 Total miles of pipeline in-line inspected with traditional ILI tools vary by year
5 and are correlated with miles of pipeline upgraded and required re-inspection
6 miles. Decision 11-06-017, as codified by Public Utilities Code Section 958,
7 requires natural gas transmission pipelines in California to be capable of ILIs,
8 where warranted. In addition, both Title 49 of the Code of Federal Regulations –
9 Transportation Part 192, Subpart O, and PG&E’s traditional ILI Program
10 procedures requires reassessments, which drive the required ILI re-inspection
11 miles in a given year. Further, ILI is the most reliable pipeline integrity
12 assessment tool currently available to natural gas pipeline operators to assess
13 the internal and external condition of transmission line pipe. In 2021, PG&E
14 inspected a total of 970.5 miles of pipe that accounts for 15 percent of
15 transmission lines inspected. From 2012-2021, the total number of miles of
16 inspections performed increased by 452.6 percent. The increase in total number
17 of transmission miles inspected in 2021 compared to the prior years is based on
18 the compliance work that has been identified and the compliance cycle by which
19 PG&E needs to assess it by.

20 To continuously focus on improving performance, metric results are reported
21 monthly and reviewed at leadership meetings and weekly huddles to discuss
22 results and take action as needed. Performance in 2021 was on target. As
23 noted above, the number of miles in-line inspected vary by year and are
24 correlated with miles of pipeline upgraded and required re-inspection miles.

25 **Is Metric Used for the Purposes of Determining Executive (Director Level**
26 **or Higher) Compensation Levels and/or Incentives?**

27 No, the Gas ILI metric was not used as a Short-Term Incentive Plan (STIP)
28 metric for 2021.

29 **Is Metric Linked to the Determination of Individual or Group Performance**
30 **Goals?**

31 Yes, the Gas ILI metric is linked to 2021 individual or group performance
32 goals for one or more Director-level, or higher, positions.

1 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

2 Yes, in 2021, the following position(s) include individual performance goals
3 that are linked to the Gas ILI metric.

- 4 • **Senior Director:** Gas Operations (GO) (1); and
- 5 • **Senior Vice President:** GO (1).

6 **Bias Controls:** Metric results are reported monthly by the Gas Operations
7 Business Process Governance team and reviewed at leadership meetings to
8 discuss performance and take action. In the event that there is a resulting need
9 for additional budget or resources, approval must be obtained from the
10 Gas Operations Senior Leadership team at the Work, Finance and Resource
11 Committee meeting.

12 During the years that this was a STIP metric, on a quarterly basis the
13 Gas Operations Business Process Governance team worked to confirm ILI
14 projects and mileage with various stakeholders. Mileage and unit capture dates
15 from the P6 database (scheduling program used by the GT Project Management
16 team) were verified by the Gas Operations Business Process Governance team
17 to ensure consistency with the Assessment Completion Notification (ACN) form
18 (Engineering record), which is signed by the ILI engineering Supervisor or
19 Manager. A supporting documentation package for metric results was prepared
20 quarterly by the Business Process Governance team, then routed for
21 Gas Operations Senior Leadership approval. The support packages were also
22 reviewed each quarter by Compensation and Internal Audit.

23 In 2021, the metric was no longer included as a STIP metric, however the
24 review process established by the Business Process Governance team was
25 maintained.

26 **Rate Case Safety Goal Progress:** This safety metric does not support a
27 2020 General Rate Case safety goal given this metric is a gas transmission, not
28 distribution, related metric. In 2021 and 2022, PG&E forecasts Traditional ILI
29 Upgrades for an additional 881 miles, bringing the total piggable mileage to
30 approximately 3,697 miles (~56 percent of the system) by the end of 2022.
31 PG&E's ILI Program is intended to bring the total first time ILI miles to
32 approximately 3,109 miles by the end of 2021 (~47 percent of the system), in

1 addition to performing re-inspections on approximately 1,000 miles over the
2 2019-2021 period.

3 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 7: Gas In-Line Upgrade**

2 **Metric Name and Description:** Gas In-Line Upgrade – Miles of gas
3 transmission lines upgraded annually to permit inline inspections.

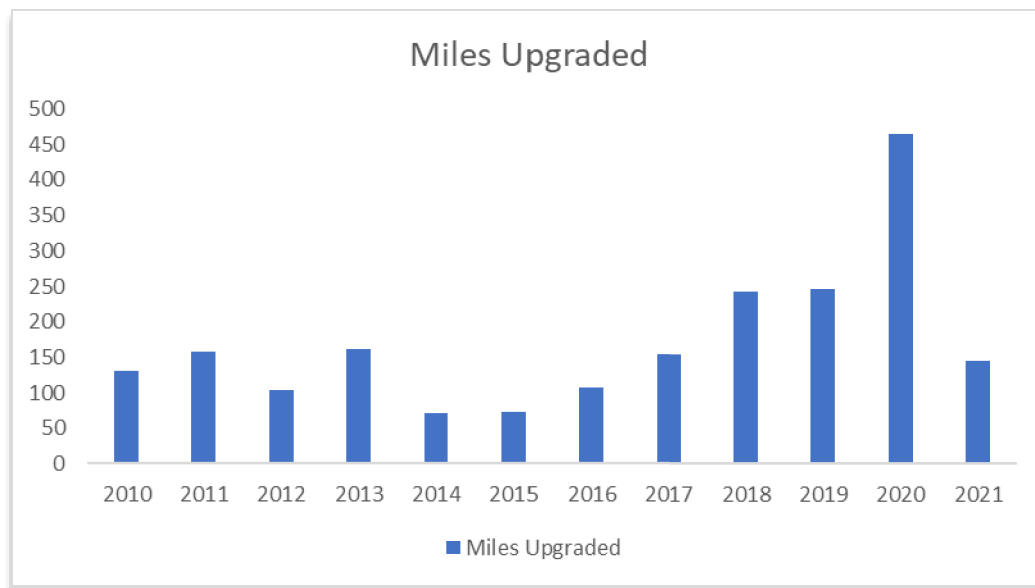
4 **Risks:** Catastrophic Damage Involving High-Pressure Pipeline Failure¹⁶

5 **Category:** Gas

6 **Units:** Miles

7 **Summary:**

**FIGURE 5-7
MILES OF PIPELINE UPGRADED (ANNUAL)**



8 **Narrative Context:** This metric measures the number of miles of complete
9 planned Traditional In-Line Inspection (ILI) Upgrade projects, including activities
10 that exceed current code requirements. Prior to running a Traditional ILI tool in
11 a pipeline, a pipeline must be modified with portals called “launchers” and
12 “receivers,” and pipeline features that would obstruct the passage of the tool to
13 make the pipeline piggable must be replaced.

14 Annual Traditional ILI upgrade mileage totals have increased in the last few
15 years. D.11-06-017, as codified by Pub. Util. Section 958, requires natural gas

¹⁶ The Corporate Risk Register now has the following risks: Loss of Containment on Gas Transmission Pipeline.

1 transmission pipelines in California be capable of ILIs, where warranted. ILI is
2 the most reliable pipeline integrity assessment tool currently available to natural
3 gas pipeline operators to assess the internal and external condition of
4 transmission line pipe. In 2020, PG&E upgraded 464.2 miles of pipe which is a
5 352 percent increase compared to 102.7 miles inspected in 2012. However,
6 there has been a downtick in 2021 with 145.6 miles of pipe being upgraded by
7 PG&E due to having only one upgrade segment spanning greater than 40 miles.

8 There are three major phases to an ILI Program. This metric is to track
9 progress on the first phase, which involves modifying or upgrading the existing
10 pipeline system to accommodate a traditional ILI tool. PG&E refers to this as
11 “Traditional ILI Upgrades,” which involve capital improvements to make the
12 pipelines piggable. It includes installing pig launchers and receivers in
13 appropriate locations to introduce and remove the cleaning and ILI tools from the
14 inside of the pipeline. It also includes replacing certain segments of pipe,
15 valves, fittings or other appurtenances that, if left in the system, would obstruct
16 the movement of the tool through the pipeline.¹⁷

17 While the metric for this program is “miles upgraded,” the miles targeted for
18 a given year may vary greatly. The amount of work associated with Traditional
19 ILI Upgrades is based on projects and is not directly related to miles. This is the
20 reason that PG&E’s 2019 GT&S Rate Case forecast for the Traditional ILI
21 Upgrade Program was based on a cost per project basis and did not use the
22 length of projects as a forecasting basis.

23 To continuously focus on improving performance, metric results are reported
24 monthly and reviewed at leadership meetings and weekly huddles to discuss
25 results and act as needed. Projects completed in 2021 are on pace with rate
26 case targets and the Company’s plans to upgrade its transmission pipeline to
27 accommodate Traditional ILI tools on approximately 69 percent of its
28 transmission pipeline system by the end of 2036.

¹⁷ For instance, it involves replacing reduced port valves and other obstructions, such as drip tubes, miter bends, short-radius elbows, and unbarred tees from the pipeline.

1 **Is Metric Used for the Purposes of Determining Executive (Director Level**
2 **or Higher) Compensation Levels and/or Incentives?**

3 No, the Gas In-line Upgrade metric was not used as a Short-Term Incentive
4 Plan (STIP) metric for 2021.

5 **Is Metric Linked to the Determination of Individual or Group Performance**
6 **Goals?**

7 Yes, the Gas In-Line Upgrade metric is linked to 2021 individual or group
8 performance goals for one or more Director-level, or higher, positions.

9 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

10 Yes, in 2021 the following position(s) include individual performance goals
11 that are linked to the Gas In-Line Upgrade metric:

- 12 • **Senior Director:** Gas Operations (GO) (1); and
- 13 • **Senior Vice President:** GO (1).

14 **Bias Controls:** Monitoring controls exist for this metric. Metric results are
15 reported monthly by the GO Business Process Governance team and reviewed
16 at leadership meetings and huddles to discuss performance and take action. In
17 the event there is a resulting need for additional dollars or resources, approval
18 must be obtained from the GO Senior Leadership team at the Work, Finance
19 and Resource Committee meeting.

20 During the years that this metric was a STIP metric (2014-2018), on a
21 quarterly basis the GO Business Process Governance team worked to confirm
22 ILLI projects and mileage with various stakeholders. Mileage and unit capture
23 dates from the P6 scheduling database were verified by the GO Business
24 Process Governance team to ensure consistency with SAP and Engineering
25 records. A supporting documentation package for metric results was prepared
26 quarterly by the Business Process Governance team, then routed to Gas Senior
27 Leadership approval. The support packages were also reviewed quarterly by
28 Compensation and Internal Audit.

29 In 2021, the metric was no longer included as a STIP metric; however, the
30 review process established by the Business Process Governance team was
31 maintained.

1 **Rate Case Safety Goal Progress:** This safety metric does not support a 2020
2 GRC safety goal given this metric is a gas transmission, not distribution, related
3 metric. PG&E’s ILI Upgrade Program was included in PG&E’s 2019 GT&S Rate
4 Case testimony.¹⁸ As of 2021, approximately 46 percent of the system is
5 piggable. In 2021, PG&E inspected a total of 970.5 miles and upgraded
6 145.6 miles which is a three percent increase to overall piggable mileage.

7 **Monthly Data:** See Attachment A at the end of this report.

¹⁸ See 2019 GT&S Prepared Testimony, Chapter 5, pp. 5-20 through 5-31.

1 **Metric 8: Gas Shut-In Time – Mains**

2 **Metric Name and Description:** Gas Shut-In Time – Mains – Median time to
3 shut-in gas when an uncontrolled or unplanned gas release occurs on a main.
4 The data used to determine the median time shall be provided in increments as
5 defined in General Order 112-F 123.2 (c) as supplemental information, not as a
6 metric.

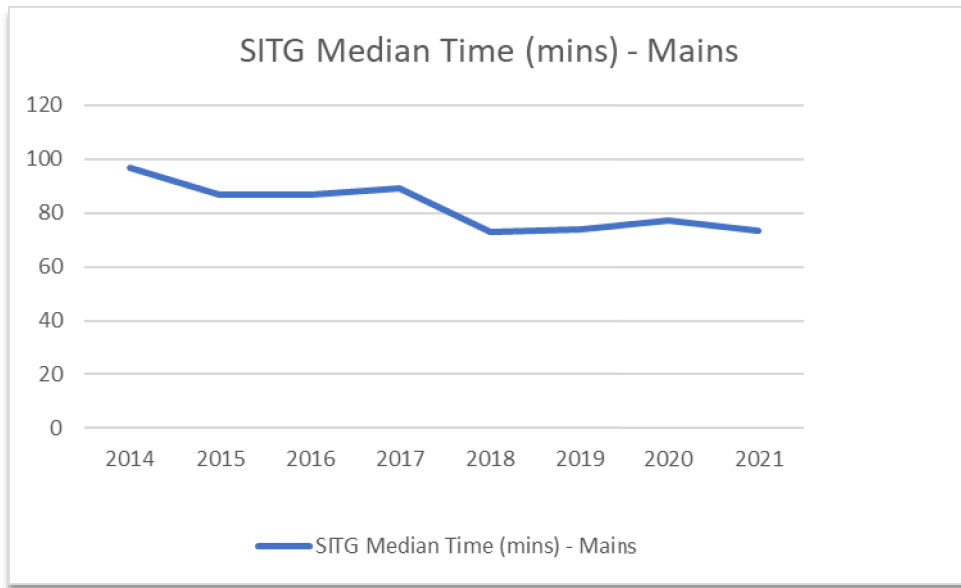
7 **Risks:** Distribution Pipeline Rupture with Ignition (non-Cross Bore)¹⁹

8 **Category:** Gas

9 **Units:** Time in minutes required to stop the flow of gas for Distribution Mains

10 **Summary:**

**FIGURE 5-8
SHUT IN THE GAS AVG TIME METRIC DATA (ANNUAL)**



11 **Narrative Context:** This metric measures the median time required for a
12 qualified PG&E responder to arrive onsite and stop the flow of gas as result of
13 damages impacting gas mains from PG&E’s distribution network.

14 In 2014, PG&E began to measure the time required for resources to
15 respond to and make safe instances of blowing gas on distribution mains.

¹⁹ The Corporate Risk Register now has the following risks: Loss of containment on Gas Distribution Main or Service.

1 Specifically measured are distribution events relating to dig-ins, vehicle impacts,
2 explosions and material failures. In 2014, considering from a median standpoint,
3 it required 97 minutes to respond to and make safe events involving distribution
4 mains. In 2021, this response time by PG&E has substantially improved to be
5 73.3 minutes leading to a reduction by almost 24 percent compared to 2014.

6 Metric results have improved and have been achieved through the following
7 process improvements implemented in the past nine years:

- 8 – Enhanced plastic squeeze capability from approximately 50 percent to all
9 Gas Service Representatives (GSR) < 1.5” plastic pipe;
- 10 – Provide yearly plastic squeeze training for all Field Service employees;
- 11 – Purchased and implemented emergency trailers in every division, allowing
12 for emergency equipment to be accessed quickly and easily;
- 13 – Purchased additional steel squeezers for 2-8” steel pipe (housed on
14 emergency trailers);
- 15 – Implemented Emergency Management tool (EM tool) to alert maintenance
16 and construction (M&C) of SITG events when notified by third-party
17 emergency organizations;
- 18 – Established concurrent response protocol (dispatch M&C and Field Service
19 resources) when notified by emergency agencies;
- 20 – Implemented 30-60-90-120+ minute communication protocols between Gas
21 Distribution Control Center (GDCC) and Incident Commander (IC) to ensure
22 consistent communication and issue escalation during events; and
- 23 – Tier 3 incident review meetings monthly to share best practices and review
24 long duration events.

25 **Is Metric Used for the Purposes of Determining Executive (Director Level**
26 **or Higher) Compensation Levels and/or Incentives?**

27 No, the Gas Shut-In Time – Main metric was not used as a Short-Term
28 Incentive Plan metric for year 2021.

29 **Is Metric Linked to the Determination of Individual or Group Performance**
30 **Goals?**

31 Yes, the Gas Shut-In Time – Mains metric is linked to 2021 individual or
32 group performance goals for one or more Director-level, or higher, positions.

1 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

2 Yes, in 2021, the following position(s) include individual performance goals
3 that are linked to the Gas Shut-In Time – Main metric.

- 4 • **Vice President:** Gas Operations (GO) (1); and
- 5 • **Senior Vice President:** GO (1).

6 **Bias Controls:** Dispatch incidents are logged and tracked in the EM tool
7 database. The most current system (administered through Dynamic 365, which
8 was implemented in 2018) automatically generates a change log for every
9 notification at the field level to ensure system controls and retention of record
10 history. The data is reviewed by the Gas Operations Business Process
11 Governance to ensure accuracy.

12 The metric definition for this metric including targets, target setting
13 methodology, and exclusions, are documented and approved by Gas Operations
14 Leadership. Metric results are reported monthly by the Gas Operations
15 Governance Controls and Metrics team and reviewed at leadership meetings to
16 discuss performance and take action. In the event there is a resulting need for
17 additional dollars or resources, approval must be obtained from the Gas
18 Operations Senior Leadership team at the Work, Finance and Resource
19 Committee meeting.

20 **Rate Case Safety Goal Progress:** This metric (improving the average time
21 required for PG&E to stop the flow of gas during incidents) supports the 2020
22 GRC safety goal of reducing the gas emergency response time.²⁰

23 **Monthly Data:** See Attachment A at the end of this report.

²⁰ See 2020 GRC Exhibit (PG&E-12), pp. 14-30 through 14-32.

1 **Metric 9: Shut In The Gas Average Time – Services**

2 **Metric Name and Description:** Shut In The Gas Average Time – Services—

3 The average time (measured in minutes) that a gas service representative
4 (GSR) or qualified first responder (Gas Crew, Leak Surveyor, etc.) takes to
5 respond and stop gas flow during incidents involving services. The timing for the
6 response starts when the utility first receives the report and ends when the
7 utility’s qualified representative determines, per the utility’s emergency
8 standards, that the reported leak is not hazardous or the utility’s representative
9 completes actions to mitigate a hazardous leak and render it as being
10 non-hazardous (i.e., by shutting-off gas supply, eliminating subsurface leak
11 migration, repair, etc.) per the utility’s standards.

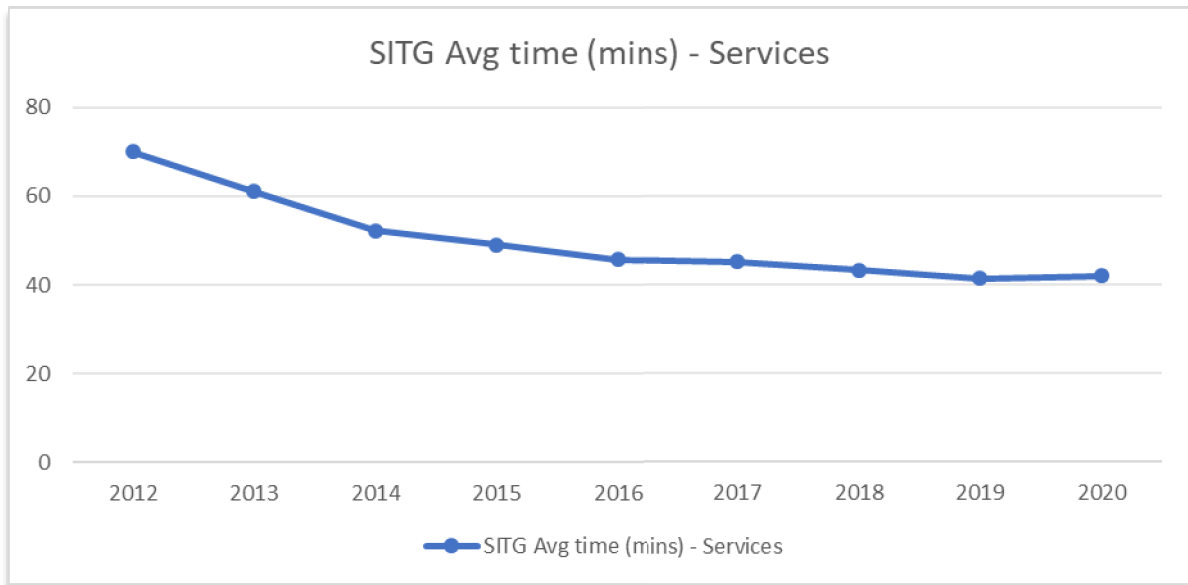
12 **Risks:** Distribution Pipeline Rupture with Ignition (non-Cross Bore)²¹

13 **Category:** Gas

14 **Units:** Average (median) response time in minutes

15 **Summary:**

FIGURE 5-9
SITG AVG TIME METRIC DATA (ANNUAL)



²¹ The Corporate Risk Register now has the following risks: Loss of Containment on Gas Distribution Main or Service.

1 **Narrative Context:** In 2012, PG&E began to measure the time required to
2 respond to and make safe instances of blowing gas on distribution services.
3 Specifically measured are distribution events relating to dig-ins, vehicle impacts,
4 explosions, material failures and pipeline leaks. In 2012, on average it required
5 70 minutes to respond to and make safe events involving distribution services.
6 From 2012-2020, that required time has been reduced by 40 percent from
7 70 minutes down to 41.9 minutes in 2020. Metric results have improved and
8 have been achieved through the following process improvements implemented
9 during the past eight years:

- 10 • Enhanced plastic squeeze capability from ~50 percent to all GSRs < 1.5”
11 plastic pipe;
- 12 • Provide yearly plastic squeeze training for all Field Service employees;
- 13 • Purchased and implemented emergency trailers in every division, allowing
14 for emergency equipment to be accessed quickly and easily;
- 15 • Purchased additional steel squeezers for 2-8” steel pipe (housed on
16 emergency trailers);
- 17 • Implemented Emergency Management tool (EM) tool to alert M&C of SITG
18 events when notified by third-party emergency organizations;
- 19 • Established concurrent response protocol (dispatch M&C and Field Service
20 resources) when notified by emergency agencies;
- 21 • Implemented 30-60-90-120+ minute communication protocols between
22 GDCC and IC to ensure consistent communication and issue escalation
23 during events; and
- 24 • Tier 3 incident review meetings monthly to share best practices and review
25 long duration events.

26 **Is Metric Used for the Purposes of Determining Executive (Director Level**
27 **or Higher) Compensation Levels and/or Incentives?**

28 No, the Shut In The Gas Average Time – Services metric was not used as a
29 Short-Term Incentive Plan metric for 2020.

1 **Is Metric Linked to the Determination of Individual or Group Performance**
2 **Goals?**

3 Yes, the Shut In The Gas Average Time – Services metric is linked to 2021
4 individual or group performance goals for one or more Director-level, or higher,
5 positions.

6 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

7 Yes, in 2021, the following position(s) include individual performance goals
8 that are linked to the Gas Average Time – Services metric:

- 9 • **Vice President:** Gas Operations (GO) (1); and
- 10 • **Senior Vice President:** GO (1).

11 **Bias Controls:** Dispatch incidents are logged and tracked in the EM tool
12 database. The most current system (administered through Dynamic 365 which
13 was implemented in 2018) automatically generates a change log for every
14 notification down to the field by field basis to ensure system controls and
15 retention of record history. The data is reviewed by the process team to ensure
16 accuracy.

- 17 • Monitoring controls also exist for this metric. The metric definition for this
18 metric including targets, target setting methodology, and exclusions, are
19 documented and approved by Gas Operations Leadership. Metric results
20 are reported monthly by the Gas Operations Business Process Governance
21 team and reviewed at leadership meetings and huddles to discuss
22 performance and take action. In the event there is a resulting need for
23 additional budget or resources, approval must be obtained from the
24 Gas Operations Senior Leadership team at the Work, Finance and
25 Resource Committee meeting.

1 **Rate Case Safety Goal Progress:** This metric (improving the average time
2 required for PG&E to stop the flow of gas during incidents) supports the 2020
3 General Rate Case (GRC) safety goal of reducing the gas emergency response
4 time.²² The metric supports PG&E’s target for this safety goal, which is set at
5 21.00 minutes, and is based on historical performance, benchmarking data, and
6 PGE’s public safety goal.

7 **Monthly Data:** See Attachment A at the end of this report.

²² See 2020 GRC Exhibit (PG&E-12), pp. 14-30 through 14-32.

1 **Metric 10: Cross Bore Intrusions**

2 **Metric Name and Description:** Cross Bore Intrusions – Cross bore intrusions
3 found per 1,000 inspections, reported on an annual basis.

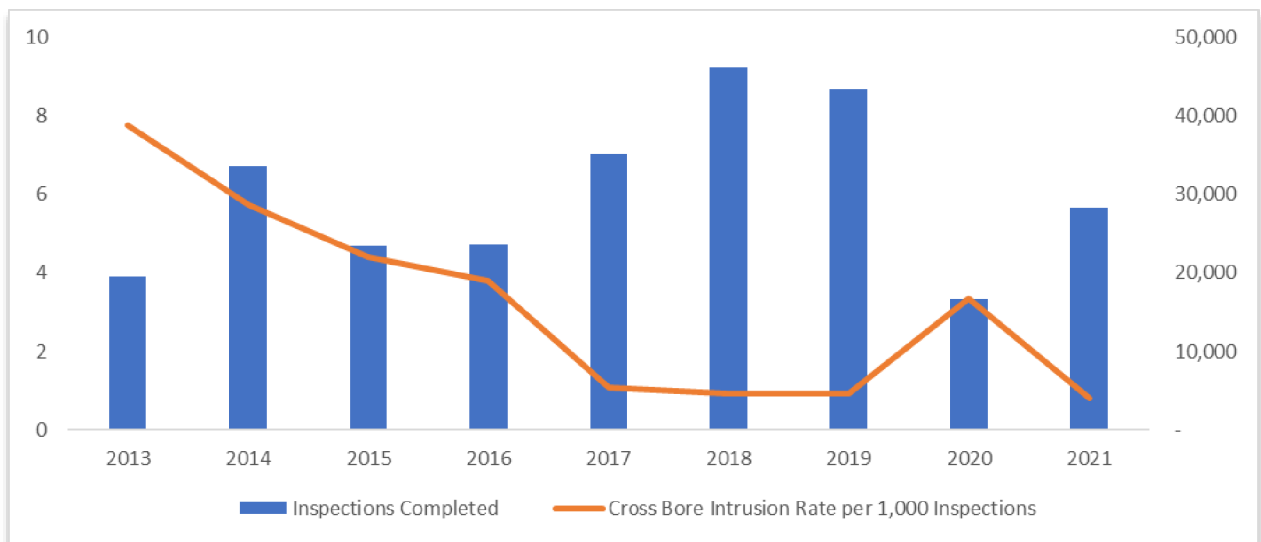
4 **Risks:** Catastrophic Damage Involving Pipeline Failure²³

5 **Category:** Gas

6 **Units:** Number of cross bore intrusions per 1,000 inspections

7 **Summary:**

**FIGURE 5-10
CROSS BORE INTRUSIONS PER 1,000 INSPECTIONS (ANNUAL)**



8 **Narrative Context:** The Cross Bore Intrusion metric measures the number of
9 cross bores found per 1,000 inspections. A cross bore refers to a gas main or
10 service that has been installed unintentionally, using trenchless technology,
11 through a wastewater or storm drain system. Inspections refer to inspection of
12 potential conflict locations and repair occurrences of cross bore discoveries in
13 any location within PG&E territory. Cross bores pose a risk as they can result in
14 a gas leak into the sewer system if damaged during mechanical sewer cleaning
15 operations which may result in loss of containment and potential migration and

²³ The Corporate Risk Register now has the following risks: Loss of Containment on Gas Distribution Main or Service.

1 ignition of gas. The risk is mitigated by repairing the cross bore after finding it by
2 inspection.

3 There was an uptick in the find rate and a decrease in the number of
4 inspections completed in 2020 compared to prior years due to a focus on
5 completing work in the City of San Francisco. This area has been identified as
6 the highest risk of potential legacy cross bores, but it is also one of the most
7 difficult geographic locations to perform inspections, which resulted in slower
8 production. However, in 2021, the number of cross bores found is the lowest
9 compared to prior years. This led to a 76% decrease in find rate in 2021
10 compared to 2020.

11 **Is Metric Used for the Purposes of Determining Executive (Director Level**
12 **or Higher) Compensation Levels and/or Incentives?**

13 No, the Cross Bore Intrusions metric was not used as a Short-Term
14 Incentive Plan metric for 2021.

15 **Is Metric Linked to the Determination of Individual or Group Performance**
16 **Goals?**

17 Yes, the Cross Bore Intrusions metric is linked to 2021 individual or group
18 performance goals for one or more Director-level, or higher, positions.

19 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

20 Yes, in 2021, the following position(s) include individual performance goals
21 that are linked to the Cross Bore Intrusions metric.

- 22 • **Director:** Gas Operations (1).

23 **Bias Controls:** Cross bore inspection counts are logged and tracked within
24 SAP as work is complete based on clerical updates from the field. A validation
25 is conducted by the Distribution Operations team to ensure units and work type
26 are correctly coded (inspection vs. repair) within the database. Cross bores
27 found are logged by the field and tracked by the Cross Bore Program
28 management team. When a potential cross bore intrusion is located, field
29 personnel will contact the Cross Bore Program management team and will also
30 call PGE-5000. This triggers a response for a Gas Service Representative and
31 Locate and Mark operator to help validate the intrusion.

- 1 **Rate Case Safety Goal Progress:** This safety metric does not support a stated
- 2 safety goal in the 2020 GRC.

- 3 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 11: Gas Emergency Response Time**

2 **Metric Name and Description:** Gas Emergency Response Time – The
3 average and median time in minutes a gas service representative (GSR)
4 (or qualified first responder) takes to respond to a gas-related emergency
5 notification, from the time of notification to the time of onsite arrival. Emergency
6 notifications include all notifications originating from 911 calls and calls made
7 directly to the utility’s safety hotlines. The data used to determine the average
8 and median time shall be provided in increments as defined in General Order
9 112-F 123.2 (c) as supplemental information, not as a metric. This information is
10 identical to that of which is included in our Gas Emergency Response BPR and
11 is excel data.

12 **Risks:** Distribution Pipeline Rupture with Ignition²⁴

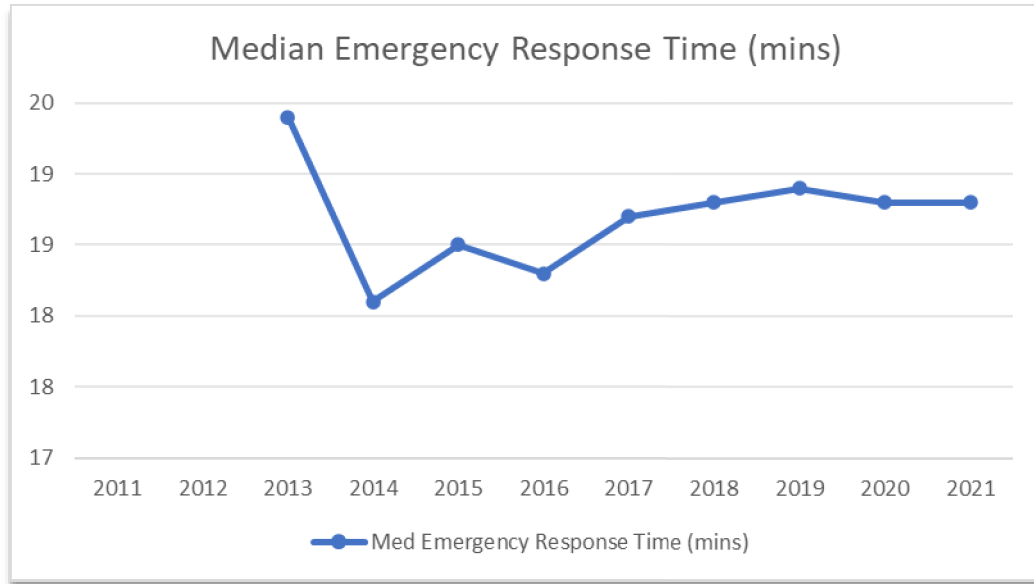
13 **Category:** Gas

14 **Units:** The time in minutes that a GSR (or a qualified first responder) takes to
15 respond after receiving a call which results in an emergency order.

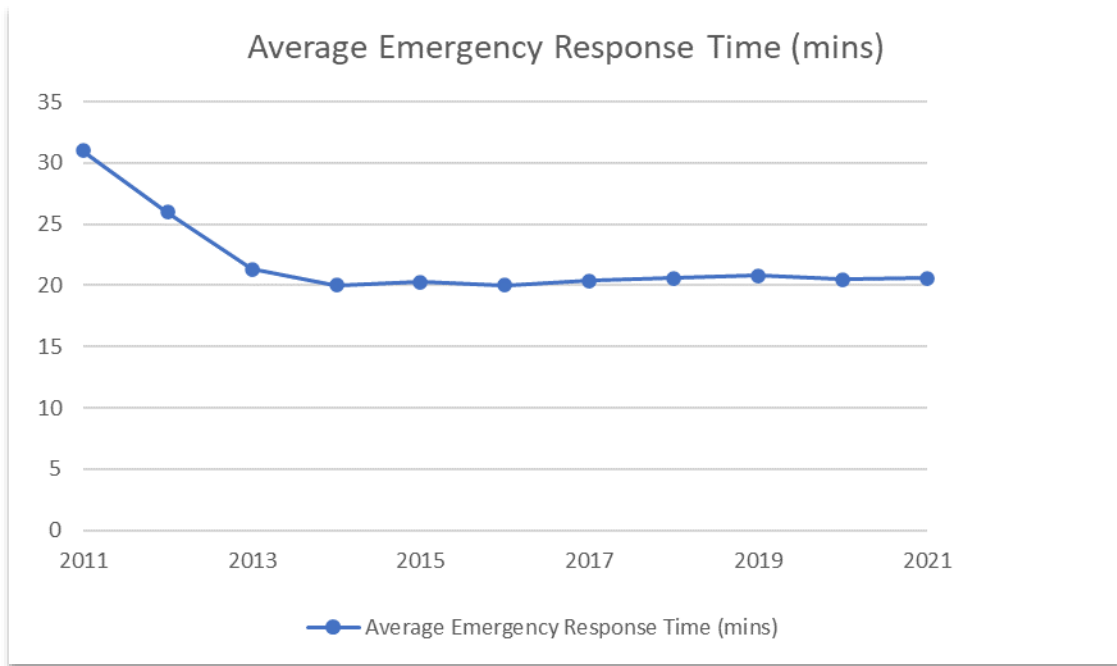
²⁴ The Corporate Risk Register now has the following risks: Loss of Containment on Gas Distribution Main or Service.

Summary:

**FIGURE 5-11A
MEDIAN EMERGENCY RESPONSE TIME (ANNUAL)**



**FIGURE 5-11B
AVERAGE EMERGENCY RESPONSE TIME (ANNUAL)**



1 **Narrative Context:** The average response time is measured from the time
2 PG&E is notified of the gas emergency order/immediate response (IR) until a
3 GSR or a qualified first responder arrives onsite to the emergency location
4 (including Business Hours and After Hours). PG&E has maintained steady
5 performance for the last several years. From 2011-2021, there has been a
6 33 percent decrease in the average response time. From 2013-2021, the
7 median time to respond to respond on-site to a gas emergency notification
8 improved by 3 percent. To continuously focus on improving performance, metric
9 results are reported monthly and reviewed at leadership meetings and weekly
10 huddles to discuss results and act as needed.

11 **Is Metric Used for the Purposes of Determining Executive (Director Level
12 or Higher) Compensation Levels and/or Incentives?**

13 Yes, the Gas Emergency Response Time metric was used as a Short-Term
14 Incentive Plan metric for 2021.

15 **Is Metric Linked to the Determination of Individual or Group Performance
16 Goals?**

17 Yes, the Gas Emergency Response Time metric is linked to 2021
18 performance goals for one or more Director-level position or higher.

19 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

20 Yes, the Gas Emergency Response Time metric linked to all individual goals
21 as part of 2021 STIP plan. In addition, this metric may be included as part of an
22 individual's performance goals.

23 **Bias Controls:** All response times to emergency calls are reviewed by the IR
24 team to determine appropriate exclusions, and the average response time is
25 calculated. Response times are captured electronically using PG&E's Field
26 Automation System and are verified on a sample basis.

27 Monitoring controls also exist for this metric. The metric definition for this
28 metric including targets, target setting methodology, and exclusions, are
29 documented and approved by Gas Operations Leadership. Metric results are
30 reported monthly by the Gas Operations Business Process Governance team
31 and reviewed at leadership meetings to discuss performance and take action. In
32 the event there is a resulting need for additional dollars or resources, approval

1 must be obtained from the Gas Operations Senior Leadership team at the Work,
2 Finance and Resource Committee meeting.

3 On a quarterly basis, a report package is prepared by the IR team, reviewed
4 by the Business Process Governance team, then routed for Gas Operations
5 Senior Leadership approval. The report package is also reviewed quarterly by
6 Compensation and Internal Audit.

7 **Rate Case Safety Goal Progress:** This safety metric does not support a
8 2020 GRC safety goal.

9 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 12: Natural Gas Storage Baseline Assessments Performed**

2 **Metric Name and Description:** Natural Gas Storage Baseline Assessments
3 Performed – Tracks the progress of completing baseline and reassessment
4 inspections that were expected to be completed within a given year. It reports
5 the number of storage well baseline assessments completed as a percentage of
6 the number scheduled to be completed in the period. The number scheduled
7 will depend on any regulatory required inspections as well as any initiated by the
8 utility.

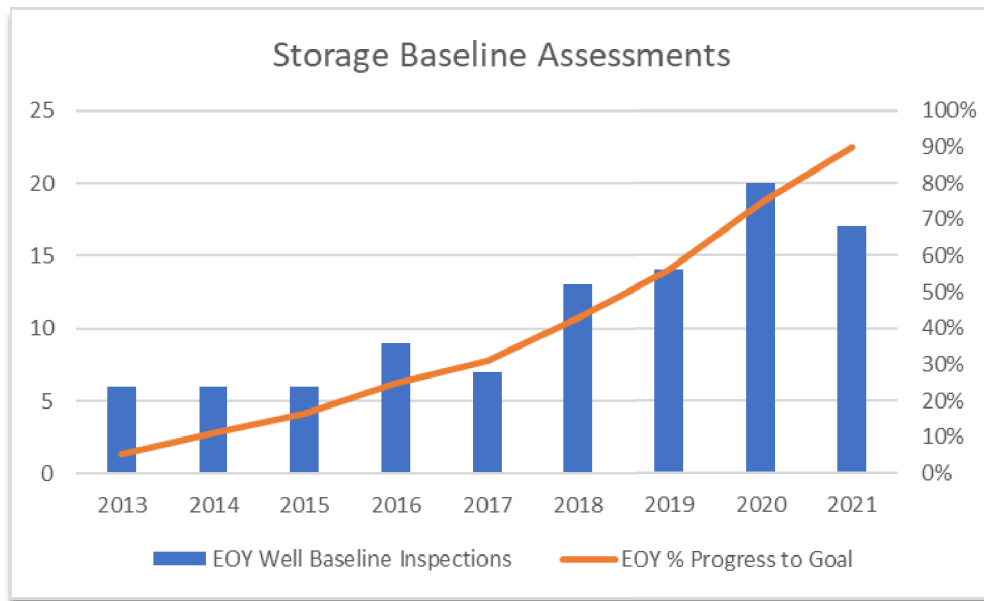
9 **Risks:** Gas Storage²⁵

10 **Category:** Gas

11 **Units:** Number of Assessments completed/Number scheduled or targeted

12 **Summary:**

**FIGURE 5-12
STORAGE BASELINE WELL ASSESSMENTS (ANNUAL)**



25 The Corporate Risk Register now has the following risks: Loss of Containment at Natural Gas Storage Well or Reservoir.

1 **Narrative Context:** The Natural Gas Storage Baseline Inspections metric
2 measures the number of baseline well assessments performed since 2013.
3 PG&E planned to complete baseline well production casing assessments on
4 109 wells by 2025 per objectives defined in PG&E's Gas Storage Asset
5 Management Plan and also adjusted to incorporate an accelerated pace
6 required by regulation changes in the storage industry at both federal and state
7 levels. In 2021, PG&E completed 17 well baseline inspections leading to
8 baseline inspections complete on a total of 98 wells from 2013-2021. Thus,
9 PG&E has completed approximately 90 percent of the assessments and is on
10 track in meeting its goals outlined in PG&E's revised plan submitted to the
11 California Geologic Energy Management Division (CalGEM, previously the
12 California Division of Oil, Gas and Geothermal Resources (DOGGR)) for their
13 review and approval January 15, 2021. Further, wells that were inspected in
14 2013-2016 must be re-baselined using additional well inspection baselining tools
15 that are now required under the new regulations, effective October 2018. The
16 revised plan proposes completion of baseline casing inspections under the full
17 inspection tool suite by 2024; all wells will have been baselined with the original
18 tool by 2023. This plan has been accelerated per the request of CalGEM and is
19 pending their approval.

20 **Is Metric Used for the Purposes of Determining Executive (Director Level**
21 **or Higher) Compensation Levels and/or Incentives?**

22 No, the Natural Gas Storage Baseline Inspections Performed metric was not
23 used as a Short-Term Incentive Plan metric for 2021.

24 **Is Metric Linked to the Determination of Individual or Group Performance**
25 **Goals?**

26 Yes, the Natural Gas Storage Baseline Inspections Performed metric is
27 linked to 2021 individual or group performance goals for one or more
28 Director-level, or higher, positions.

1 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

2 Yes, in 2021, the following position(s) include individual performance goals
3 that are linked to the Natural Gas Storage Baseline Inspections Performed
4 metric.

- 5 • **Director:** Gas Engineering (1).

6 **Bias Controls:** Data Integrity – Project completion (assessment complete) is
7 tracked in the P6 scheduling tool and database and the Reservoir Engineering
8 team is responsible for validating that the assessment is a first-time inspection
9 and not a reinspection of the same well. CalGEM is also responsible for
10 validating work completion as well inspection log survey results must be
11 submitted as part of regulation.

12 **Rate Case Safety Goal Progress:** This safety metric does not support a 2020
13 GRC safety goal given this metric is a gas storage, not distribution, related
14 metric. PG&E’s 2019 GT&S Rate Case forecast was based on the final draft
15 CalGEM (previously DOGGR) regulations available at the time of the filing.
16 PG&E’s plan reflected casing inspections (a.k.a. barrier inspection surveys) be
17 performed every other year starting in 2019; due to the pending nature of the
18 draft regulations PG&E tentatively forecast to perform them on half of the
19 storage wells in each year; however, filed a brief following publication of final
20 regulations that had previously been interpreted to allow inspection work to be
21 coupled with the conversion to dual barrier over a 7-year period. The Division
22 has changed leadership and that interpretation has shifted, and PG&E is
23 currently engaged with the CalGEM staff to find an inspection schedule that is
24 accelerated to the Division’s satisfaction and also maintains reliability for
25 California’s natural gas system. In addition, as a result of PG&E’s Natural Gas
26 Storage Strategy, PG&E did not forecast to conduct integrity inspection and
27 surveys at the Los Medanos or Pleasant Creek storage wells during the rate
28 case period, however, inspections at each facility have been conducted during
29 the rate case period as the facilities were subject to the final CalGEM
30 regulations.

31 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 13: Gas Pipelines That Can Be Internally Inspected**

2 **Metric Name and Description:** Gas Pipelines That Can Be Internally
3 Inspected – Total miles and percent of system that can be internally inspected
4 (“pigged”) relative to all transmission pipelines in the system.

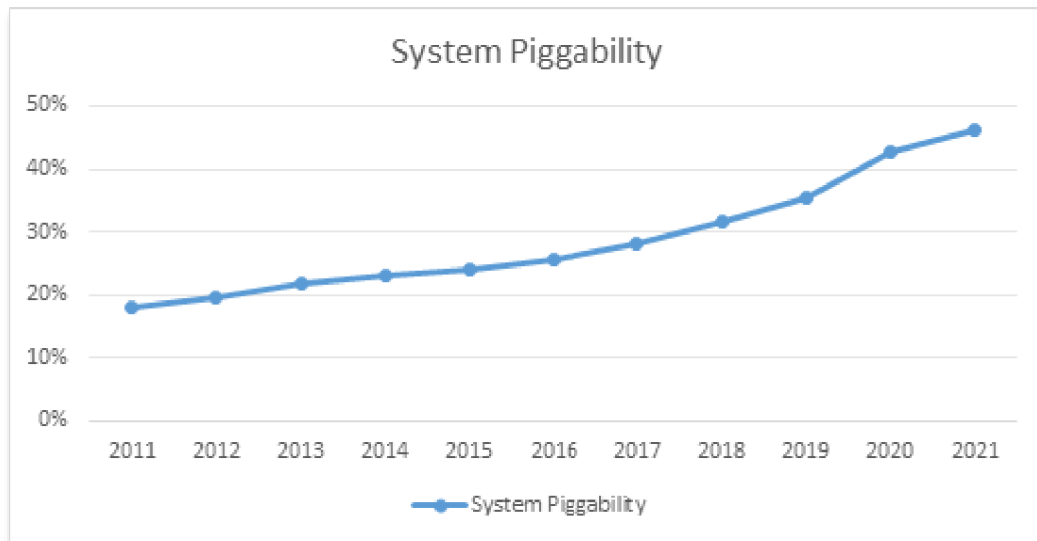
5 **Risks:** Catastrophic Damage Involving High-Pressure Pipeline Failure

6 **Category:** Gas

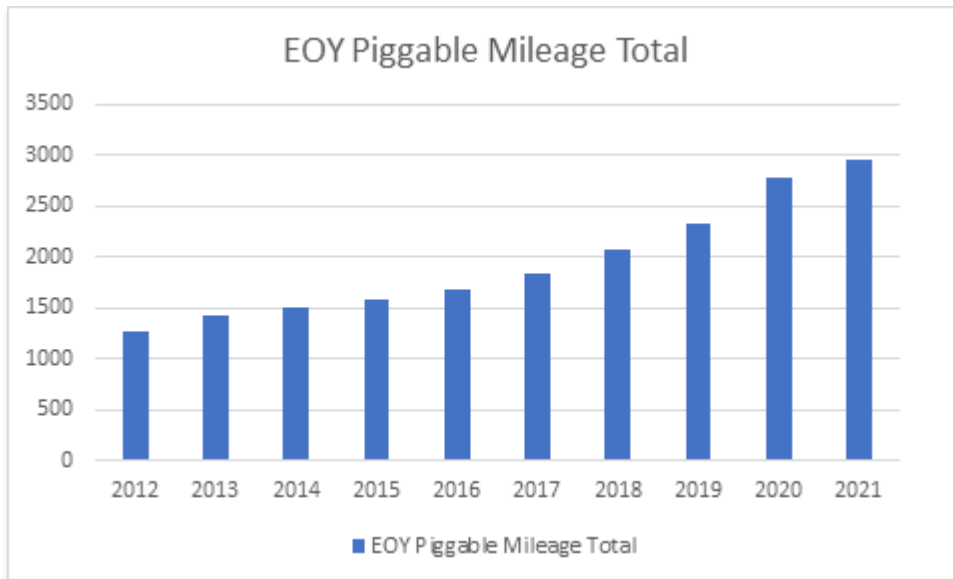
7 **Units:** Miles and percentage

8 **Summary:**

FIGURE 5-13A
GAS PIPELINES THAT CAN BE INTERNALLY INSPECTED (ANNUAL)



**FIGURE 5-13B
GAS PIPELINES THAT CAN BE INTERNALLY INSPECTED (ANNUAL)**



1 **Narrative Context:** In-Line Inspection (ILI) is the most reliable pipeline integrity
2 assessment tool currently available to natural gas pipeline operators to assess
3 the internal and external condition of transmission line pipe. From 2012-2021,
4 there has been an approximate 26 percent increase in system piggability. As of
5 2021, approximately 46 percent of the system is piggable. In 2021, PG&E
6 inspected a total of 970.5 miles and upgraded 145.6 miles, for a total of
7 2,957 system piggable miles. This is a three percent increase to overall
8 piggable mileage.

9 **Is Metric Used for the Purposes of Determining Executive (Director Level
10 or Higher) Compensation Levels and/or Incentives?**

11 No, the Gas Pipelines That Can Be Internally Inspected metric was not used
12 as a STIP metric for 2021.

13 **Is Metric Linked to the Determination of Individual or Group Performance
14 Goals?**

15 Yes, the Gas Pipelines That Can Be Internally Inspected metric is linked to
16 2021 Individual or Group Performance Goals for one or more Director-level, or
17 higher, positions.

1 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

2 Yes, in 2021, the following position(s) include individual performance goals
3 that are linked to the Gas Pipelines That Can Be Internally Inspected metric.

- 4 • **Director:** Gas Engineering (1)
- 5 • **Senior Director:** Gas Engineering (1)
- 6 • **Senior Vice President:** Gas Engineering (1)

7 **Bias Controls:** Monitoring controls exist for this metric. Metric results are
8 reported monthly by the Gas Operations Business Process Governance team
9 and reviewed at leadership meetings and huddles to discuss performance and
10 take action. In the event there is a resulting need for additional dollars or
11 resources, approval must be obtained from the Gas Operations Senior
12 Leadership team at the Work, Finance and Resource Committee meeting.

13 During the years that this metric was a STIP metric (2014-2018), on a
14 quarterly basis the Gas Operations Business Process Governance team worked
15 to confirm ILI projects and mileage with various stakeholders. Mileage and unit
16 capture dates from the P6 scheduling database were verified by the Gas
17 Operations Business Process Governance team to ensure consistency with SAP
18 and Engineering records. A supporting documentation package for metric
19 results was prepared quarterly by the Business Process Governance team, then
20 routed to Gas Senior Leadership approval. The support packages were also
21 reviewed quarterly by Compensation and Internal Audit.

22 **Rate Case Safety Goal Progress:** This safety metric does not support a 2020
23 GRC safety goal given this metric is a gas transmission, not distribution, related
24 metric. PG&E's ILI Upgrade Program was included in PG&E's 2019 GT&S Rate
25 Case testimony.²⁶ In 2021 and 2022, PG&E forecasts Traditional ILI Upgrades
26 for an additional approximately 881 miles, bringing the total piggable mileage to
27 approximately 3,697 miles (~56 percent of the system) by the end of 2022. As
28 of 2021, approximately 46 percent of the system is piggable. In 2021, PG&E
29 inspected a total of 970.5 miles and upgraded 145.6 miles which is a three
30 percent increase to overall piggable mileage.

26 See 2019 GT&S Prepared Testimony, Chapter 5, pp. 5-20 through 5-31.

1 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 14: Employee DART Rate**

2 **Metric Name and Description:** Employee DART Rate – DART Rate is
3 calculated based on number of OSHA-recordable injuries resulting in Days Away
4 from work and/or Days on Restricted Duty or Job Transfer, and hours worked.

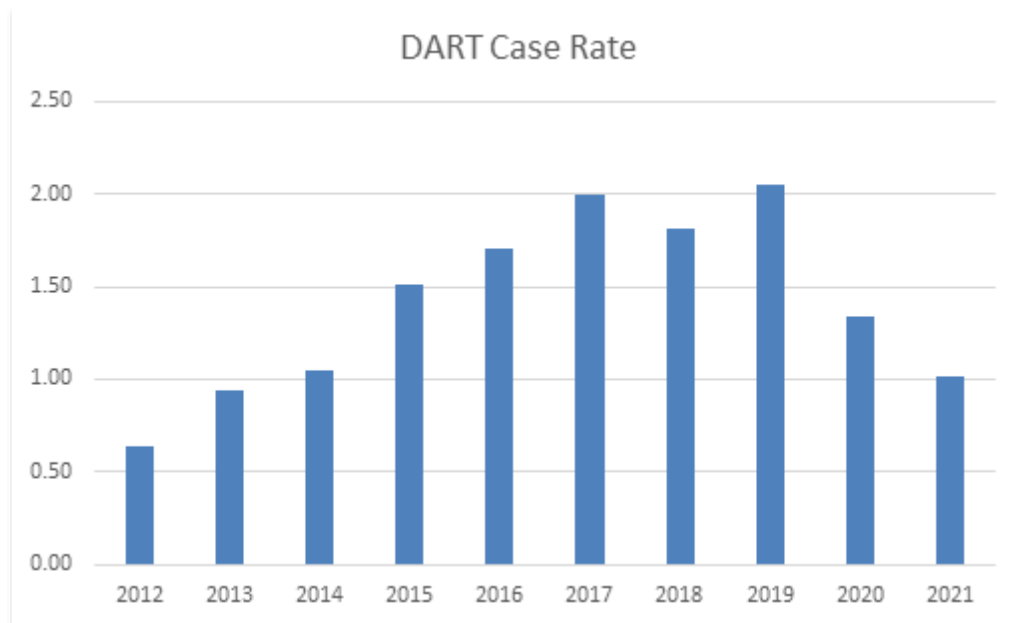
5 **Risks:** Employee Safety Incident²⁷

6 **Category:** Injuries

7 **Units:** DART Cases times 200,000 divided by employee hours worked

8 **Summary:**

**FIGURE 5-14
EMPLOYEE DART CASE RATE METRIC DATA (ANNUAL)**



9 **Narrative Context:** PG&E began tracking the employee DART Case Rate in
10 2011. This metric showed an incline from 2012 until 2019 driven primarily by
11 restricted duty cases related to sprains and strains. Since 2019, there has been
12 a 50 percent decrease in the DART rate. Efforts supporting a reduction in the
13 metric include the continued implementation of our on-site clinics strategy, and
14 increasing Industrial Athlete Specialists for job site evaluation. A primary goal of
15 the efforts is to provide injury prevention and early intervention care for
16 employees. In alignment with this, we are strengthening the identification of the

²⁷ The Corporate Risk Register includes the following risk: Employee Safety Incident.

1 highest risk work groups for vehicle ergonomic injuries and computer use, and
2 providing our people leaders with additional injury management training. We
3 also required at-home ergonomic workstation evaluations throughout the
4 pandemic.

5 **Is Metric Used for the Purposes of Determining Executive (Director Level**
6 **or Higher) Compensation Levels and/or Incentives?**

7 Yes, the Employee DART Rate metric was used as a STIP metric for 2021.
8 This metric included LOB specific DART Rates for Electric Operations, Gas
9 Operations, and Generation, with targets that supported the Enterprise-wide
10 DART goal.

11 **Is Metric Linked to the Determination of Individual or Group**
12 **Performance Goals?**

13 Yes, the Employee DART Rate metric is linked to 2021 individual
14 performance goals for one or more Director-level position or higher.

15 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

16 Yes, in 2021, the DART rate metric was linked to Executive positions as a
17 STIP metric.

18 **Bias Controls:** Yes. OSHA regulates the definition of a DART case and we
19 rely on the physician determination of work relatedness and need for time off or
20 restricted duty. Internal Audit completed an audit of the DART classifications in
21 2019 to verify that bias controls are in place and effective.

22 **Rate Case Safety Goal Progress:** The metric is stated in 2020 GRC Safety
23 and Health chapter (Chapter 1).²⁸ The year-end target for DART rate in 2021
24 was 0.91. The end of year target for 2022 is 0.86. As previously mentioned,
25 since 2019 there has been a 50 percent decrease in the employee DART rate.
26 The annual average number of DART cases were used in the 2020 RAMP
27 model consequence analysis for the Employee Safety Incident risk.²⁹ RAMP

²⁸ PG&E 2020 GRC Exhibit (PG&E-7), Chapter 1, Safety and Health , p. 1-19.

²⁹ PG&E 2020 RAMP Report, Chapter 16, Risk Mitigation Plan: Employee Safety Incident.

1 model results for the risk reduction programs being implemented indicate a
2 reduction in employee DART cases through 2026.

3 The 12-month rolling average DART case rate is a Key Risk Indicator for the
4 Employee Safety Incident risk. This metric is track and trend only.

5 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 15: Rate of Serious Injuries or Fatalities (SIF) Actual (Employee)**

2 **Metric Name and Description:** Rate of SIF Actual (Employee) is calculated
3 using the formula: Number of SIF-Actual cases among employees x 200,000/
4 employee hours worked, where SIF Actual is counted using the methodology
5 developed by the Edison Electric Institute’s (EEI) Occupational Safety and
6 Health Committee (OS&HC) Safety and Classification Learning (SCL) Model.

7 If a utility has implemented a replicable substantially similar evaluation
8 methodology for assessing SIF Actual, the utility may use that method for
9 reporting this metric. If a utility opts to report the rate of SIF Actual using a
10 method other than the EEI Safety Classification Model, it must explain how its
11 methodology for counting SIF Actual differs and why it chose to use it.

12 As a supplemental reporting requirement to the SIF Actual (SIF-A) Rate for
13 comparative purposes, all utilities shall also provide SIF-A data based on
14 California Division of Occupational Safety and Health (Cal/OSHA) reporting
15 requirements under Section 6409.1 of the California Labor Code.

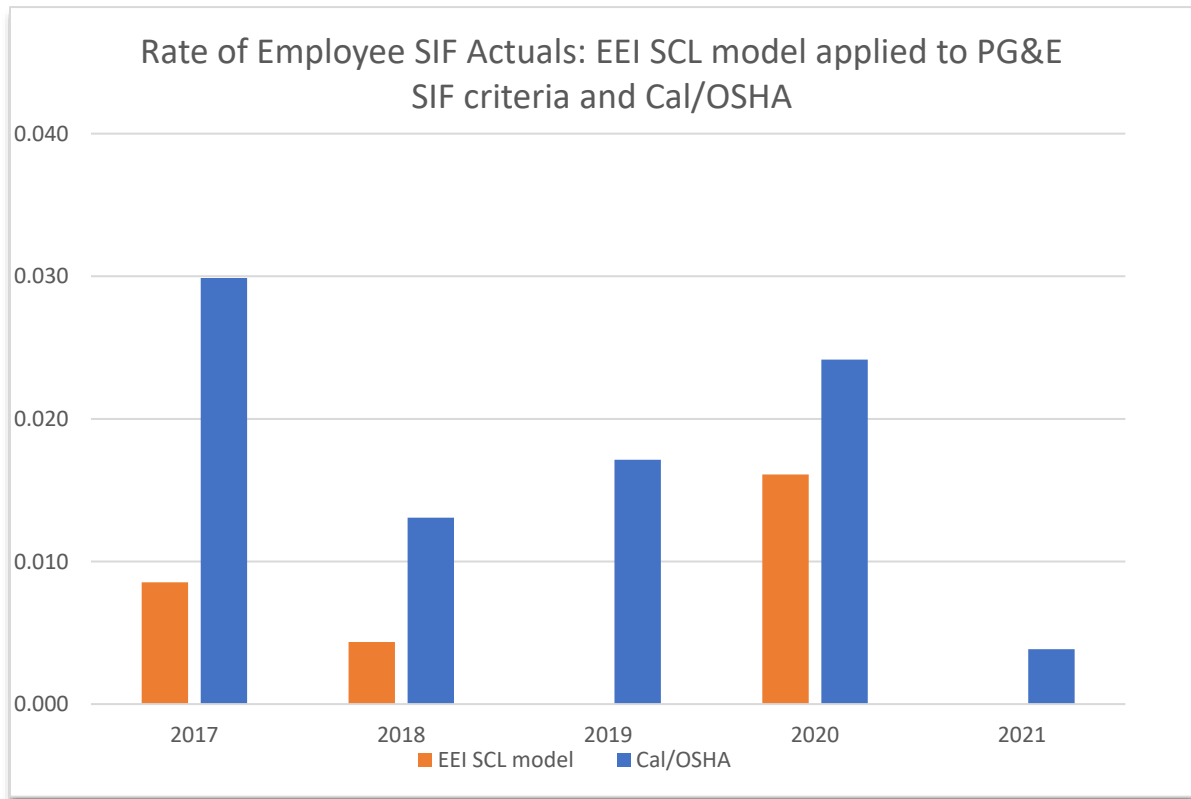
16 **Risks:** Employee Safety Incident

17 **Category:** Injuries

18 **Units:** Rate of SIF-Actual (SIF-A) cases among employees x 200,000/employee
19 hours worked

1 **Summary:**

FIGURE 5-15
RATE OF SIF ACTUAL (EMPLOYEE) EEI SCL MODEL AND CAL/OSHA^(a)
DEFINITIONS COMPARISON



(a) Per Cal/OSHA, a serious injury or illness is defined as one involving inpatient hospitalization, regardless of length of time, for other than medical observation or diagnostic testing; amputation; loss of an eye; or serious degree of permanent disfigurement.

2 **Narrative Context:** Pacific Gas and Electric Company's (PG&E or the
3 Company) SIF Program was deployed at the end of 2016 to establish a
4 classification and cause evaluation process for coworker and contractor serious
5 injuries or fatalities.³⁰ The goal of PG&E's SIF Program is to reduce the number
6 and severity of safety incidents that result in a SIF. The program objective is to
7 learn from safety incidents by performing cause evaluations on each SIF-Actual

30 Per I.14-08-022, Kern Order Instituting Investigation (Kern OII) (Aug. 28, 2014) Settlement Agreement with California Public Utilities Commission (CPUC) see D.15-07-014.

1 (SIF-A) and SIF Potential (SIF-P) incident, implementing corrective actions, and
2 sharing key findings across the enterprise.

3 In August of 2020, PG&E adopted Edison Electric International’s (EEI) Safety
4 Classification Learning (SCL) Model to mature classification of its SIF
5 incidents.³¹ Adopting the EEI SCL Model has improved PG&E’s SIF Program
6 by bringing a consistent and objective approach to reviewing and classifying SIF
7 incidents and identifying high-energy tasks. The EEI SCL model does not
8 directly define a SIF-A, rather it classifies incidents into categories: High-Energy
9 SIF (HSIF),³² Low-Energy SIF (LSIF),³³ Potential SIF (PSIF),³⁴ Capacity,³⁵
10 Exposure,³⁶ Success,³⁷ and Low Severity.³⁸ The HSIF terminology is fairly
11 new to the industry; however, it is equivalent to a SIF-A with regard to how
12 serious life threatening, life-altering or fatalities are determined.³⁹

13 While PG&E uses the EEI SCL model methodology to classify and track SIF-A
14 incidents, PG&E’s SIF Program differs slightly from the EEI model in that PG&E
15 includes all types of Motor Vehicle Incidents (MVI) in its SIF counts, whereas the
16 EEI SCL model does not.⁴⁰ PG&E believes that all MVIs (even where any injury

31 See, SCL Model at <https://esafetyline.net/eei/docs/eeiSCLmodel.pdf> at p. 17.

32 *Id.* at p. 17, HSIF is defined as: “Incident with a release of high energy in the absence of a direct control where a serious injury is sustained.”

33 *Id.* at p. 17, LSIF is defined as: “Incident with a release of low energy in the absence of a direct control where a serious injury is sustained.”

34 *Id.* at p. 17, PSIF is defined as: “Incident with a release of high energy in the absence of a direct control where a serious injury is not sustained.”

35 *Id.* at p. 17, Capacity is defined as: “Incident with a release of high energy in the presence of a direct control where a serious injury is not sustained.”

36 *Id.* at p. 17, Exposure is defined as: “Condition where high energy is present in the absence of a direct control.”

37 *Id.* at p. 17, Success is defined as: “Condition where a high energy incident does not occur because of the presence of a direct control.”

38 *Id.* at p. 17, Low Severity is defined as: “Incident with a release of low energy where no serious injury is sustained.”

39 EEI Safety Classification and Learning (SCL) Model, Serious Injury or Fatality defined as Life-threatening or life-altering incident.

40 This has been discussed during learning sessions with EEI and conversations with the SCL author that some MVIs do not fit within the parameters of the SCL model. PG&E uses its own MVI SIF classification process per SAFE-1002S: Motor Vehicle Standard, which is outside the SCL model classification process.

1 did not occur) should be considered for SIF potentiality and will continue to
2 include them in the SIF counts. This may differ slightly from how other utilities
3 classify and categorize MVIs.

4 This SPM definition includes the use of the EEI OS&HC serious injury criteria,⁴¹
5 which defines a serious injury using fourteen specific injury criteria. In operation,
6 and in discussions with peer utilities and EEI, PG&E finds that the OS&HC
7 criteria does not align with the life altering/life threatening aspects of the SIF
8 Program objective and is in contradiction to the SCL model purpose. PG&E
9 does, however, define serious injury in its SIF Program,⁴² which is substantially
10 similar to the OS&HC criteria. The difference is that PG&E considers life
11 altering/life threatening a substantial factor in serious injury determination.⁴³

12 As allowed by CPUC SPM definition for a SIF-A (Employee) incident, PG&E
13 uses substantially similar criteria to classify an injury as serious as compared to
14 the EEI OS&HC criteria including life threatening/life altering into the SIF-A
15 determination. This determination also includes a third-party medical consultant
16 to review and concur with the serious designation. This model allows the
17 Company to focus its safety and risk mitigation efforts on the most serious
18 outcomes and highest risk work where a high energy incident occurred.

19 There have been seven SIF-A Employee incidents between 2017 and 2020,
20 which include three fatalities and four serious injuries. The events involved
21 injuries caused by an intentional act of violence by a third-party, electrical
22 contacts, and MVIs (including Off-Road Utility Vehicles (OUV)). Corrective

41 Occupational Safety & Health Committee: Serious Injury & Fatality Criteria (SIF) can be reviewed at:
<https://images.magnetmail.net/images/clients/EEI //attach/Environment/hsif2022.pdf>.

42 SAFE-1100S: Serious Injury or Fatality Standard, Appendix A Examples of a Serious Injury.

43 Per SAFE-1100S: PG&E defines a SIF-A (analogous to a EEI SCL HSIF) as: A work-related high-energy incident consequential from work at or for PG&E that results in any of the following to employees, contractors, or directly supervised contractors:

- A fatality – work-related fatal injury or illness;
- A life-threatening injury or illness that required immediate life-preserving action that if not applied immediately would likely have resulted in the death of that person;
- A life-altering injury or illness that resulted in a permanent and significant loss of a major body part or organ function.

1 actions have been taken to address the identified causes and prevent potential
2 future similar outcomes that could lead to a SIF-A event, including:

- 3 • Eliminated OUVs from use within PG&E, including rental of OUV;
- 4 • Standing down all barehand electrical work until further notice; and
- 5 • Establishing the Enterprise Safe Access Asset Program Proposal to inspect
6 and maintain PG&E access assets.

7 There were no SIF-A (Employee incidents) in 2021.

8 The implementation of the Enterprise Safety Management System and stronger
9 focus on workforce safety initiatives, such as development of critical risk
10 standards, enhancing the field safety observations program, leader engagement,
11 and lean operating model, will continue to reduce this trend.

12 With regard to Cal/OSHA reporting requirements, there was only one serious
13 incident involving an apprentice lineman performing pole work. A causal
14 evaluation was performed and corrective actions implemented, including a
15 change to the standard.

16 **Is Metric Used for the Purposes of Determining Executive (Director Level**
17 **or Higher) Compensation Levels and/or Incentives?**

18 Yes, the Rate of SIF-A (Employee) metric was used as a STIP metric for
19 2021. It was measured in combination with the SIF-A (Contractor) metric and
20 included serious injuries only.

21 **Is Metric Linked to the Determination of Individual or Group Performance**
22 **Goals?**

23 Yes, the Rate of SIF-A (Employee) metric is linked to 2021 performance
24 goals for one or more Director-level position or higher as a subset of SIF that
25 includes serious injuries only.

26 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

27 Yes, the Rate of SIF-A (Employee) metric is a measure of risk reduction for
28 the Employee Safety Incident risk. It is linked to all individual goals as part of
29 2021 STIP plan. In addition, this metric may be included as part of an
30 individual's performance goals.

- 1 **Bias Controls:** Data is compiled by the Enterprise Health & Safety Team.
2 Employee SIF events are reviewed weekly. Internal Audit reviews classifications
3 for adherence to the procedure.
- 4 **Rate Case Safety Goal Progress:** This metric is not specifically stated in the
5 2020 GRC as a safety goal metric.
- 6 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 16: Rate of Serious Injuries or Fatalities (SIF) Actual (Contractor)**

2 **Metric Name and Description:** Rate of SIF Actual (Contractor) is calculated
3 using the formula: Number of SIF-Actual cases among employees x 200,000/
4 employee hours worked, where SIF Actual is counted using the methodology
5 developed by the Edison Electric Institute’s (EEI) Occupational Safety and
6 Health Committee (OS&HC) Safety and Classification Learning (SCL) Model.

7 If a utility has implemented a replicable, substantially similar evaluation
8 methodology for assessing incidents where a SIF occurred, the utility may use
9 that method for reporting this metric. If a utility opts to report the rate of SIF
10 Actual using a method other than the EEI SCL Model, it must explain how its
11 methodology for counting SIF-A differs and why it chose to use it.

12 As a supplemental reporting requirement to the SIF-A Rate for comparative
13 purposes, all utilities shall also report SIF-A Rate data based on California
14 Division of Occupational Safety and Health (Cal/OSHA) reporting requirements
15 under Section 6409.1 of the California Labor Code

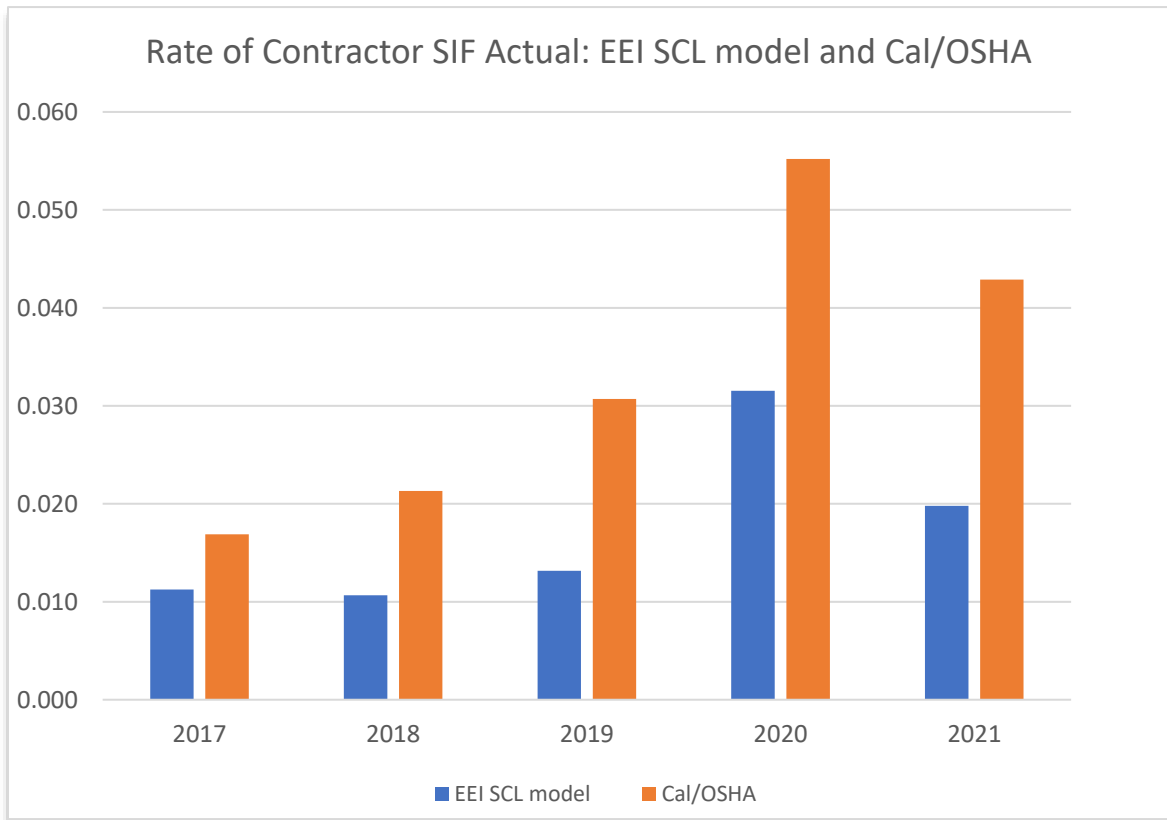
16 **Risks:** Contractor Safety Incident

17 **Category:** Injuries

18 **Units:** Rate of SIF Actual (SIF-A) cases among employees x 200,000/contractor
19 hours worked

1 **Summary:**

**FIGURE 5-16
RATE OF SIF ACTUAL (CONTRACTOR) EEI SCL MODEL AND CAL/OSHA^(a)
DEFINITIONS COMPARISON**



(a) Per Cal/OSHA, a serious injury or illness is defined as one involving inpatient hospitalization, regardless of length of time, for other than medical observation or diagnostic testing; amputation; loss of an eye; or serious degree of permanent disfigurement.

2 **Narrative Context:** Pacific Gas and Electric Company’s (PG&E or the
3 Company) SIF Program was deployed at the end of 2016 to establish a
4 classification and cause evaluation process for coworker and contractor SIF.⁴⁴
5 The goal of PG&E’s SIF Program is to reduce the number and severity of safety
6 incidents that result in a SIF. The program objective is to learn from safety
7 incidents by performing cause evaluations on each SIF-Actual (SIF-A) and SIF

⁴⁴ Per I.14-08-022, Kern Order Instituting Investigation (Kern OII) (Aug. 28, 2014) Settlement Agreement with California Public Utilities Commission (CPUC) see D.15-07-014.

1 Potential (SIF-P) incident, implementing corrective actions, and sharing key
2 findings across the enterprise.

3 In August of 2020, PG&E adopted Edison Electric International’s (EEI) Safety
4 Classification Learning (SCL) Model to mature classification of its SIF
5 incidents.⁴⁵ Adopting the EEI SCL Model has improved PG&E’s SIF Program
6 by bringing a consistent and objective approach to reviewing and classifying SIF
7 incidents and identifying high-energy tasks. The EEI SCL model does not
8 directly define a SIF-A, rather it classifies incidents into categories: High-Energy
9 SIF (HSIF),⁴⁶ Low-Energy SIF (LSIF),⁴⁷ Potential SIF (PSIF),⁴⁸ Capacity,⁴⁹
10 Exposure,⁵⁰ Success,⁵¹ and Low Severity.⁵² The HSIF terminology is fairly
11 new to the industry; however, it is equivalent to a SIF-A with regard to how
12 serious life threatening, life-altering or fatalities are determined.⁵³

13 While PG&E uses the EEI SCL model methodology to classify and track SIF-A
14 incidents, PG&E’s SIF Program differs slightly from the EEI model in that PG&E
15 includes all types of Motor Vehicle Incidents (MVI) in its SIF counts, whereas the
16 EEI SCL model does not.⁵⁴ PG&E believes that all MVIs (even where any injury

45 See, SCL Model at <https://esafetyline.net/eei/docs/eeiSCLmodel.pdf> at p. 17.

46 *Id.* at p. 17, HSIF is defined as: “Incident with a release of high energy in the absence of a direct control where a serious injury is sustained.”

47 *Id.* at p. 17, LSIF is defined as: “Incident with a release of low energy in the absence of a direct control where a serious injury is sustained.”

48 *Id.* at p. 17, PSIF is defined as: “Incident with a release of high energy in the absence of a direct control where a serious injury is not sustained.”

49 *Id.* at p. 17, Capacity is defined as: “Incident with a release of high energy in the presence of a direct control where a serious injury is not sustained.”

50 *Id.* at p. 17, Exposure is defined as: “Condition where high energy is present in the absence of a direct control.”

51 *Id.* at p. 17, Success is defined as: “Condition where a high energy incident does not occur because of the presence of a direct control.”

52 *Id.* at p. 17, Low Severity is defined as: “Incident with a release of low energy where no serious injury is sustained.”

53 EEI Safety Classification and Learning (SCL) Model, SIF defined as Life-threatening or life-altering incident.

54 This has been discussed during learning sessions with EEI and conversations with the SCL author that some MVIs do not fit within the parameters of the SCL model. PG&E uses its own MVI SIF classification process per SAFE-1002S: Motor Vehicle Standard, which is outside the SCL model classification process.

1 did not occur) should be considered for SIF potentiality and will continue to
2 include them in the SIF counts. This may differ slightly from how other utilities
3 classify and categorize contractor MVIs.

4 This SPM definition includes the use of the EEI OS&HC serious injury criteria,⁵⁵
5 which defines a serious injury using fourteen specific injury criteria. In operation,
6 and in discussions with other utilities and EEI, PG&E finds that the OS&HC
7 criteria does not align with the life altering/life threatening aspects of the SIF
8 Program objective and is in contradiction to the SCL model purpose. PG&E
9 does, however, define serious injury in its SIF Program,⁵⁶ which is substantially
10 similar to the OS&HC criteria. The difference is that PG&E considers life
11 altering/life threatening a substantial factor in serious injury determination.⁵⁷

12 As allowed by CPUC SPM definition for a SIF-A (Employee) incident, PG&E
13 uses substantially similar criteria to classify an injury as serious, as compared to
14 the EEI OS&HC criteria including life threatening/life altering into the SIF-A
15 determination. This determination also includes a third-party medical consultant
16 to review and concur with the serious designation. This model allows the
17 Company to focus its safety and risk mitigation efforts on the most serious
18 outcomes and highest risk work where a high energy incident occurred.

19 There have been 21 SIF-A Contractor incidents between 2017 and 2021, which
20 include 10 fatalities and 11 serious injuries. There is no common thread
21 between the incidents. The SIF-A events encompass broad job task types
22 including, helicopter operations, dropped objects, vegetation management, MVI

55 Occupational Safety & Health Committee: Serious Injury & Fatality Criteria (SIF) can be reviewed at:
<https://images.magnetmail.net/images/clients/EEI //attach/Environment/hsif2022.pdf>.

56 SAFE-1100S: Serious Injury or Fatality Standard, Appendix A Examples of a Serious Injury.

57 PG&E defines a SIF-A (analogous to a EEI SCL HSIF) as: A work-related high-energy incident consequential from work at or for PG&E that results in any of the following to employees, contractors, or directly supervised contractors:

- A fatality – work-related fatal injury or illness;
- A life-threatening injury or illness that required immediate life-preserving action that if not applied immediately would likely have resulted in the death of that person;
- A life-altering injury or illness that resulted in a permanent and significant loss of a major body part or organ function.

1 or Off-Highway Utility Vehicles, and electrical contacts. Six contractor SIF-A
2 incidents occurred in 2021. There were three contractor fatalities:

- 3 • March 2021: A team of Pre-inspectors working in Watsonville. A car hit one
4 of the Pre-inspectors and knocked them over an embankment which
5 resulted in a fatality.
- 6 • May 2021: A two-man crew with was tasked with installing ground rods as
7 part of lightning arrestor work on a PG&E project work site in Humboldt
8 County. The groundman was fatally injured while performing excavation
9 work with a mini excavator on a dirt-sloped hill.
- 10 • June 2021: A contractor was fatally injured in a vehicle incident while
11 performing electric transmission inspection-related work where the vehicle
12 rolled down a steep hill.

13 The remaining three injuries include two concussions, one from a MVI and the
14 other from being hit in the head with a power tool, and trauma to internal organs
15 from a tree split incident that pinned the contractor against the tree.

16 With regard to Cal/OSHA reporting requirements, there were 13 contractor
17 incidents primarily related to falls during vegetation management work.

18 Implementation of Contractor Safety Program (CSP), in addition to executing
19 corrective actions will drive down incidents. The CSP, evaluated as part of the
20 2020 RAMP Report, is in progress through 2026. Please see Metric 19 narrative
21 for additional detail about the additional programs being implemented.

22 **Is Metric Used for the Purposes of Determining Executive (Director Level**
23 **or Higher) Compensation Levels and/or Incentives?**

24 Yes, the Rate of SIF-Actual (Contractor) metric was used as a STIP metric
25 for 2021. It was measured in combination with the SIF-Actual (Employee) metric
26 and included serious injuries only.

1 **Is Metric Linked to the Determination of Individual or Group Performance**
2 **Goals?**

3 Yes, the Rate of SIF-Actual (Contractor) metric is linked to 2021
4 performance goals for one or more Director-level position or higher as a subset
5 of SIF that includes serious injuries only.

6 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

7 Yes, the Rate of SIF-Actual (Contractor) metric is a measure of risk
8 reduction for the Contractor Safety Incident risk. It is linked to all individual goals
9 as part of 2021 STIP plan. In addition, this metric may be included as part of an
10 individual's performance goals.

11 **Bias Controls:** Data is compiled by the Enterprise Health & Safety Team.
12 Contractor SIF events are reviewed weekly and reviewed by internal audit.

13 **Rate Case Safety Goal Progress:** This metric is not specifically stated in the
14 2020 GRC as a safety goal metric. This metric is tracked internally as track and
15 trend only.

16 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 17: Rate of Serious Injuries or Fatalities (SIF) Potential (Employee)**

2 **Metric Name and Description:** Rate of SIF Potential (Employee) is calculated
3 using the formula:

4 Number of SIF Potential cases among employees x 200,000/employee hours
5 worked, where a SIF incident, in this case would be events that could have led
6 to a reportable SIF. Potential SIF incidents are identified using the Edison
7 Electric Institute (EEI) Safety Classification and Learning Model.⁵⁸

8 If a utility has implemented a replicable, substantially similar evaluation
9 methodology for assessing SIF Potential (SIF-P), the utility may use that method
10 for reporting this metric. If a utility opts to report the rate of SIF-P using a
11 method other than the EEI Safety Classification Model, it must explain how its
12 methodology for counting SIF-P differs and why it chose to use it.

13 As a supplemental reporting requirement to the rate of SIF Potential (Employee),
14 all utilities shall provide information about the key lessons learned from Potential
15 SIF (Employee) incidents.

16 **Risks:** Employee Safety Incident

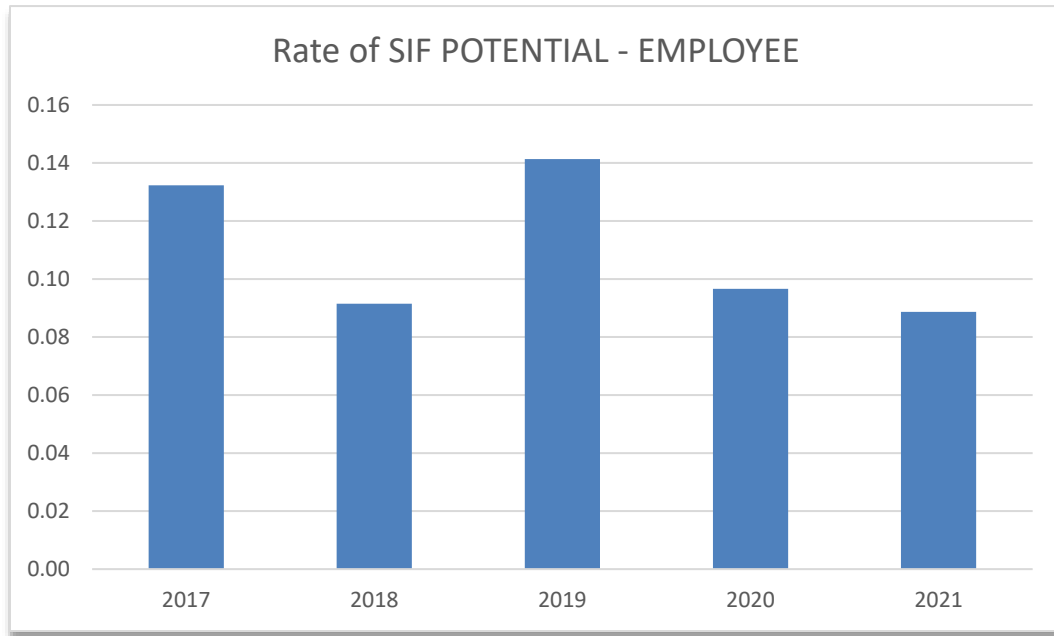
17 **Category:** Injuries and Near Hits

18 **Units:** Number of SIF-Potential (SIF-P) cases among employees x
19 200,000/employee hours worked

⁵⁸ Edison Electric Institute Safety Classification and Learning Model at:
<https://esafetyline.net/eei/docs/eeiSCLmodel.pdf>.

1 **Summary:**

FIGURE 5-17
RATE OF SERIOUS INJURIES OR FATALITIES (SIF) POTENTIAL (EMPLOYEE)



2 **Narrative Context:** PG&E's SIF Program was deployed at the end of 2016 to
3 establish a classification and cause evaluation process for coworker and
4 contractor serious injuries or fatalities.⁵⁹ The goal of PG&E's SIF program is to
5 reduce the number and severity of safety incidents that result in a SIF. The
6 program objective is to learn from safety incidents by performing cause
7 evaluations on each SIF-Actual (SIF-A) and SIF Potential (SIF-P) incident,
8 implementing corrective actions, and sharing key findings across the enterprise.

9 From 2016 to mid-2020, SIF-P classification was based on the reasonable
10 chance that the incident could have resulted in a SIF-A.⁶⁰ This classification
11 was subjective and left room for interpretation. In August of 2020, PG&E
12 adopted Edison Electric International's Safety Classification Learning (SCL)

⁵⁹ Per Investigation 14-08-022, Kern Order Instituting Investigation (Kern OII) (Aug. 28, 2014) Settlement Agreement with California Public Utilities Commission see Decision 15-07-014.

⁶⁰ SAFE-1100P-01 Rev.0 Published 03/31/0217.

1 Model to classify its serious injury or fatality (SIF) incidents.⁶¹ Adopting the EEI
2 SCL Model improved PG&E’s SIF program by bringing a consistent and
3 objective approach to reviewing and classifying SIF incidents and identifying
4 high-energy tasks. The EEI SCL model classifies incidents into very distinct
5 categories: High-Energy SIF (HSIF),⁶² Low-Energy SIF (LSIF),⁶³ Potential SIF
6 (PSIF),⁶⁴ Capacity,⁶⁵ Exposure,⁶⁶ Success⁶⁷ & Low Severity.⁶⁸ PG&E has
7 fully adopted the PSIF terminology into its SIF Program.⁶⁹

8 While PG&E uses the EEI SCL model methodology to classify and track SIF
9 incidents, PG&E’s SIF program differs slightly from the EEI model in that PG&E
10 includes all types of Motor Vehicle Incidents (MVI) in its SIF counts, whereas the
11 EEI SCL model does not.⁷⁰ PG&E believes that all motor vehicle incidents
12 (even where any injury did not occur) should be considered for SIF potentiality
13 and will continue to include them in the SIF counts. This may differ slightly from
14 how other utilities classify and categorize MVIs.

15 In 2020 and 2021, PG&E saw a slight decrease in SIF-P Employee incidents..
16 The most common events involved motor vehicle incidents. Motor vehicle

61 See, SCL Model at <https://esafetyline.net/eei/docs/eeiSCLmodel.pdf> at p. 17.

62 *Id.* at p. 17, HSIF is defined as: “Incident with a release of high energy in the absence of a direct control where a serious injury is sustained.”

63 *Id.* at p. 17, LSIF is defined as: “Incident with a release of low energy in the absence of a direct control where a serious injury is sustained.”

64 *Id.* at p. 17, PSIF is defined as: “Incident with a release of high energy in the absence of a direct control where a serious injury is not sustained.”

65 *Id.* at p. 17, Capacity is defined as: “Incident with a release of high energy in the presence of a direct control where a serious injury is not sustained.”

66 *Id.* at p. 17, Exposure is defined as: “Condition where high energy is present in the absence of a direct control.”

67 *Id.* at p. 17, Success is defined as: “Condition where a high energy incident does not occur because of the presence of a direct control.”

68 *Id.* at p. 17, Low Severity is defined as: “Incident with a release of low energy where no serious injury is sustained.”

69 SAFE-1100S Rev 5, p. 10. Also, see SAFE-1100S Rev 5 Attachment 1, SIF Determination Flowchart

70 This has been discussed during learning sessions with EEI and conversations with the SCL author that some MVI’s do not fit within the parameters of the SCL model. PG&E uses its own MVI SIF classification process per SAFE-1002S: Motor Vehicle Standard, which is outside the SCL model classification process.

1 program improvements have been taken to address contractor incidents
2 including, installing driver technology to monitor and track driver habits, i.e.,
3 acceleration, hard braking, speed, etc.

4 Continued measures are being implemented by the addition of the Regional
5 Safety Directors through safety campaigns and communications and problem-
6 solving sessions. The implementation of the Enterprise Safety Management
7 System and stronger focus on workforce safety initiatives, such as development
8 of critical risk standards, enhancing the field safety observations program, leader
9 engagement, and lean operating model, is expected to continue to reduce this
10 trend.

11 **Is Metric Used for the Purposes of Determining Executive (Director Level
12 or Higher) Compensation Levels and/or Incentives?**

13 No, the Rate of SIF Potential (Employee) metric was not used as a STIP
14 metric for 2021.

15 **Is Metric Linked to the Determination of Individual or Group Performance
16 Goals?**

17 Yes, the Rate of SIF Potential (Employee) metric is linked to 2021 individual
18 or group performance goals for one or more Director-level position or higher.

19 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

20 Yes, in 2021, the following position(s) include individual performance goals
21 that are linked to the Rate of SIF Potential (Employee) metric:

- 22 • **Director:** Customer Care (2), Electric Engineering (2), Electric Operations
23 (3), Shared Services (3), Supply Chain (1);
- 24 • **Senior Director:** Electric Operations (1), Wildfire Risk; and
- 25 • **Vice President:** Shared Services (2).

26 **Bias Controls:** SIF events are reviewed weekly by Enterprise Health & Safety

27 **Rate Case Safety Goal Progress:** This metric is not specifically stated in the
28 2020 GRC as a safety goal metric. This metric is tracked internally as track and
29 trend only.

30 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 18: Rate of Serious Injuries or Fatalities (SIF) Potential (Contractor)**

2 **Metric Name and Description:** Rate of SIF Potential (contractor) is calculated
3 using the formula:

4 Number of SIF Potential cases among contractors x 200,000/contractor hours
5 worked, where a SIF incident, in this case would be events that could have led
6 to a reportable SIF. Potential SIF incidents are identified using the EEI Safety
7 Classification and Learning Model.⁷¹

8 If a utility has implemented a replicable, substantially similar evaluation
9 methodology for assessing SIF Potential (SIF-P), the utility may use that method
10 for reporting this metric. If a utility opts to report the rate of SIF-P using a
11 method other than the EEI Safety Classification Model, it must explain how its
12 methodology for counting SIF-P differs and why it chose to use it.

13 As a supplemental reporting requirement to the Rate of SIF Potential
14 (Contractor), all utilities shall provide information about key lessons learned from
15 SIF-P (Contractor) incidents.

16 **Risks:** Contractor Safety Incident

17 **Category:** Injuries & Near Hits

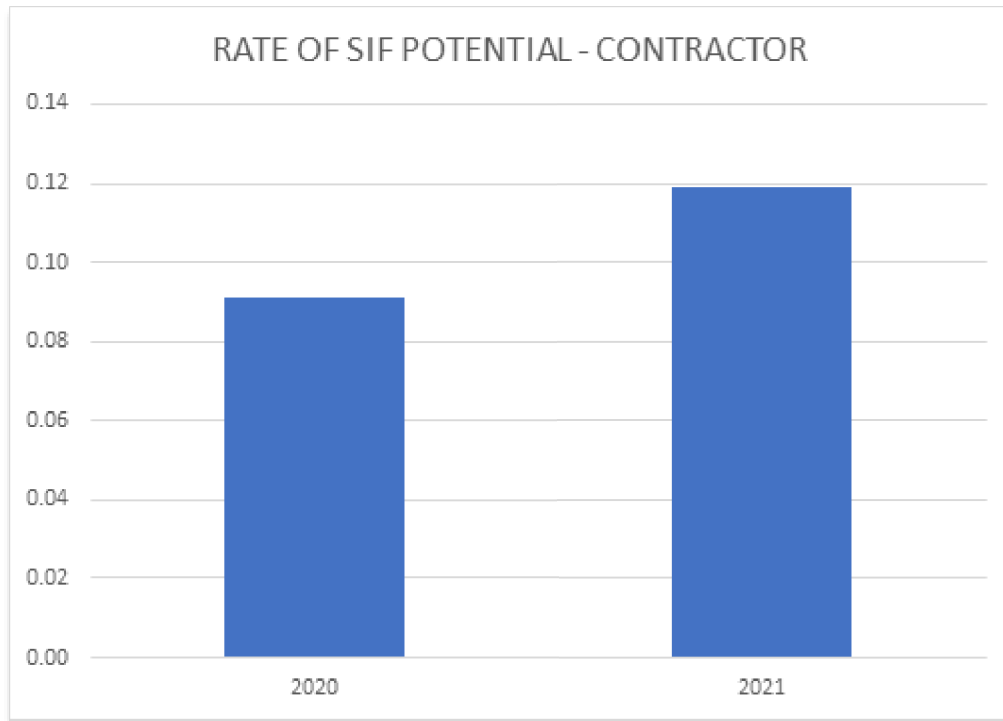
18 **Units:** Number of SIF-Potential (SIF-P) cases among employees x
19 200,000/contractor hours worked

⁷¹ Edison Electric Institute Safety Classification and Learning Model at:
<https://esafetyline.net/eei/docs/eeiSCLmodel.pdf>.

1

Summary:

**FIGURE 5-18
RATE OF SERIOUS INJURIES OR FATALITIES (SIF) POTENTIAL (CONTRACTOR)**



2 **Narrative Context:** PG&E’s Serious Injury or Fatality (SIF) program was
3 deployed at the end of 2016 to establish a classification and cause evaluation
4 process for coworker and contractor serious injuries or fatalities.⁷² The goal of
5 PG&E’s SIF program is to reduce the number and severity of safety incidents
6 that result in a SIF. The program objective is to learn from safety incidents by
7 performing cause evaluations on each SIF-Actual (SIF-A) and SIF Potential
8 (SIF-P) incident, implementing corrective actions, and sharing key findings
9 across the enterprise. When it was deployed only contractor incidents that
10 resulted in a SIF-A⁷³ were investigated by PG&E. The contractor was

⁷² Per I.14-08-022, Kern Order Instituting Investigation (Kern OII) (Aug. 28, 2014) Settlement Agreement with California Public Utilities Commission see Decision 15-07-014.

⁷³ Per SAFE-1100S Rev.00 (2017): Serious Injury or Fatality Standard, An incident resulting in a fatality or serious injury that was life threatening or life altering.

1 responsible for investigating all other incidents and reporting action plans back
2 to PG&E.

3 In June of 2020, PG&E expanded the SIF program to include investigating
4 contractor incidents rising to SIF-P classification.⁷⁴ This increased the number
5 and types of injuries and incidents that contractors are required to report in 2020
6 and 2021.

7 From 2017 to mid-2020, SIF-P classification was based on the reasonable
8 chance that the incident could have resulted in a SIF-A.⁷⁵ This classification
9 was subjective and left room for interpretation. In August of 2020, PG&E
10 adopted Edison Electric International’s Safety Classification Learning (SCL)
11 Model to classify its serious injury or fatality (SIF) incidents.⁷⁶ Adopting the EEI
12 SCL Model improved PG&E’s SIF program by bringing a consistent and
13 objective approach to reviewing and classifying SIF incidents and identifying
14 high-energy tasks. The EEI SCL model classifies incidents into very distinct
15 categories: High-Energy SIF (HSIF),⁷⁷ Low-Energy SIF (LSIF),⁷⁸ Potential SIF

74 SAFE-1100S-B001: Contractor SIF-P Incidents: Requiring SIF-P Incidents and Cause Evaluations Published 6/2020.

75 SAFE-1100P-01 Rev.0 Published 03/31/0217.

76 See, SCL Model at <https://esafetyline.net/eei/docs/eeiSCLmodel.pdf> at p. 17.

77 *Id.* at p. 17, HSIF is defined as: “Incident with a release of high energy in the absence of a direct control where a serious injury is sustained.”

78 *Id.* at p. 17, LSIF is defined as: “Incident with a release of low energy in the absence of a direct control where a serious injury is sustained.”

1 (PSIF),⁷⁹ Capacity,⁸⁰ Exposure,⁸¹ Success⁸² & Low Severity.⁸³ PG&E has
2 fully adopted the PSIF terminology into its SIF Program.⁸⁴

3 While PG&E uses the EEI SCL model methodology to classify and track SIF
4 incidents, PG&E's SIF program differs slightly from the EEI model in that PG&E
5 includes all types of Motor Vehicle Incidents (MVI) in its SIF counts, whereas the
6 EEI SCL model does not.⁸⁵ PG&E believes that all motor vehicle incidents
7 (even where any injury did not occur) should be considered for SIF potentiality
8 and will continue to include them in the SIF counts. This may differ slightly from
9 how other utilities classify and categorize MVIs.

10 Between 2020 and 2021, there have been a total of 51 SIF-P contractor
11 incidents. The most common events involved electrical contacts, motor vehicle
12 incidents and falls from heights (electrical poles and trees). Program
13 improvements have been taken to address contractor incidents including:

- 14 • Improving contractor engagement and oversight, including stronger punitive
15 actions for not meeting safety standards; and
- 16 • Partnering with the IBEW and the Joint Apprenticeship and Training
17 Committee of the California-Nevada Line Construction Industry
18 (California-Nevada JATC) in creating and maintaining a system that will

79 *Id.* at p. 17, PSIF is defined as: "Incident with a release of high energy in the absence of a direct control where a serious injury is not sustained."

80 *Id.* at p. 17, Capacity is defined as: "Incident with a release of high energy in the presence of a direct control where a serious injury is not sustained."

81 *Id.* at p. 17, Exposure is defined as: "Condition where high energy is present in the absence of a direct control."

82 *Id.* at p. 17, Success is defined as: "Condition where a high energy incident does not occur because of the presence of a direct control."

83 *Id.* at p. 17, Low Severity is defined as: "Incident with a release of low energy where no serious injury is sustained."

84 SAFE-1100S Rev 5, p. 10. Also, see SAFE-1100S Rev 5 Attachment 1, SIF Determination Flowchart.

85 This has been discussed during learning sessions with EEI and conversations with the SCL author that some MVI's do not fit within the parameters of the SCL model. PG&E uses its own MVI SIF classification process per SAFE-1002S: Motor Vehicle Standard, which is outside the SCL model classification process.

1 educate and assess line clearance tree trimmers from Step 1 to the Journey
2 level.

3 Continued measures are being implemented by the addition of the Regional
4 Safety Directors through safety campaigns and communications, problem-
5 solving sessions and contractor safety oversight improvement. The
6 implementation of the Enterprise Safety Management System (SMS) and
7 stronger focus on workforce safety initiatives, such as development of critical
8 risk standards, enhancing the field safety observations program, leader
9 engagement, and lean operating model, is expected to help reduce SIF-P events
10 involving contractors.

11 **Is Metric Used for the Purposes of Determining Executive (Director Level
12 or Higher) Compensation Levels and/or Incentives?**

13 No, the Rate of SIF Potential (contractor) metric was not used as a STIP
14 metric for 2021.

15 **Is Metric Linked to the Determination of Individual or Group Performance
16 Goals?**

17 Yes, the Rate of SIF Potential (contractor) metric is linked to 2021 individual
18 or group performance goals for one or more Director-level position or higher.

19 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

20 Yes, in 2021, the following position(s) include individual performance goals
21 that are linked to the SPM 18 metric:

- 22 • **Director:** Customer Care (2), Electric Engineering (2), Electric Operations
23 (3), Shared Services (3);
- 24 • **Senior Director:** Electric Operations (1), Shared Services (1), Wildfire
25 Risk (1); and
- 26 • **Vice President:** Shared Services (1).

27 **Bias Controls:** SIF events are reviewed weekly by Enterprise Health & Safety

28 **Rate Case Safety Goal Progress:** A rate of SIF Potential (Contractor) metric is
29 not stated in the 2020 GRC Safety and Health chapter (Chapter 1). This metric
30 is tracked internally as track and trend only.

1 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 19: Contractor DART**

2 **Metric Name and Description:** Contractor DART – DART Rate: DART Cases
3 include OSHA-recordable LWD Cases and injuries that involve job transfer or
4 restricted work activity. DART Rate is calculated as DART Cases times 200,000
5 divided by contractor hours worked.⁸⁶

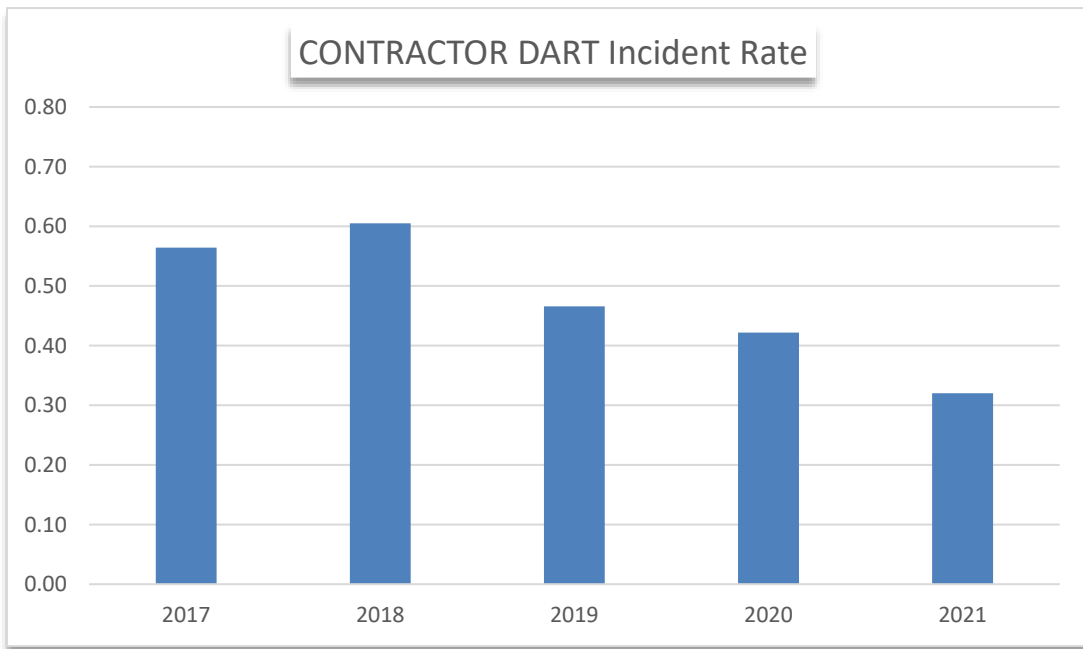
6 **Risks:** Contractor Safety Incident⁸⁷

7 **Category:** Injuries

8 **Units:** OSHA recordable times 200,000 divided by contractor hours worked
9 associated with work for the reporting utility

10 **Summary:**

**FIGURE 5-19
CONTRACTOR DART RATE METRIC DATA (ANNUAL)**



11 **Narrative Context:** Contractor DART case rate data became available with the
12 implementation of the Contractor Safety Program which was fully in place at the
13 beginning of 2017. Pacific Gas and Electric Company (PG&E) did not track this
14 metric prior to 2017. Data show that DART case rates for PG&E contractors

⁸⁶ Contractors included are performing medium to high-risk work.

⁸⁷ The Corporate Risk Register includes the following risk: Contractor Safety Incident.

1 decreased from 2018 through 2021 with the increase in the PG&E contractor
2 workforce. This is due to the Contractor Safety pre-qualification and Line of
3 Business oversight programs; these control programs are being strengthened.
4 Additional mitigative measures were also proposed as part of the 2020 Risk
5 Assessment Mitigation Phase (RAMP) Report⁸⁸ and are planned through 2026.

6 **Is Metric Used for the Purposes of Determining Executive (Director Level**
7 **or Higher) Compensation Levels and/or Incentives?**

8 No, the Contractor DART metric was not used as a STIP metric for 2021.

9 **Is Metric Linked to the Determination of Individual or Group Performance**
10 **Goals?**

11 Yes, the Contractor DART metric is linked to 2021 individual or group
12 performance goals for one or more Director-level position or higher.

13 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

14 Yes, in 2021, the following position(s) include individual performance goals
15 that are linked to the Contractor DART metric:

- 16 • **Director:** Customer Care (5), Electric Engineering (8), Electric Operations
17 (EO) (20), Enterprise Health & Safety (2), Finance (2), Gas Engineering (2),
18 Gas Operations (1), Generation (12), Human Resources & Enterprise
19 Change Office (1), Information Technology (IT) (18), Operations (3), Shared
20 Services (1), Wildfire Risk (11);
- 21 • **Senior Director:** Corporate Affairs (1), Customer Care (2), Electric
22 Engineering (1), EO (8), Generation (3), IT (4), Shared Services (1), Wildfire
23 Risk (2);
- 24 • **Vice President:** Customer and Communications (1), Customer Care (2),
25 EO (3), Generation (2), IT (1), Wildfire Risk (1); and
- 26 • **Senior Vice President:** EO (1), Enterprise Health & Safety (1).

⁸⁸ PG&E 2020 RAMP Report, A.20-06-012 (June 30, 2020), Ch. 17, Contractor Safety Incident.

1 **Bias Controls:** OSHA regulates the definition of a DART case. The PG&E
2 specific information is self-reported by the contractors. The contractor company
3 OSHA logs are verified annually by an external third party.

4 **Rate Case Safety Goal Progress:** This metric was not a stated metric in the
5 2020 GRC Enterprise Safety and Health chapter (Chapter 1). The Narrative
6 Context section above summarizes the continued steps PG&E is taking to
7 reduce the Contractor DART Rate.

8 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 20: Public SIF**

2 **Metric Name and Description:** Public serious injuries or fatalities (SIF) –
3 A fatality or personal injury requiring in-patient hospitalization involving utility
4 facilities or equipment. Equipment includes utility vehicles used during the
5 course of business.

6 **Risks:** Third-Party Safety Incident (Public Safety)⁸⁹

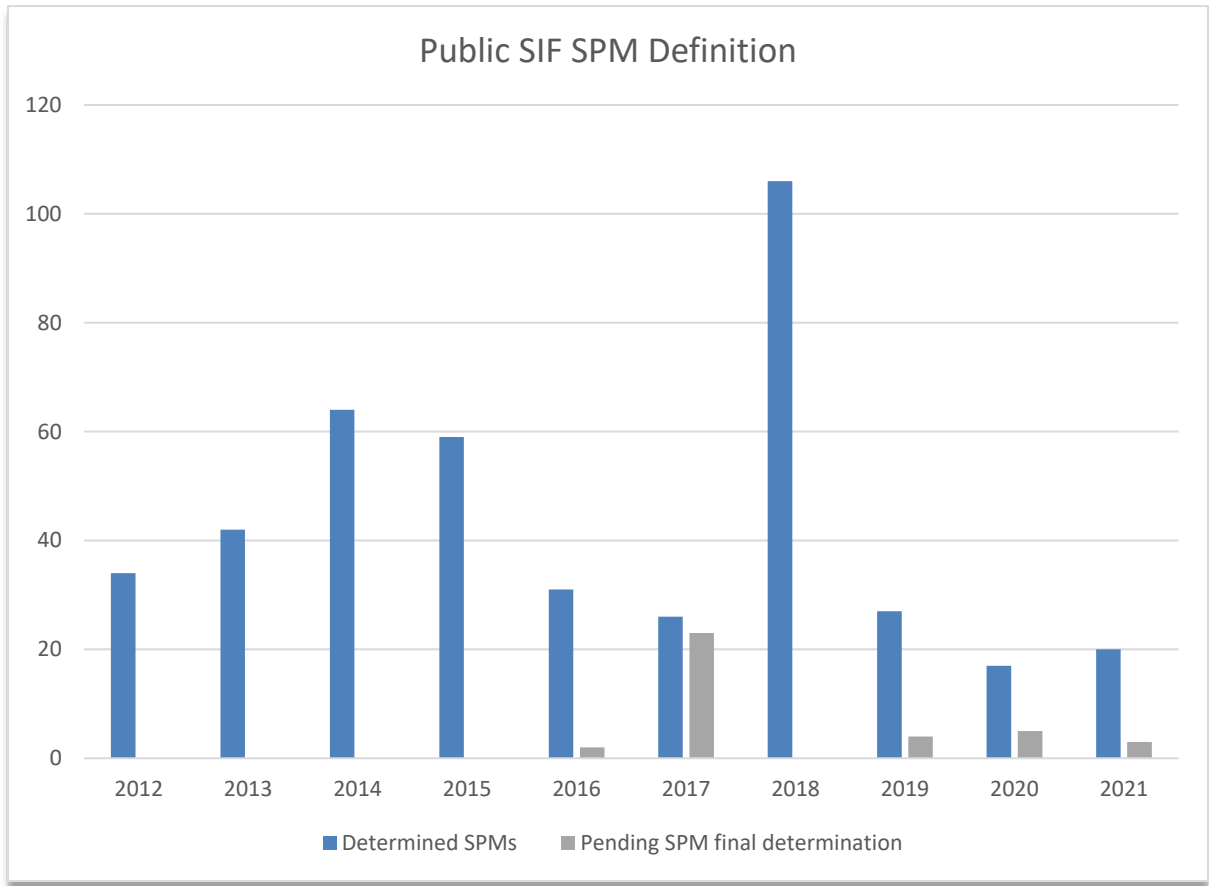
7 **Category:** Injuries

8 **Units:** Number of SIF

9 **Summary:**

⁸⁹ The Corporate Risk Register includes the following risk: Third-Party Safety Incident.

**FIGURE 5-20
PUBLIC SIF METRIC DATA (ANNUAL)**



Note: At this time PG&E has included wildfires reported from 2015 through 2021, reported wildfires in 2017 (Sawmill, Atlas, Redwood Valley, Nuns, and Cascade) are under review.

1 **Narrative Context:** The Public SIF metric includes all public safety incidents
2 involving a Pacific Gas and Electric Company (PG&E) asset, where a member of
3 the public was seriously injured, regardless of assigned fault. The data is
4 reported by the total number of injuries per incident. In general, the number of
5 Public SIF incidents (and injuries) has trended down since 2014, with the
6 exception of the incidents in 2018 due to wildfires. Excluding wildfire, the
7 primary drivers for the incidents include motor vehicle/distribution pole incidents,
8 third-party electrical contact, and incidents on PG&E hydroelectric owned or
9 managed property including drownings.⁹⁰

10 In 2021, there were 15 confirmed Public Safety Incidents meeting the Safety
11 Performance Metric Public SIF definition (involving a PG&E asset regardless of
12 fault) that resulting in 8 serious injuries and 12 fatalities. There is one event
13 pending review related to the Dixie Wildfire. The confirmed public incidents
14 included:

- 15 • Six electrical contacts (3 serious injuries, 3 fatalities);
- 16 • Three car-pole incidents (1 serious injury, 5 fatalities);
- 17 • Three Company or Contractor Motor Vehicle Incidents (3 fatalities); and
- 18 • Three incidents involving members of the public using a PG&E owned
19 waterway or roadway (4 serious injuries, 1 fatality).

20 The downward trend in public safety incidents can be attributed to the
21 broader asset management programs in Electric Operations (EO) (including
22 Wildfire mitigation), Gas Operations (GO) and Power Generation. In 2020, a risk
23 was added to the PG&E enterprise risk register to place increased emphasis on
24 Public SIF that are unrelated to a PG&E asset failure or incorrect operations.
25 The risk reduction plan leverages Line of Business controls and mitigations
26 specific to public safety including EO, GO, and Hydroelectric Operations Public
27 Awareness and Job Site Safety programs, EO Transmission and Distribution
28 safety design requirements, GO physical security controls including Meter
29 Protection, and Hydroelectric Dam Surveillance monitoring and warning systems
30 and signage. Mitigation programs being implemented include canals and
31 waterways barrier installation and EO system hardening.

⁹⁰ For Fire Ignition metric information see Metric 4. For electrical contact information see Metrics 1 and 2. Public SIF related to the failure of an asset are included in the risk analysis for asset-based event risks.

1 **Is Metric Used for the Purposes of Determining Executive (Director Level**
2 **or Higher) Compensation Levels and/or Incentives?**

3 No, the Public SIF metric was not used as a Short-Term Incentive Plan
4 metric for 2021.

5 **Is Metric Linked to the Determination of Individual or Group Performance**
6 **Goals?**

7 Yes, the Public SIF metric is linked to 2021 individual or group performance
8 goals for one or more Director-level position or higher.

9 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

10 Yes, in 2021, the following position(s) include individual performance goals
11 that are linked to the Public SIF metric:

- 12 • **Chief:** General Counsel and Compliance & Ethics (1), Generation (2);
- 13 • **Director:** Customer Care (3), Electric Engineering (5), EO (10), Enterprise
14 Health & Safety (2), Gas Engineering (1), Generation (10), Information
15 Technology (17), Wildfire Risk (2);
- 16 • **Senior Director:** Corporate Affairs (1), Customer Care (1), Electric
17 Engineering (1), EO (3), Generation (3), Information Technology (5);
- 18 • **Vice President:** Customer Care (1), EO (2), Generation (2), Information
19 Technology (1);
- 20 • **Senior Vice President:** Information Technology (1); and
- 21 • **Executive Vice President.**

22 **Bias Controls:** This data is reviewed and compiled by PG&E's Law Dept.

23 **Rate Case Safety Goal Progress:** The Third-Party Safety Incident risk was
24 added to the PG&E event-based risk register in 2020 to place greater emphasis
25 on third party safety incidents that do not involve the failure of a PG&E asset. A
26 third-party safety incident metric is not stated in the 2020 GRC Safety and
27 Health chapter (Chapter 1).

28 The Third-Party SIF metric dataset was used in the 2020 RAMP analysis for
29 the Third-Party Safety Incident risk.⁹¹ RAMP model results for the risk reduction

91 PG&E 2020 RAMP Report, Chapter 15, Risk Mitigation Plan: Third-Party Safety Incident.

1 programs being implemented indicate a reduction in third-party SIF incidents
2 that do not involve the failure of an asset through 2026. See the Narrative
3 Context explanation above for explanation of steps PG&E is taking to reduce the
4 Public SIF rate.

5 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 21: Helicopter/Flight Accident or Incident**

2 **Metric Name and Description:** Helicopter/Flight Accident or Incident – Defined
3 by Federal Aviation Regulations, reportable to the Federal Aviation
4 Administration per 49-CFR-830.

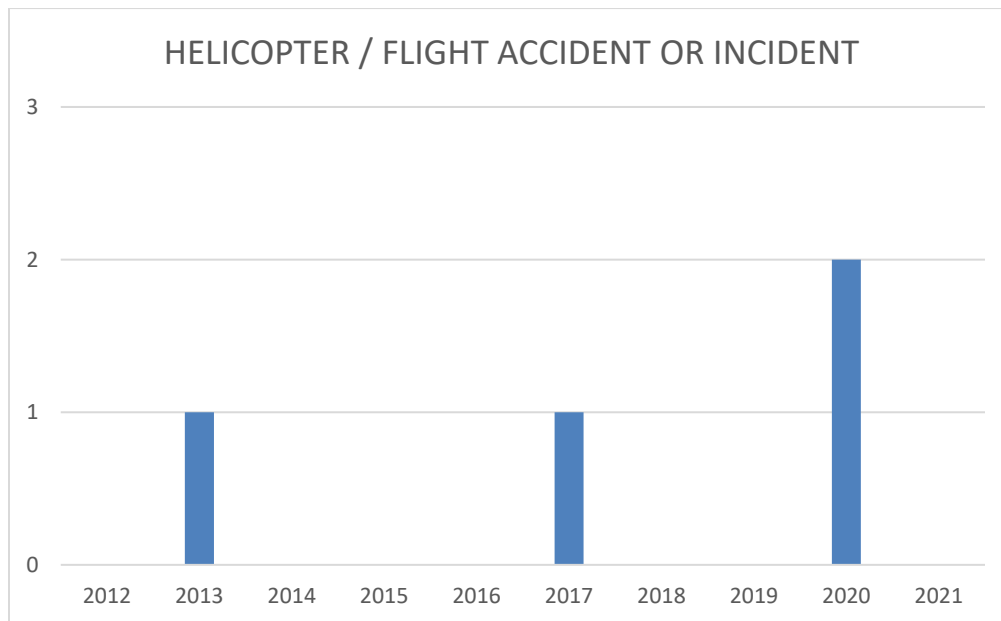
5 **Risks:** Aviation Incident, Third Party Safety Incident, Contractor Safety Incident,
6 and Employee Safety Incident.⁹²

7 **Category:** Vehicle

8 **Units:** Number of accidents or incidents (as defined in 49 CFR Section 830.5
9 “Immediate Notification”) per 100,000 flight hours.

10 **Summary:**

**FIGURE 5-21
HELICOPTER/FLIGHT ACCIDENT OR INCIDENT METRIC DATA (ANNUAL)**



11 **Narrative Context:** For the past 10 years, there have been four reportable
12 incidents per 49 CFR 830.5.

- 13 • August 13, 2013: A contractor fixed wing patrol aircraft was performing a
14 gas transmission pipeline patrol with a contract aerial patroller near the town
15 of Paradise. The NTSB determined that during the patrol, while orbiting

⁹² The Corporate Risk Register now has the following risks: Aviation Incident, Employee Safety Incident, Contractor Safety Incident, and Third-party Safety Incident.

1 near a canyon, the pilot failed to maintain control of the aircraft while
2 encountering an updraft. The aircraft collided with terrain near the bottom of
3 a canyon and was consumed by post impact fire. Both the pilot and patroller
4 were fatally injured.

- 5 • July 11, 2017: Helicopter was attempting to land at an unimproved landing
6 site near a dam when just prior to touchdown, the helicopter's main rotor
7 struck a tree causing it to suddenly fall several feet to the ground resulting in
8 severe damage to the helicopter and minor injuries to several passengers.
- 9 • June 2, 2020: Helicopter was performing Human External Cargo operations
10 transporting two contract employees in support of a transmission project
11 when it struck and severed the bottom phase of an energized transmission
12 circuit. The helicopter lost lift, impacted the ground and came to rest at the
13 bottom of a hill resulting in fatal injuries to the contract pilot and two contract
14 employees.
- 15 • July 20, 2020: Helicopter was performing aerial powerline patrols with
16 two PG&E employees when smoke was detected in the aircraft. An
17 immediate emergency landing was initiated. Just prior to landing, engine
18 power was lost, and the helicopter impacted the ground in an upright
19 position. The pilot and two employees egressed as the smoke intensified.
20 The helicopter caught fire and was subsequently consumed. There was one
21 minor injury to an employee.

22 PG&E's internal evaluations resulted in the following actions to improve
23 PG&E processes and systems. The learnings also informed training and
24 guidance documents.

25 PG&E created a requirement that aircraft must not, under any
26 circumstances, fly underneath wires of any kind. This is applicable to all
27 helicopter operations. Additionally, all Human External Cargo (HEC) insertions
28 and extractions may only take place at established landing zones or approved
29 work locations. (Guidance Document Reference AVI-3001M)

30 The number of Helicopter Operations Specialists is being increased from
31 three to six. This is an increase in field oversight, safety and expertise in the
32 area of helicopter operations to support the broad PG&E service area for
33 employee and contractor work.

1 Revisions were made to the Helicopter Operations Field Manual, Chapter 2
2 Patrolling, to include improvements to the emergency landing procedures and
3 added additional requirements to the pilot's preflight briefing.
4 (Guidance Document Reference AVI-3001M)

5 Revisions were made to the Helicopter Operations Field Manual, Chapter 2
6 Patrolling, to include requirements that only three-point or four-point seat
7 restraints are to be used by passengers and prohibits the use of lap-belt only
8 seats. This is essential to ensure adequate restraint during emergency landings
9 and to reduce potential injuries (Guidance Document Reference AVI-3001M).

10 Helicopter Operations, working with Enterprise Health and Safety, and
11 research of industry best practices will evaluate helicopter mission profiles to
12 determine those that have the greatest risk of emergency landings and pose
13 threats to occupants. They will establish the minimum PPE requirements for
14 head protection and Fire Resistant (FR) clothing to be worn by employees and
15 contractors flying in low altitude line patrols and other evaluated missions.
16 These requirements will be documented in AVI-3001M.

17 PG&E Aviation Services took action in 2021 to focus on improvements to
18 their Safety Management System.

19 Aviation solicited a third-party audit by an industry leader, Safety Operating
20 Systems, LLC.

21 Aviation Services, Fixed Wing Operations, was audited by the International
22 Standards Business Aviation Organization (IS-BAO) and was granted Stage I
23 certification. IS-BAO Stage II certification is anticipated in 2023.

24 IS-BAO is an industry standard built for operators, by operators
25 that provides standards based on the International Civil Aviation Organization
26 (ICAO) Standards and Recommended Practices (SARPS).

27 Helicopter contractors are pursuing to be compliant with the International
28 Standards Business Aviation Organization (IS-BAO). Compliance with
29 international regulatory standards and industry best practices estimated in –
30 Q4 2022.

31 Aviation is pursuing the development of a Flight Management System
32 (FMS). This will improve process adherence and controls, support a new
33 technical review process, and provide improved flight data management

1 **Is Metric Used for the Purposes of Determining Executive (Director Level**
2 **or Higher) Compensation Levels and/or Incentives?**

3 No, the Helicopter/Flight Accident or Incident metric was not used as a STIP
4 metric for 2021.

5 **Is Metric Linked to the Determination of Individual or Group Performance**
6 **Goals?**

7 No, the Helicopter/Flight Accident or Incident metric is not linked to 2021
8 individual or group performance goals for Director-level, or higher, positions.

9 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

10 No, the Helicopter/Flight Accident or Incident metric is not linked to
11 individual performance goals for Director-level, or higher, positions in 2021.

12 **Bias Controls:** None.

13 **Rate Case Safety Goal Progress:** This metric does not represent a 2020 GRC
14 stated safety goal. This metric is a key risk indicator for the Aviation Incident
15 risk.

16 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 22: Percentage of Serious Injury and Fatality (SIF) Corrective**
2 **Actions Completed on Time**

3 **Metric Name and Description:** Percentage of Serious Injury or Fatality (SIF)
4 Corrective Actions Completed on Time. A SIF corrective action is one that is
5 tied to a SIF actual or potential injury or near hit.

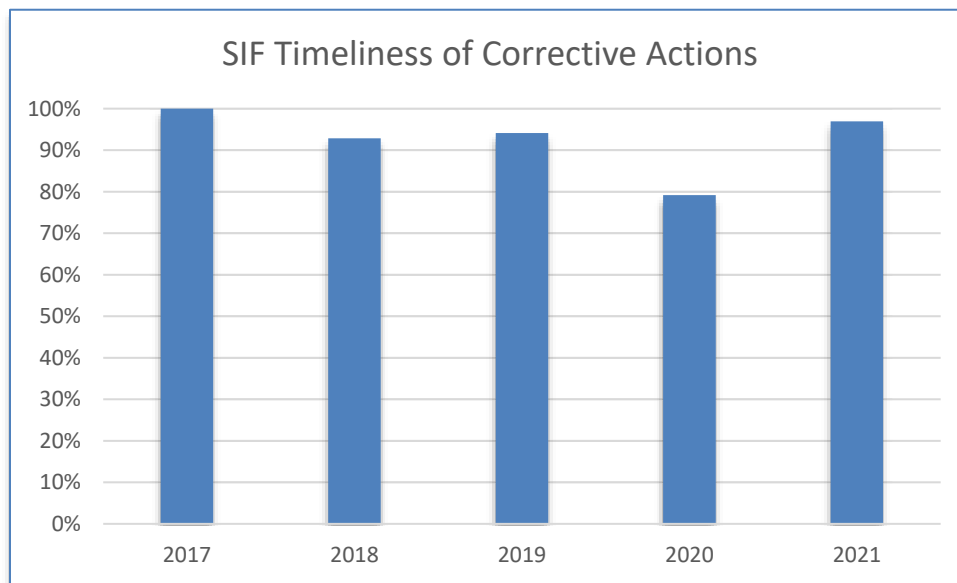
6 **Risks:** Employee Safety Incident, Contractor Safety Incident, and Motor Vehicle
7 Safety Incident.⁹³

8 **Category:** Injuries and Near Hits

9 **Units:** Total number of SIF corrective actions completed on time (as measured
10 by the due date accepted by LOB Corrective Action Review Boards) divided by
11 the total number of SIF corrective actions past due or completed.

12 **Summary:**

FIGURE 5-22
SIF TIMELINESS OF CORRECTIVE ACTIONS METRIC DATA (ANNUAL)



93 The Corporate Risk Register now has the following risks Employee Safety Incident, Contractor Safety Incident, and Motor Vehicle Safety Incident.

1 **Narrative Context:** Corrective action timeliness is a key ingredient to ensuring
2 that measures are taken to strengthen the capacity to work safe while
3 performing high-energy job tasks by implementing effective direct controls.
4 Between 2017 and 2019, Pacific Gas and Electric Company (PG&E) had an
5 average corrective action timeliness rate of 96-percent. In 2020, it dropped to
6 79-percent. The drop in 2020 can largely be attributed to the pandemic, which
7 caused cancellations of field visits and delayed shipment of tools or materials
8 required to complete corrective actions on time. In addition, in 2020, PG&E
9 prohibited the extension of any corrective actions related to SIF incidents,
10 without justification and the Chief Safety Officer's approval. In previous years,
11 approval to extend due dates was based on the line of business action owner
12 and their leadership. In 2021, corrective actions were completed on time
13 97-percent, five percentage points over the end of year target of 92-percent.

14 PG&E continues to monitor and review corrective actions on a weekly basis
15 to ensure the support, tools and resources are available to complete actions on
16 time and with quality.

17 **Is Metric Used for the Purposes of Determining Executive (Director Level**
18 **or Higher) Compensation Levels and/or Incentives?**

19 Yes, the SIF Correction Actions Complete was used as a Short-Term
20 Incentive Plan (STIP) metric for 2021.

21 **Is Metric Linked to the Determination of Individual or Group Performance**
22 **Goals?**

23 Yes, the SIF Correction Actions Complete on Time metric is linked to 2021
24 group performance goals for one or more Director-level position or higher.

25 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

26 Yes, the SIF Correction Actions Complete on Time metric is linked to all
27 individual goals as part of 2021 STIP plan. In addition, this metric may be
28 included as part of an individual's performance goals.

29 **Bias Controls:** Yes. This metric is reviewed by PG&E Internal Audit on a
30 quarterly basis.

- 1 **Rate Case Safety Goal Progress:** This metric was a stated Key Safety Metric
- 2 in Table 1-1 of the 2020 GRC testimony on Safety and Health.⁹⁴

- 3 **Monthly Data:** See Attachment A at the end of this report.

⁹⁴ PG&E GRC Exhibit (PG&E-7), Chapter 1, Safety and Health, p. 1-19.

1 **Metric 23: Hard Brake Rate**

2 **Metric Name and Description:** Hard Brake Rate – The total number of hard
3 braking events (greater than or equal to 8 mph per second decrease in speed)
4 per thousand miles driven in a given period.

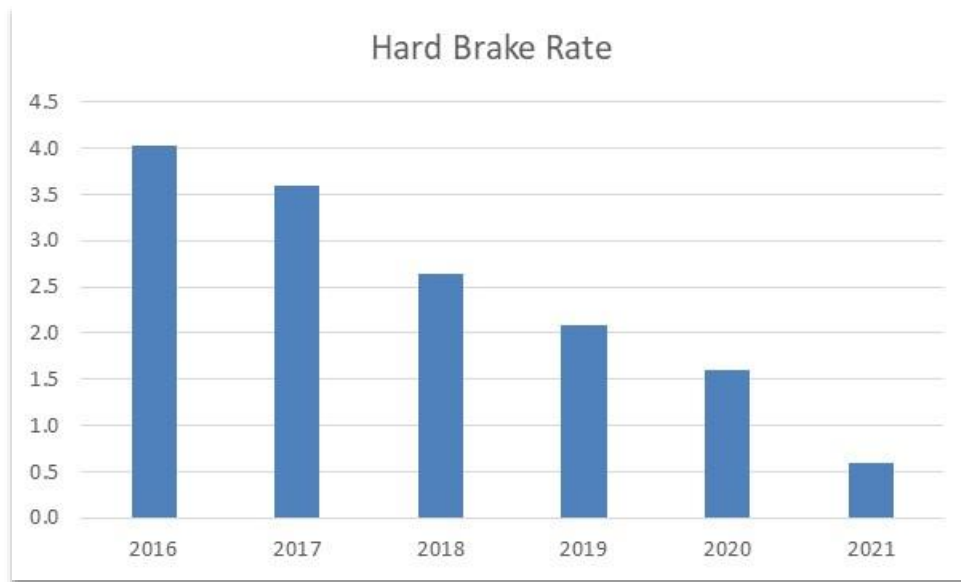
5 **Risks:** Motor Vehicle Safety Incident⁹⁵

6 **Category:** Vehicle

7 **Units:** Total number of hard braking events per thousand miles driven in a
8 given period.

9 **Summary:**

**FIGURE 5-23
HARD BRAKE RATE METRIC DATA (ANNUAL)**



10 **Narrative Context:** PG&E began tracking the hard brake rate metric in 2016.
11 The hard brake rate has been in steady decline between 2016 and 2021. During
12 the 2017-2021 time period, the number of vehicles tracking hard braking has
13 increased from 6,500 to approximately 9,400.

⁹⁵ The Corporate Risk Register now has the following risks: Motor Vehicle Safety Incident.

1 **Is Metric Used for the Purposes of Determining Executive (Director Level**
2 **or Higher) Compensation Levels and/or Incentives?**

3 No, the Hard Brake Rate metric was not used as a STIP metric for 2021.

4 **Is Metric Linked to the Determination of Individual or Group Performance**
5 **Goals?**

6 No, the Hard Brake Rate metric was not linked to 2021 individual or group
7 performance goals for Director-level, or higher, positions.

8 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

9 No, the Hard Brake Rate metric is not linked to individual performance goals
10 for Director-level, or higher, positions in 2021.

11 **Bias Controls:** Data on Hard Brake Rate is provided by a third-party vendor.

12 **Rate Case Safety Goal Progress:** While this metric is not specifically stated in
13 the 2020 GRC; it is part of the Safe Driving Rate metric, which also includes
14 Hard Acceleration. For 2021, this metric is track and trend and does not have a
15 corresponding target.⁹⁶

16 **Monthly Data:** See Attachment A at the end of this report.

⁹⁶ PG&E GRC Exhibit (PG&E-7), Chapter 1, Safety and Health, p. 1-19.

1 **Metric 24: Driver’s Call Complaint Rate**

2 **Metric Name and Description:** Driver’s Call Complaint Rate – This metric
3 measures the total number of Driver Check complaint calls received per 1 million
4 miles driven by vehicles included in the Driver Check Program.

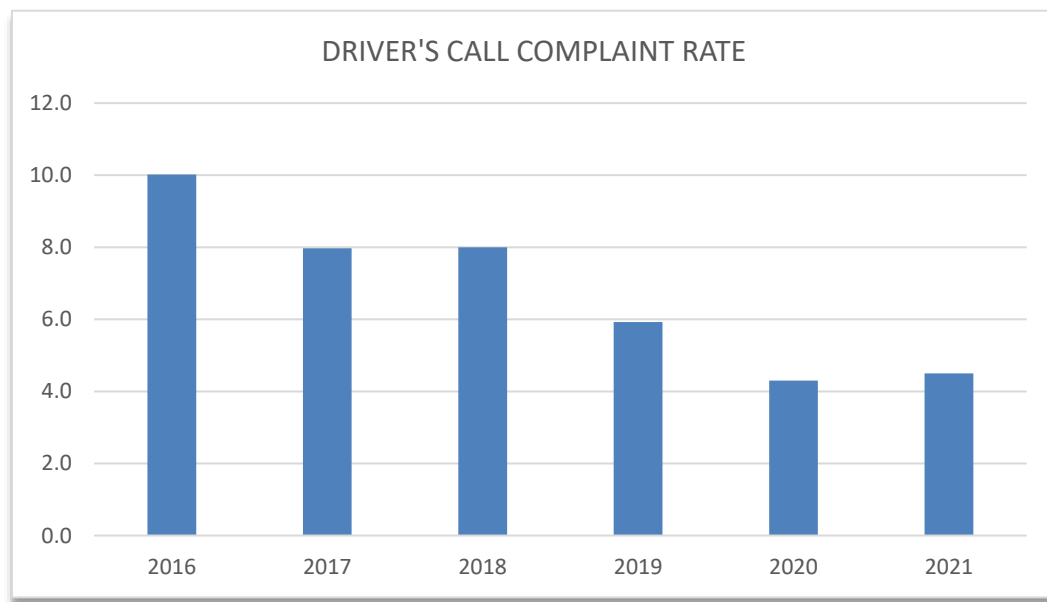
5 **Risk:** Motor Vehicle Safety⁹⁷

6 **Category:** Motor Vehicle

7 **Units:** Total number of Driver Check complaint calls received per 1 million miles
8 driven

9 **Summary:**

**FIGURE 5-24
DRIVER’S CALL COMPLAINT RATE METRIC DATA (ANNUAL)**



10 **Narrative Context:** PG&E began tracking this metric in 2016. The driver
11 complaint rate has dropped over 50 percent since 2016. There was a slight
12 uptick in this metric in 2021 due to the introduction of a new report type
13 regarding speeding events that are generated from our telematics data. For

⁹⁷ The Corporate Risk Register now has the following risks: Motor Vehicle Safety Incident.

1 every complaint there is an e-mail to the Supervisor, which requires follow-up
2 and coaching with the employee.

3 **Is Metric Used for the Purposes of Determining Executive (Director Level**
4 **or Higher) Compensation Levels and/or Incentives?**

5 No, the Driver's Call Complaint Rate metric was not used as a STIP metric
6 for 2021.

7 **Is Metric Linked to the Determination of Individual or Group Performance**
8 **Goals?**

9 No, the Driver's Call Complaint Rate metric is not linked to 2021 individual or
10 group performance goals for Director-level, or higher, positions.

11 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

12 No, the Driver's Call Complaint Rate metric is not linked to individual
13 performance goals for Director-level, or higher, positions in 2021.

14 **Bias Controls:** Data on driver check calls is provided by a third-party vendor.

15 **Rate Case Safety Goal Progress:** This metric was stated in the 2020 GRC as
16 "Driver's Check Rate" and as track and trend only safety goal.⁹⁸ The name has
17 since been updated to Driver's Call Complaint Rate.

18 **Monthly Data:** See Attachment A at the end of this report.

⁹⁸ PG&E GRC Exhibit (PG&E-7), Chapter 1, Safety and Health, p. 1-19.

1 **Metric 25: Wires-Down not resulting in Automatic De-energization**

2 **Metric Name and Description:** Wires-Down not resulting in Automatic
3 De-energization – This metric is defined as the number of occurrences of wire
4 down events in the past calendar year that did not result in automatic (i.e., not
5 manually activated) de-energization by circuit protection devices such as fuses,
6 circuit breakers, and reclosers, etc. on all portions of a downed conductor that
7 rest on the ground. This metric does not consider possible energization due to
8 induced voltages from magnetic coupling of parallel circuits. Metric excludes
9 secondary conductors and service drops. The metric is reported as a
10 percentage of all wires down events in the past calendar year. Separate metrics
11 are provided for transmission and distribution systems.

12 **Risks:** Electric Overhead, wildfire

13 **Category:** Electric

14 **Units:** Percentage of wires down occurrences

15 **Summary:**

FIGURE 5-25A
DISTRIBUTION WIRES-DOWN NOT RESULTING IN AUTOMATIC DE-ENERGIZATION (ANNUAL)

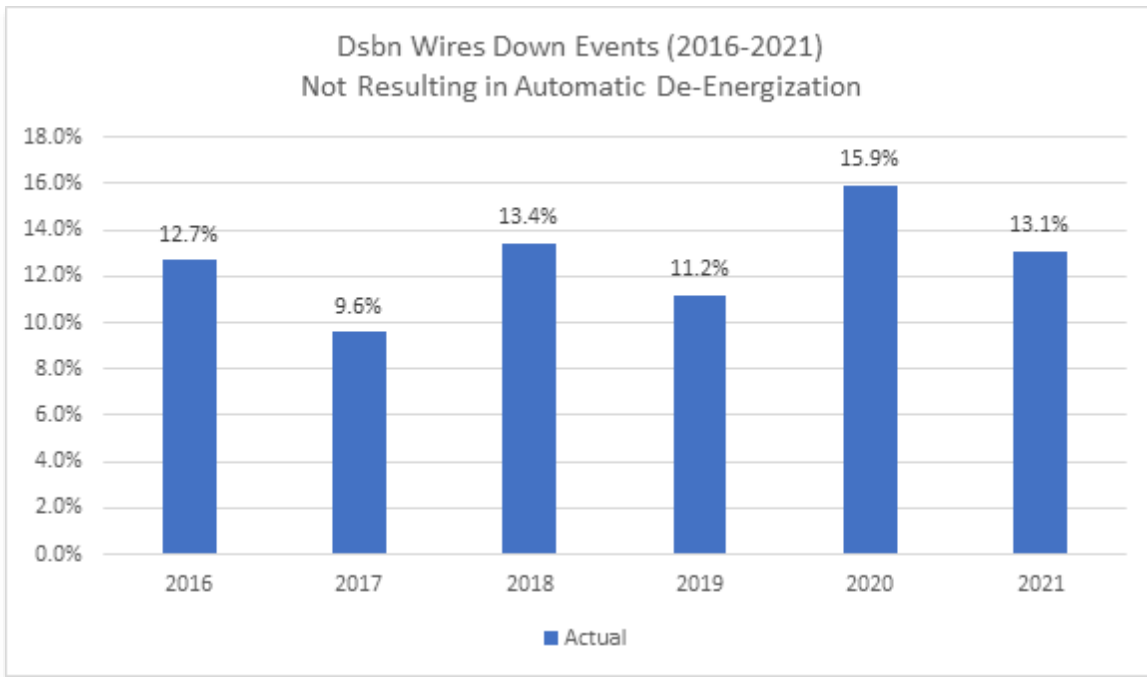
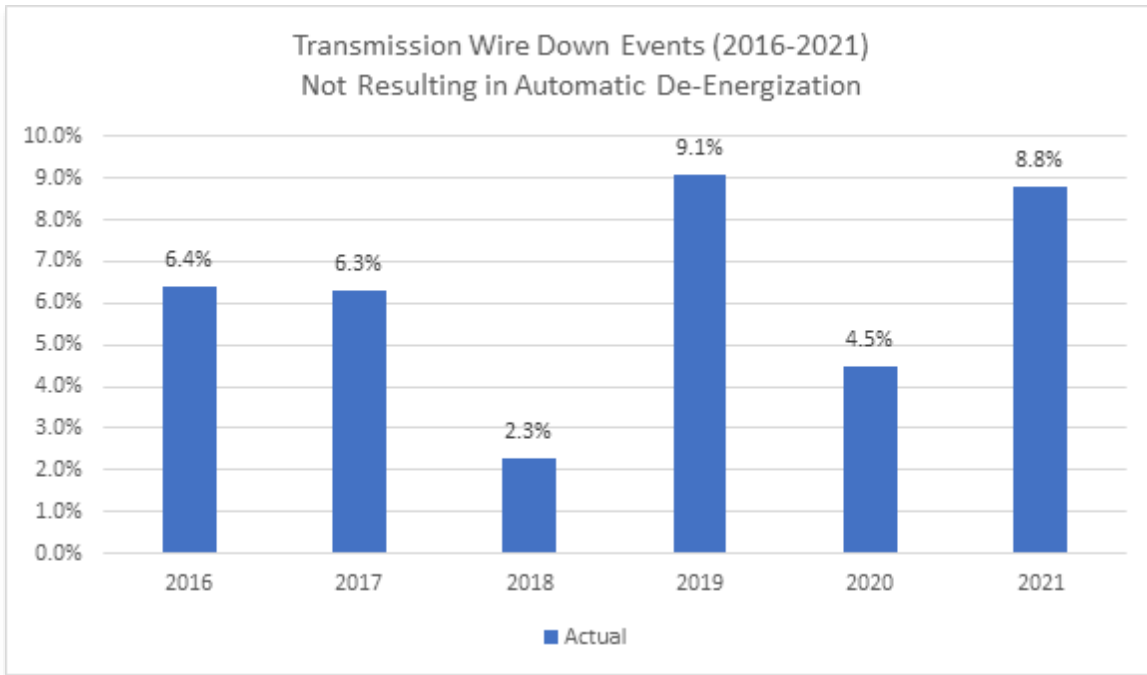


FIGURE 5-25B
TRANSMISSION WIRES-DOWN NOT RESULTING IN AUTOMATIC DE-ENERGIZATION
(ANNUAL)



1 **Narrative Context:** PG&E updated its outage reporting tools in 2015 to allow
2 for reporting of capturing when a distribution or transmission wire down event
3 was noted by field personnel as being energized upon arrival and as such, 2016
4 was the first full year when this detail was reported in its outage data base. As
5 can be seen in Figure 5-25A, the Distribution percentage value has ranged from
6 9.6% in 2017 and 15.9% in 2020 with a six-year average of 12.6%, whereas the
7 Transmission percentage value ranged from 2.3% in 2018 and 9.9% in 2019
8 with a six-year average of 6.2%(Figure 5-25-B)While PG&E has not tracked this
9 specific metric in the past. For safety reasons, field personnel generally treat
10 wire down events an energized if unknown and these percentages above
11 represent the information reported as actually being energized.

1 **Is Metric Used for the Purposes of Determining Executive (Director Level**
2 **or Higher) Compensation Levels and/or Incentives?**

3 No, the Wires-Down not resulting in Automatic De-energization metric was
4 not used as a Short-Term Incentive Plan metric for year 2021.

5 **Is Metric Linked to the Determination of Individual or Group Performance**
6 **Goals?**

7 No, the Wires-Down not resulting in Automatic De-energization metric is not
8 linked to 2021 individual or group performance goals for Director-level, or higher,
9 positions.

10 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

11 No, the Wires-Down not resulting in Automatic De-energization metric is not
12 linked to individual performance goals for Director-level, or higher, positions in
13 2021.

14 **Bias Controls:** The T&D Wires Down metric is a strong proxy of the overall
15 goal of reducing the potential contacts with wires down and improving the
16 reliability of the electric system along with reducing public safety risk. From the
17 metric data, performance and target-setting perspective, there are several
18 controls put in place that have been verified by Internal Audit.

- 19 – The wires down events are reported by field and control center personnel
20 per uniform reporting guidelines as the events occur.
- 21 – Engineers conduct post wire down event reviews (typically for the
22 non-MED events) and will initiate corrections to the data via the outage
23 quality team to ensure the reporting guidelines were followed and the
24 records align with information reported by repair crews.
- 25 – The outage quality team processes all valid change requests received and
26 also initiates corrections based on their reviews and findings of the collected
27 outage information.

28 **Rate Case Safety Goal Progress:** While this specific metric is not tied to a
29 2020 GRC Safety Goal, The T&D Wires Down metric (excluding downed
30 secondary distribution wires and MEDs) has been one of the key indicators that
31 PG&E is using to track Public Safety Performance.

1 Significant work was performed to reduce wires down, including replacing
2 overhead conductor, vegetation clearing, hardening of distribution circuits,
3 infrared inspections of overhead lines to identify and repair hot spots,
4 investigating wires down incidents, and implementing learnings/corrective
5 actions.

6 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 26: Missed Inspections and Patrols for Electric Circuits**

2 **Metric Name and Description:** Missed Inspections and Patrols for Electric
3 Circuits – Metrics are calculated as annual number of overhead electric
4 structures that did not comply with the inspection frequency requirements
5 divided by total number of overhead electric structures with inspections due in
6 the past calendar year. Separate metrics are provided for patrols, detailed
7 inspections. Separate metrics are provided for primary distribution and
8 transmission overhead circuits. “Minimum patrol frequency” refers to the
9 frequency of patrols as specified in General Order (GO) 165. “Structures” refers
10 to electric assets such as transformers, switching protective devices, capacitors,
11 lines, poles, etc.

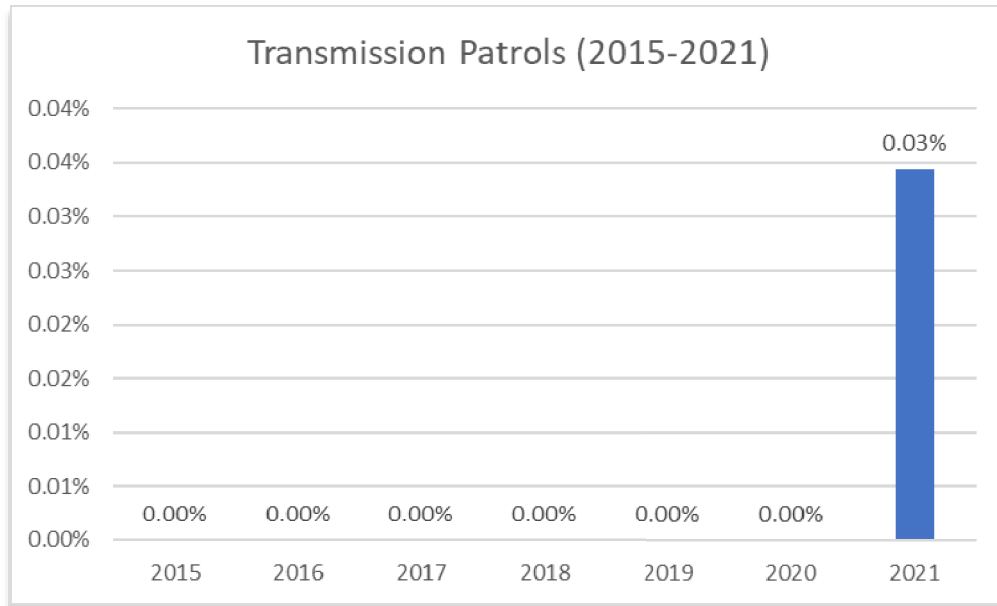
12 **Risks:** Electric Overhead, wildfire

13 **Category:** Electric

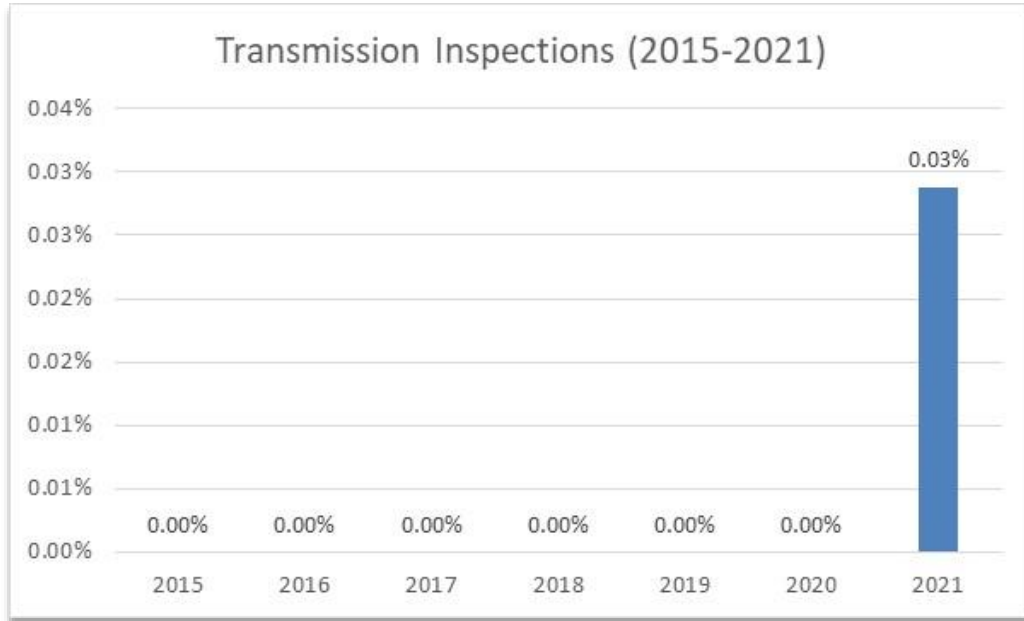
14 **Units:** Percentage of structures that missed inspection relative to total required
15 structures.

16 **Summary:**

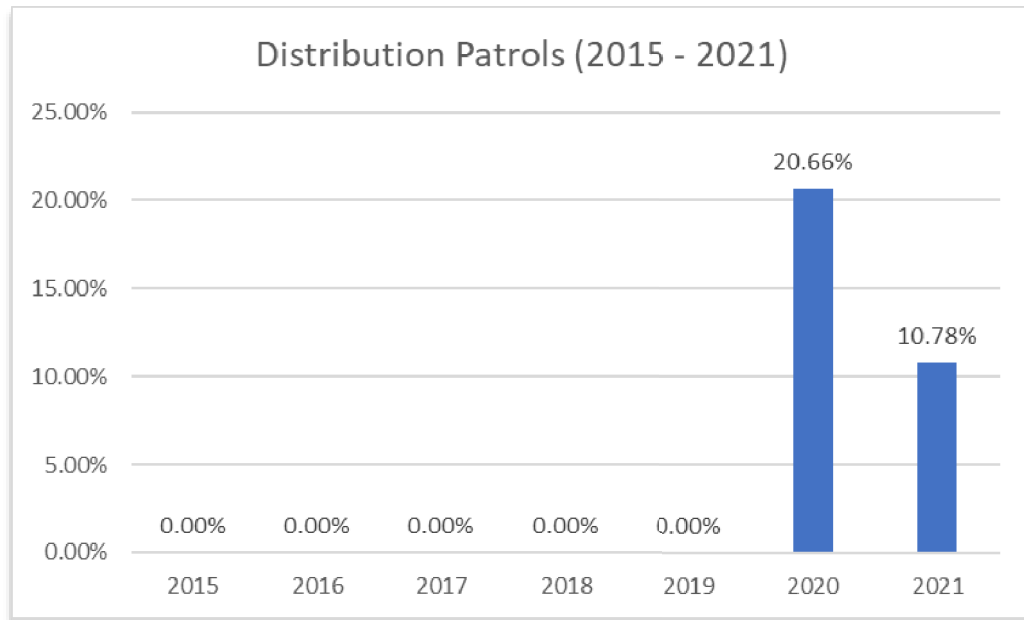
FIGURE 5-26A
MISSED INSPECTIONS AND PATROLS FOR ELECTRIC CIRCUITS (ANNUAL)
(TRANSMISSION PATROLS)



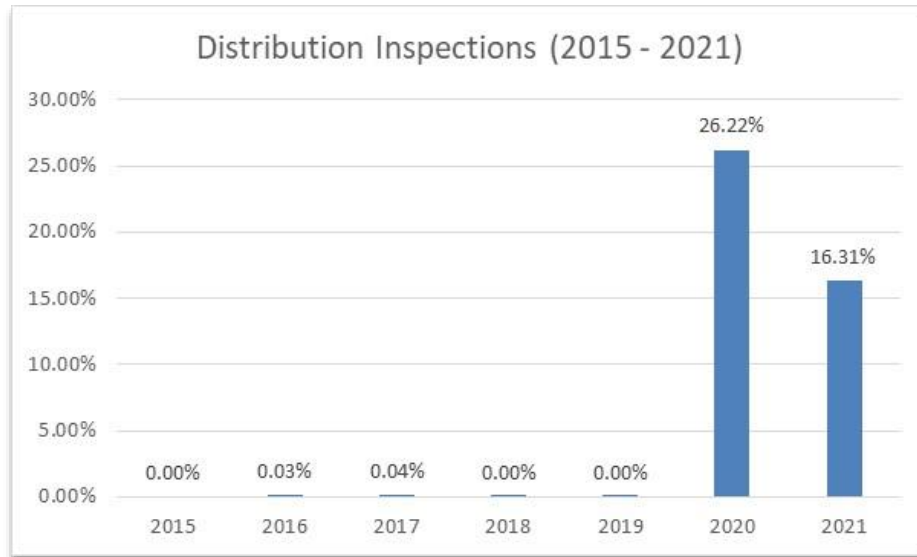
**FIGURE 5-26B
MISSED INSPECTIONS AND PATROLS FOR ELECTRIC CIRCUITS (ANNUAL)
(TRANSMISSION INSPECTIONS)**



**FIGURE 5-26C
MISSED INSPECTIONS AND PATROLS FOR ELECTRIC CIRCUITS (ANNUAL)
(DISTRIBUTION PATROLS)**



**FIGURE 5-26D
MISSED INSPECTIONS AND PATROLS FOR ELECTRIC CIRCUITS (ANNUAL)
(DISTRIBUTION INSPECTIONS)**



1 **Narrative Context:**

2 Distribution Patrols and Inspections

3 Prior to year 2014, GO 165 required that patrols and inspections be
4 completed any time between January 1 and December 31 each year.

5 Starting in 2015 and through 2019, we implemented the new GO 165
6 requirement to complete patrols and inspections each year within a prescribed
7 timeframe, based on the date of the last patrol or inspection. Our interpretation
8 and implementation of this new language calculated the due date for each patrol
9 or inspection each year as follows:

10 The California Public Utilities Commission (CPUC) twelve plus three (12+3)
11 month Patrol and Inspection requirement defines:

- 12 • The due date for each “plat map” is based on the date the map was last
13 inspected or patrolled.
- 14 • Inspections or patrols (of the facilities on a map) may not exceed 3
15 additional months past the previous inspection or patrol date of that facilities
16 on that map (maximum 15 months).
- 17 • Inspections or patrols may be performed before the due date.
- 18 • Inspections or patrols are performed by the end of the calendar year (12/31).

- 1 • The start of an inspection or a patrol starts a new inspection or patrol
2 interval that must be completed within the prescribed timeframe.

3 For the years 2020 and 2021, we pivoted away from the “12+3” due date for
4 completing patrols and inspections (of the facilities on a map), and instead
5 directed our inspection program towards accelerating inspections for all
6 inspectable electric facilities in the High Fire Threat Districts (HFTD) to be
7 completed in first half of year and Non-HFTD inspections for second half of year.
8 As a result, we completed patrols and inspections by “static” due dates of 8/31
9 for HFTD areas, and 12/31 for Non-HFTD areas.

10 In 2022, PG&E intends to complete overhead patrols and inspections in
11 compliance with GO 165.

12 Transmission Patrols and Inspections

13 Patrols involve simple visual observations to identify obvious
14 nonconformances. All assets require either a detailed inspection or a patrol
15 each year. While detailed inspections have shifted from circuit-based cycles to
16 an inspection frequency that depends on HFTD and structure-level risk
17 considerations, patrols remain circuit-based. Therefore, any line that does not
18 receive a detailed inspection from end-to-end will require a patrol and it is
19 possible for some structures to receive both an inspection and a patrol in the
20 same year. Patrols may be performed either by air (helicopter) or ground
21 (walking or driving).

22 The overhead transmission detailed inspection program has undergone
23 significant evolution over the reporting period for the metric. Prior to 2019,
24 detailed ground inspections were performed by circuit with a frequency
25 depending on the voltage and whether the majority of the structures on the
26 circuit were wood (2-year cycle) or steel (5-year cycle). The Wildfire Safety
27 Inspection Program (WSIP), which began in late 2018 and extended into 2019,
28 introduced several key improvements to overhead transmission inspections: the
29 use of an 'enhanced' inspection methodology with a questionnaire developed
30 from a wildfire-ignition Failure Modes and Effects Analysis and the addition of
31 aerial inspections using high-resolution drone photographs to provide a second
32 vantage point from above to complement the ground inspections performed with
33 the inspector standing at the base of the structure. These improvements from

1 WSIP were incorporated into the regular overhead inspection program beginning
2 in 2020. The 2020 inspections replaced the old wood- or steel-based inspection
3 cycles with cycles that called for more frequent inspections in HFTD, annually for
4 Tier 3 and on a 3-year cycle for Tier 2, compared to a 5-year cycle for
5 non-HFTD. The 2020 inspections also included non-HFTD structures in
6 PG&E-designated High Fire Risk Areas (HFRA), which were treated like Tier 2.
7 The inspection program in 2021 continued using the HFTD-based cycles
8 introduced in 2020 and imposed an in-year deadline for HFTD and HFRA
9 inspections of 7/31, which PG&E committed to in the 2021 Wildfire Mitigation
10 Plan (WMP). The intent of this deadline was to allow completion of the
11 inspections and any emergency repairs found from the inspections prior to peak
12 fire season. Monthly validations of the inspection plan were started in
13 June 2021 to ensure that all assets requiring an inspection under their
14 prescribed cycles were included in the plan, including assets that were newly
15 added to the asset registry. The 2022 inspection scope introduced the use of
16 wildfire risk and consequence scores at the structure level to inform the selection
17 of assets to be inspected.

18 Data provided for 2015-2019 reflects systemwide performance.
19 HFTD-specific performance is not available prior to 2020. The HFTD data for
20 patrols and inspections was tracked in SAP starting in 2020.

21 **Is Metric Used for the Purposes of Determining Executive (Director Level**
22 **or Higher) Compensation Levels and/or Incentives?**

23 No, the Missed Inspections and Patrols for Electric Circuits metric was not
24 used as a Short-Term Incentive Plan metric for 2021.

25 **Is Metric Linked to the Determination of Individual or Group Performance**
26 **Goals?**

27 Yes, the Missed Inspections and Patrols for Electric Circuits metric is linked
28 to 2021 individual or group performance goals for one or more Director-level
29 position or higher.

1 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

2 Yes, in 2021, the following position(s) include individual performance goals
3 that are linked to the Missed Inspections and Patrols for Electric Circuits metric:

- 4 • **Director:** Electric Operations (6);
- 5 • **Senior Director:** Electric Operations (1); and
- 6 • **Vice President:** Electric Operations (1).

7 **Bias Controls:** Tracking spreadsheet at the division level for each of the
8 18 distribution compliance offices, with all maintenance plans that are due for
9 the year – including the following:

- 10 • Patrols: Date of last patrol, with calculated CPUC due date;
- 11 • Inspections: Date of last inspection, with calculated CPUC due date;
- 12 • As work is completed, entries are made into the spreadsheet including the
13 date that the work was started and completed, Inspector Name and LAN ID,
14 etc.; and
- 15 • Tracking column indicating if the work was completed <= the CPUC due
16 date.

17 Division spreadsheets are merged into a master file every week, with the
18 following tracking mechanisms:

- 19 • “At Risk” report, which provides the work that is coming due in the next
20 2 weeks & 6 weeks, for visibility;
- 21 • Summary report, by Division, showing volume of facilities that were
22 completed on time or late;
- 23 • Recurring calls with Area Managers and Supervisor, to review the “At Risk”
24 report to ensure visibility of upcoming due dates, understanding of any late
25 units; and
- 26 • For late units, centralized tracking of all late units within the System
27 Inspections “data response” team, including reason for work being complete
28 late, remediation efforts needed, etc.

29 Supervisors have visibility in to CPUC due dates, are required to dispatch
30 work to Inspectors in time to meet dates. Inspectors see CPUC due dates on
31 paper map package and in the Inspect application, so that they can prioritize and
32 ensure they complete the work by the due date. Due date requirements are

1 covered during Inspector training courses. Contract resources have visibility into
2 due dates, expectation is that they complete all assigned work by due dates.

3 “Engage” application – scheduling tool for Supervisor to assign OH
4 inspections, includes the due date for each maintenance plan, so that
5 supervisors have visibility and can ensure they are dispatching work in time to
6 meet the CPUC due date. Daily “Attainment Report” for OH inspections
7 completed in the Inspect application, which includes “asset required date”
8 (CPUC due date and/or WMP date, whichever date is sooner) and completion
9 date.

10 Various monthly reporting and metrics showing volume of patrols and
11 inspections completed on time or late.

12 **Rate Case Safety Goal Progress:** The Missed Inspections and Patrols metric
13 is related to PG&E’s commitment to perform its Detailed Electric Distribution and
14 Transmission Inspections in Compliance with its WMP, but also with GO 165.
15 Significant work was performed to ensure electric facilities were inspected within
16 their respective compliance timelines, but to ensure the inspections were
17 effective in identifying non-conformances that required urgent repairs to
18 mitigation for the potential of catastrophic wildfires. Furthermore, additional
19 planning controls were developed to ensure all inspectable facilities are in a
20 planned inspection cycle to avoid inspections being missed.

21 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 27: Overhead Conductor Size in High Fire Threat District, Tiers 2**
2 **and 3, (HFTD)**

3 **Metric Name and Description:** Overhead Conductor Size in High Fire Threat
4 District, Tiers 2 and 3, HFTD – Percentage of primary distribution overhead
5 conductors in Tiers 2 and 3 HFTD that is #6 copper (6Cu). Secondary
6 conductors are excluded.

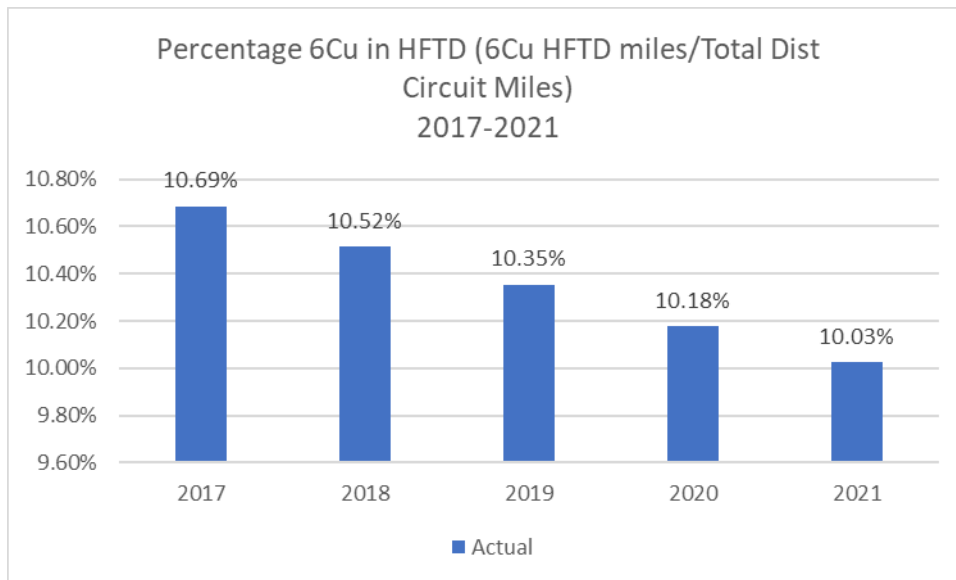
7 **Risks:** Electric Overhead, wildfire

8 **Category:** Electric

9 **Units:** Percentage relative to total circuit miles.

10 **Summary:**

FIGURE 5-27
OVERHEAD CONDUCTOR SIZE IN HIGH FIRE THREAT DISTRICT, TIERS 2 AND 3, (HFTD)
(ANNUAL)



11 **Narrative Context:** PG&E’s system of record for our electric distribution
12 facilities is Electric Distribution Geographic Information System (EDGIS). The
13 EDGIS data points above show a reduction of 6 CU over time within PG&E’s
14 distribution system. PG&E has eliminated the use of 6Cu in new construction,
15 however it is still used in cases of maintenance and emergency work.

1 **Is Metric Used for the Purposes of Determining Executive (Director Level**
2 **or Higher) Compensation Levels and/or Incentives?**

3 No, the Overhead Conductor Size in High Fire Threat District, Tiers 2 and 3,
4 (HFTD) metric was not used as a STIP metric for 2021.

5 **Is Metric Linked to the Determination of Individual or Group Performance**
6 **Goals?**

7 No, the Overhead Conductor Size in High Fire Threat District, Tiers 2 and 3,
8 (HFTD) metric is not linked to 2021 individual or group performance goals for
9 Director-level, or higher, positions.

10 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

11 No, the Overhead Conductor Size in High Fire Threat District, Tiers 2 and 3,
12 (HFTD) metric is not linked to individual performance goals for Director-level, or
13 higher, positions in 2021.

14 **Bias Controls:** As this is a new measure for PG&E, there are currently no bias
15 controls in place for measuring the amount of 6Cu in our system. As of January
16 2022, there are a total of 25,278.5 Distribution overhead circuit miles located in
17 the Tier 2 and Tier 3 HFTD areas. PG&E's data bases reflect the circuit miles
18 that currently exist and do not maintain the historical values specifically in the
19 Tier 2/3 areas. As such, PG&E has assumed these values have remained the
20 same for all years from 2013 to 2021 and assuming annual variances due to the
21 circuit miles are very small.

22 **Rate Case Safety Goal Progress:** PG&E does not focus on this metric;
23 therefore, it is not used to track safety performance. There is no safety goal
24 associated with the amount of 6Cu in the 2020 GRC.

25 **Monthly Data:** See Attachment A at the end of this report. This is a new metric
26 for PG&E to track, and EDGIS system capabilities only have annual data
27 snapshots as far back as 2017 and we currently do not have the ability to display
28 the results in a monthly manner.

1 **Metric 28: Gas Operation Corrective Actions Backlog**

2 **Metric Name and Description:** Gas Operation (GO) Corrective Actions
3 Backlog - Total number of overdue work orders generated to correct 49 Code of
4 Federal Regulations (CFR) Part 192 non-compliances or infractions Notices of
5 Violation that exceeded the maximum allowable/allotted time frame to complete
6 the work order in the past calendar year divided by the total number of closed or
7 still-open non-compliance or infraction Notices of Violation-related work orders in
8 past calendar year, evaluated at the end of the year. Maximum
9 allowable/allotted time is based on either applicable requirement in 49 CFR
10 Part192, or the utility's internal standards. Separate metrics are provided for gas
11 distribution and gas transmission (GT).

12 **Risks:** Gas safety

13 **Category:** Gas

14 **Units:** Percentage of work orders past due for completion in the past calendar
15 year

16 **Summary:**

**FIGURE 5-28A
GAS OPERATION CORRECTIVE ACTIONS BACKLOG (DISTRIBUTION) (ANNUAL)**

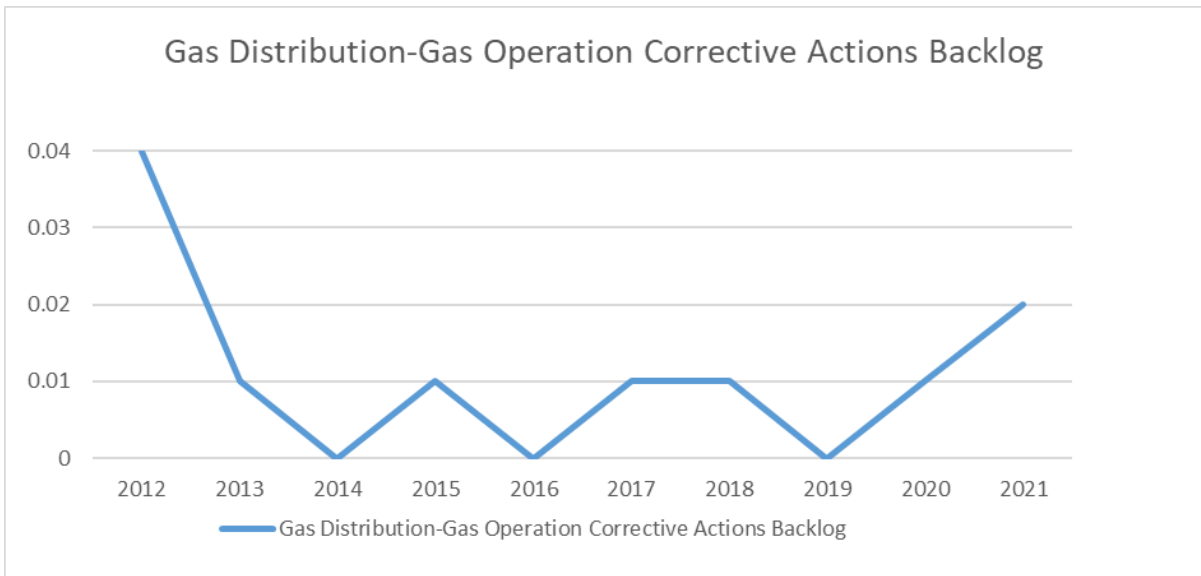
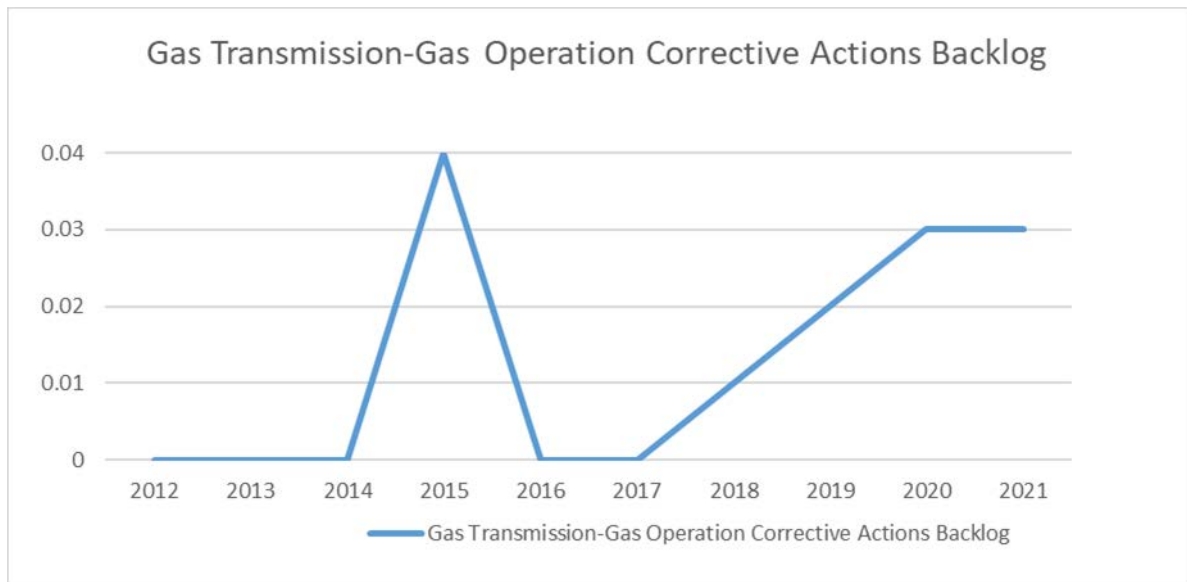


FIGURE 5-28B
GAS OPERATION CORRECTIVE ACTIONS BACKLOG (TRANSMISSION) (ANNUAL)



1 **Narrative Context:**

2 This metric measure overdue corrective work orders (leveraging timeframes
3 outlined in 49 CFR Part 192) as a percentage of total corrective workorders in a
4 given calendar year. PG&E includes actions resulting from low cathodic
5 protection reads and atmospheric corrosion remediation of bad coating or wrap
6 at the air to soil interface in the calculation of this metric.

7 In 2021, GO Corrective Action Backlog was 0.02 for Gas Distribution. From
8 2012-2021, there has been a 50 percent decrease in GO Corrective Backlog. In
9 2021, GO Corrective Action Backlog for GT was 0.03 for GT which is a
10 significant increase compared to the data for the historical years.

11 **Is Metric Used for the Purposes of Determining Executive (Director Level**
12 **or Higher) Compensation Levels and/or Incentives?**

13 No, the GO Corrective Actions Backlog metric was not used as a STIP
14 metric for 2021.

15 **Is Metric Linked to the Determination of Individual or Group Performance**
16 **Goals?**

17 Yes, the GO Corrective Actions Backlog metric is linked to 2021 individual or
18 group performance goals for one or more Director-level position or higher.

1 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

2 Yes, in 2021, the following position(s) include individual performance goals
3 that are linked to the GO Corrective Actions Backlog metric:

- 4 • **Director:** Gas Engineering (1), GO (1).

5 **Bias Controls:** Work orders are generated in our system of record and
6 assigned due dates per guidance in 49 CFR Part 192. Overdue items are
7 tracked by our compliance team and issued via a "self-report" to the CPUC. The
8 data is tracked through monthly attainment reporting for different asset types.

9 **Rate Case Safety Goal Progress:** This safety metric does not support a stated
10 safety goal in the 2020 GRC.

11 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 29: GO-95 Corrective Actions (Tiers 2 and 3, HFTD)**

2 **Metric Name and Description:** General Order (GO)-95 Corrective Actions
3 (Tiers 2 and 3, High Fire Threat District (HFTD)) – The number of Priority Level
4 2 notifications that were completed on time divided by the total number of
5 Priority Level 2 notifications that were due in the calendar year in Tiers 2 and 3,
6 HFTD. Consistent with GO 95 Rule 18 provisions, the proposed metric should
7 exclude notifications that qualify for extensions under reasonable circumstances.
8 Separate metrics are provided for distribution and transmission systems.

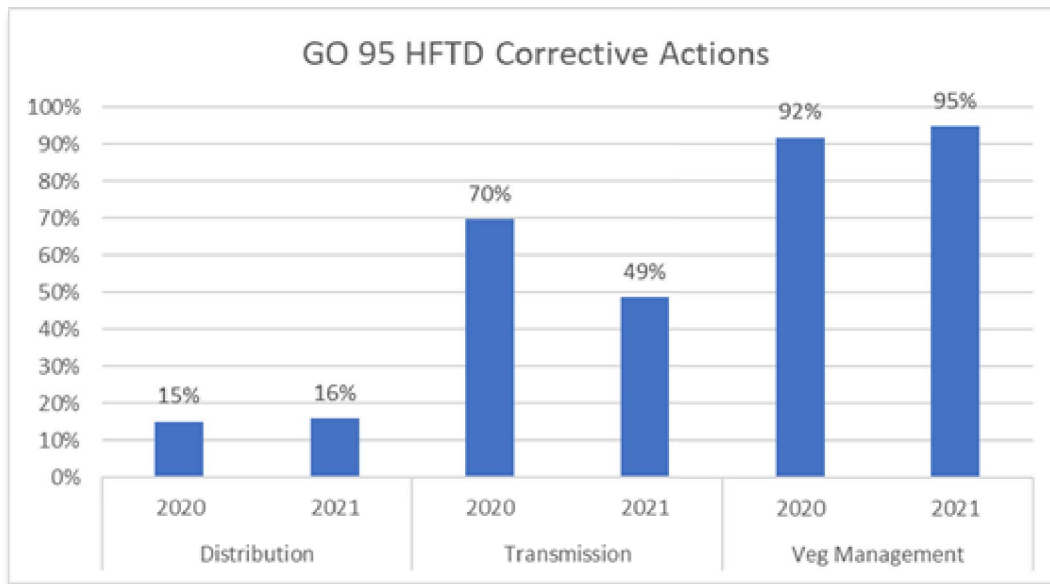
9 **Risks:** Electric safety and wildfire

10 **Category:** Electric

11 **Units:** Percentage of corrective actions completed

12 **Summary:**

FIGURE 5-29
GO-95 CORRECTIVE ACTIONS (TIERS 2 AND 3, HFTD) (ANNUAL)



13 **Narrative Context:** The GO 95 Corrective Actions in HFTD metric measures
14 the number of Priority Level 2 corrective notifications (tags) in HFTD that are
15 completed in accordance with the GO 95 Rule 18 timelines.

16 This metric is associated with our Failure of Electric Distribution Overhead
17 Asset Risk and our Wildfire Risk, which are part of our 2020 Risk Assessment
18 and Mitigation Phase Report filing. Vegetation Management (VM) work

1 generally follows wildfire risk priorities. Priority notifications are tracked to
2 completion against procedural timelines that are consistent with the underlying
3 risk of the work.

4 **Is Metric Used for the Purposes of Determining Executive (Director Level**
5 **or Higher) Compensation Levels and/or Incentives?**

6 No, the GO-95 Corrective Actions (Tiers 2 and 3, HFTD) metric was not
7 used as a STIP metric for 2021.

8 **Is Metric Linked to the Determination of Individual or Group Performance**
9 **Goals?**

10 Yes, the GO-95 Corrective Actions (Tiers 2 and 3, HFTD) metric is linked to
11 2021 individual or group performance goals for one or more Director-level
12 position or higher.

13 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

14 Yes, in 2021, the following position(s) include individual performance goals
15 that are linked to the GO-95 Corrective Actions (Tiers 2 and 3, HFTD) metric:

- 16 • **Director:** Electric Operations (2), Supply Chain (4);
- 17 • **Senior Director:** Electric Operations (2), Supply Chain (2); and
- 18 • **Vice President:** Electric Operations (1).

19 **Bias Controls:**

- 20 • **Transmission:** Once a notification is released to LC, the Centralized
21 Inspection Review Team (CIRT) is the only group that can edit the priority,
22 fire tier, scope of work (via Facility Damage Action (FDA)/ Work Type Code
23 (WTC)), due date, and other fields. That is controlled by adding the user
24 status code, PRTO status, which severely limits the editable fields to anyone
25 outside of CIRT. CIRT adds this status to all notifications that are reviewed.
- 26 • **Distribution:** Once a notification is entered into SAP it is released for
27 review in the gatekeeper screen which has SAP controls build into it base on
28 the FDA table that has the various FDAs (facility/damage/action), WTC
29 (work type codes), tag priority, duration/due date, etc. The tags info
30 (pictures, map, comments) are reviewed by the gatekeepers that make up
31 CIRT and confirmed as EC. Once a tag is converted to an EC, edit
32 functions to certain fields are limited to the compliance group.

1 **Rate Case Safety Goal Progress:** This metric is not a 2020 GRC stated safety
2 goal. PG&E has focused its GO95 Corrective Actions in HFTDs with a
3 risk-informed prioritization of its work plans. PG&E’s strategy focuses on
4 reducing wildfire risk associated with open corrective notifications while
5 deploying safety controls to manage the lower risk Level 2 Priority “E” corrective
6 notifications. This approach allows strategic and targeted wildfire risk reductions
7 to continue to be our primary focus.

8 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 30: Gas Overpressure Events**

2 **Metric Name and Description:** Gas Overpressure Events - CPUC-reportable
3 overpressure events are those that met the conditions specified in
4 General Order 112-F, 122.2(d)(5) but are reported on the same frequency as the
5 other Safety Performance Metrics. Separate metrics are provided for distribution
6 and transmission systems. This metric measures both gas operational
7 performance and the integrity of gas pipelines.

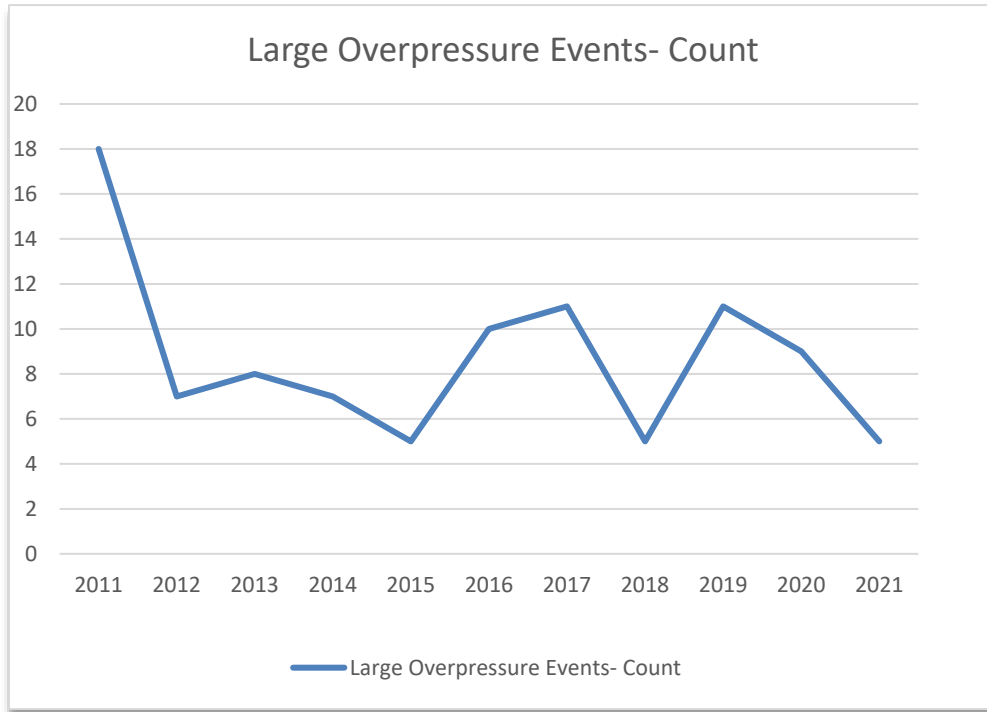
8 **Risks:** Large Overpressure Event Downstream of Gas Measurement and
9 Control Facility; Loss of Containment at Gas Measurement and Control or
10 Compression and Processing Facility

11 **Category:** Gas

12 **Units:** Number of occurrences

13 **Summary:**

**FIGURE 5-30
GAS OVERPRESSURE EVENTS (ANNUAL)**



1 **Narrative Context:** A large Overpressure event is defined as any verified
2 pressure reading that exceeds the design limits set forth in the Code of Federal
3 Regulations (CFR) – 49 CFR 192.201. This metric tracks the occurrence of
4 Overpressure events, which includes:

- 5 1. High pressure gas distribution
 - 6 a. (Maximum Allowable Operating Pressure (MAOP) 1 pound per square
7 inch gauge (psig) to 12 psig) greater than 50 percent above MAOP
 - 8 b. (MAOP 12 psig to 60 psig) greater than 6 psig
- 9 2. Transmission pipelines greater than 10 percent above MAOP (or the
10 pressure produces a hoop stress of ≥ 75 percent Specified Minimum Yield
11 Strength, whichever is lower)

12 Overpressure events on low pressure systems are excluded from this metric
13 because they are not defined in federal code 49 CFR 192.201. From
14 2011-2021, the number of Gas Overpressure events has been considerably
15 reduced by 72 percent with just five occurrences in 2021. PG&E attributes this
16 reduction in Overpressure events to implementation of station design and
17 construction best practices to mitigate common failure mode through installation
18 of secondary over pressure protection devices on pilot operated regulation
19 equipment.

20 PG&E has identified human performance and equipment failure as the two
21 most common causes for Overpressure events. Actions to eliminate
22 Overpressure events were implemented, including station design and
23 construction best practices; lock-out/tag-out process improvements; and
24 distribution of information around associated Overpressure risk factors through
25 training and communication initiatives. PG&E installed Supervisory Control and
26 Data Acquisition (SCADA) points to increase system real-time visibility in the
27 Gas Control Center which could provide better detection capabilities and allow
28 more Overpressure events to be identified and recorded. PG&E also installed
29 sulfur filters on pilot-operated equipment. Large Volume Customer primary
30 regulation sets also received accelerated inspections.

31 PG&E continues to review operations and look for opportunities to perform
32 work to further limit potential MAOP exceedances. Each activity builds on the

1 goal to eliminate large Overpressure events, thereby contributing to system
2 safety and reliability.

3 **Is Metric Used for the Purposes of Determining Executive (Director Level**
4 **or Higher) Compensation Levels and/or Incentives?**

5 Yes. The Gas Overpressure Events metric is a component of the Large
6 Overpressure Events Rate which was used as a STIP metric for 2021. Large
7 Overpressure Events Rate tracks the number of large overpressure events per
8 100 SCADA visibility points on the gas system.

9 **Is Metric Linked to the Determination of Individual or Group Performance**
10 **Goals?**

11 Yes, the Gas Overpressure Events metric is linked to 2021 group
12 performance goals for one or more Director-level position or higher.

13 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

14 Yes, the Gas Overpressure Events metric is linked to all individual goals as
15 part of 2021 STIP plan. In addition, this metric may be included as part of an
16 individual's performance goals.

17 **Bias Controls:** PG&E has both an automated process and field process for
18 logging Gas Overpressure events. For the automated process, SCADA system
19 monitors equipment pressure and notifies potential issues to Gas Control
20 through alarms. For the field process, field personnel are required to gauge
21 pressure during maintenance and clearances, and report to Gas Control if an
22 abnormal operating condition arises.

23 Several controls, verified by Internal Auditing, are in place for this metric:

- 24 1. Each Overpressure event is entered into our SAP Corrective Action Program
25 (CAP) system of record to ensure retention of record history.
- 26 2. Each Overpressure event's datasets (location, CAP number, date, cause,
27 corrective action etc.) are reviewed by the Facility Integrity Management
28 Program team to ensure accuracy and are logged in the Overpressure
29 master list which is viewable by all PG&E employees.
- 30 3. Each Overpressure event is distributed to stakeholders by an electronic page
31 (epage) and an email (Quick Hit), which is reviewed in the next Daily
32 Operations Briefing with leadership.

1 **Rate Case Safety Goal Progress:** Overall: PG&E’s strategic objectives
2 include plans to execute the secondary Overpressure Protection program to
3 mitigate common failure mode failure overpressure events for both Gas
4 Transmission (GT) and Gas Distribution (GD) over a 10-year period
5 (2018-2027)—with the expectation that 50 percent of the pilot operated GD
6 regulator stations and GT Large Volume Customer Regulators (LVCR) will be
7 addressed by the end of 2022.

8 Distribution: For the 2019-2022 rate case period, PG&E plans to retrofit
9 50 percent of distribution pilot operated stations by 2022.

10 Transmission: In 2019, we began rebuilding and retrofitting LVCRs sets
11 specifically to address Overpressure risks. All LVCRs are forecasted to be
12 rebuilt or retrofitted by the end of 2023.

13 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 31: Gas In-Line Inspections Missed**

2 **Metric Name and Description:** The number of gas pipeline in-line inspections
3 that missed the required reassessment interval, according to the relevant
4 intervals established pursuant to 49 CFR, Part 192.

5 **Risks:** Catastrophic Damage Involving High-Pressure Pipeline Failure

6 **Category:** Gas

7 **Units:** Number of Missed Inspections

8 **Summary:**

**TABLE 5-31
GAS IN-LINE INSPECTIONS MISSED**



9 **Narrative Context:** From 2012–2020, there has been no instances of gas
10 pipeline in-line inspections that missed the required reassessment interval,
11 according to the relevant intervals established pursuant to 49 CFR, Part 192.
12 However, in 2021 PG&E recorded 1 instance of gas pipeline in-line inspection
13 that missed the required reassessment interval. This missed inspection was due
14 to potential reliability impacts of the inspection.

1 **Is Metric Used for the Purposes of Determining Executive (Director Level**
2 **or Higher) Compensation Levels and/or Incentives?**

3 No, the Gas In-Line Inspections Missed metric was not used as a STIP
4 metric for 2021.

5 **Is Metric Linked to the Determination of Individual or Group Performance**
6 **Goals?**

7 Yes, the Gas In-Line Inspections Missed metric is linked to 2021 individual
8 or group performance goals for one or more Director-level, or higher, positions.

9 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

10 Yes, in 2021, the following position(s) include individual performance goals
11 that are linked to the Gas In-Line Inspections Missed metric:

- 12 • **Director:** Gas Engineering (1);
- 13 • **Senior Director:** Gas Engineering (1); and
- 14 • **Senior Vice President:** Gas Engineering (1).

15 **Bias Controls:** Metric results are reported as needed when a non-conformance
16 occurs. This is reviewed by Regulatory Compliance Department at weekly Self
17 Report Meetings.

18 **Rate Case Safety Goal Progress:** This safety metric does not support a 2020
19 GRC safety goal given this metric is a gas transmission, not distribution, related
20 metric. Non-compliance for missed ILI inspections are not specifically tracked
21 as part of any Rate Case as it is mandatory federal safety requirement PG&E is
22 committed to meeting.

23 **Monthly Data:** See Attachment A at the end of this report.

1 **Metric 32: Overhead Conductor Safety Index**

2 **Metric Name and Description:** Overhead Conductor Safety Index - Overhead
3 Conductor Safety Index is the sum of all annual occurrences on overhead
4 transmission or primary voltage distribution conductors satisfying one or more of
5 the following conditions divided by total circuit miles in the system x 1,000:

- 6 1) A conductor or splice becomes physically broken;
- 7 2) A conductor is dislodged from its intended design position due to either
8 malfunction of its attachment points and/or supporting structures or contact
9 with foreign objects (including vegetation);
- 10 3) A conductor falls from its intended position to rest on the ground or a foreign
11 object;
- 12 4) A conductor comes into contact with communication circuits, guy wires, or
13 conductors of a lower voltage; or
- 14 5) A power pole carrying normally energized conductors leans by more than
15 45 degrees in any direction relative to the vertical reference when measured
16 at ground level.

17 Separate metrics are reported for transmission and primary voltage distribution
18 conductors. Secondary voltage conductors and service drops are not included
19 in this metric.

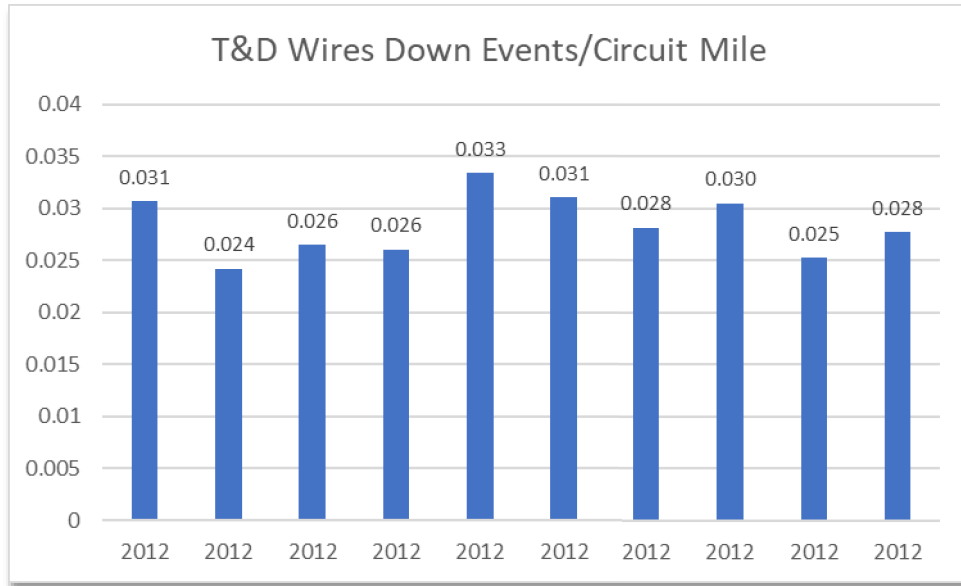
20 **Risks:** Wildfire, Transmission Overhead Conductor, Distribution Overhead
21 Conductor Primary

22 **Category:** Electric

23 **Units:** Number of occurrences per circuit mile

1 **Summary:**

**FIGURE 5-32
OVERHEAD CONDUCTOR SAFETY INDEX (ANNUAL)**



2 **Narrative Context:** PG&E does not currently does not have the ability report
3 out on this metric per the five subcomponents listed above, as we do not track
4 conductor failures at that level of granularity. We have assumed that the spirit of
5 this metric aligns with our Wires Down metric definition as stated in Metrics 1
6 and 2 and the numbers above represent the number of Distribution and
7 Transmission Wire Down Events divided by total overhead circuit miles.

8 **Is Metric Used for the Purposes of Determining Executive (Director Level
9 or Higher) Compensation Levels and/or Incentives?**

10 No, the Overhead Conductor Safety Index metric was not used as a
11 Short-Term Incentive Plan metric for 2021.

12 **Is Metric Linked to the Determination of Individual or Group Performance
13 Goals?**

14 No, the Overhead Conductor Safety Index metric is not linked to 2021
15 individual or group performance goals for Director-level, or higher, positions.

1 **Is Metric Linked to Executive (Director Level or Higher) Positions?**

2 No, the Overhead Conductor Safety Index metric is not linked to individual
3 performance goals for Director-level, or higher, positions in 2021.

4 **Bias Controls:** The T&D Wires Down metric is a strong proxy of the overall
5 goal of reducing the potential contacts with wires down and improving the
6 reliability of the electric system along with reducing public safety risk. From the
7 metric data, performance, and target-setting perspective, there are several
8 controls put in place that have been verified by Internal Audit.

- 9 – The wires down events are reported by field and control center personnel
10 per uniform reporting guidelines as the events occur.
- 11 – Engineers conduct post wire down event reviews (typically for the non-MED
12 events) and will initiate corrections to the data via the outage quality team to
13 ensure the reporting guidelines were followed and the records align with
14 information reported by repair crews.
- 15 – The outage quality team processes all valid change requests received and
16 also initiates corrections based on their reviews and findings of the collected
17 outage information.

18 **Rate Case Safety Goal Progress:** This specific metric is not tied to a 2020
19 GRC or RAMP Safety goal, however the T&D Wires Down metric (excluding
20 downed secondary distribution wires and MEDs, please refer to Metric 1) has
21 been one of the key indicators that PG&E is using to track Public Safety
22 Performance.

23 Significant work was performed to reduce wires down, including replacing
24 overhead conductor, vegetation clearing, hardening of distribution circuits,
25 infrared inspections of overhead lines to identify and repair hot spots,
26 investigating wires down incidents, and implementing learnings/corrective
27 actions.

28 **Monthly Data:** See Attachment A at the end of this report.

PACIFIC GAS AND ELECTRIC COMPANY
2021 SAFETY PERFORMANCE METRICS REPORT
ATTACHMENT A
MONTHLY METRIC DATA TABLES

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 1

TRANSMISSION AND DISTRIBUTION (T&D) OVERHEAD WIRES DOWN - NON-MAJOR EVENT DAYS

2012 - 2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	233	191	427	247	176	231	206	200	146	203	395	377	3,032
2	2013	163	179	192	225	225	209	176	207	203	237	160	219	2,395
3	2014	168	302	246	193	178	181	194	189	163	221	182	399	2,616
4	2015	158	237	143	185	154	198	184	225	189	219	274	410	2,576
5	2016	430	184	511	270	225	211	224	178	213	343	219	292	3,300
6	2017	283	376	378	242	263	238	233	215	230	205	246	158	3,067
7	2018	216	175	370	231	210	231	272	204	168	213	208	287	2,785
8	2019	335	249	336	238	311	206	198	210	216	138	232	341	3,010
9	2020	159	172	245	229	235	213	196	240	192	180	237	196	2,494
10	2021	262	188	292	174	217	238	213	181	208	255	248	265	2,741

- (a) PG&E has utilized its Integrated Logging Information System-Operations Data Base (ILIS-ODB) to provide the number of distribution outages that involved distribution wire down event conditions.
- (b) Distribution wire down conditions during PSPS events are not included in these totals since these typically occur when the lines are de-energized and are generally not the initiating cause of the reported outage event.
- (c) PG&E's current definition for distribution wire down events are only related to sustained outages of its primary distribution system reported in its ILIS-ODB data base.
- (d) Transmission wire down events were not tracked until 2012 and 2013 was the first year distribution wire down events were uniformly tracked.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 2

TRANSMISSION AND DISTRIBUTION (T&D) OVERHEAD WIRES DOWN - MAJOR EVENT DAYS

2012 - 2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	233	191	427	247	176	231	206	200	146	203	395	753	3,408
2	2013	163	179	192	312	225	217	176	207	203	237	362	219	2,692
3	2014	168	302	246	193	178	181	194	216	163	221	182	1,147	3,391
4	2015	158	714	143	189	154	211	216	225	189	225	274	581	3,279
5	2016	430	274	714	270	225	211	224	178	213	397	219	292	3,647
6	2017	1,947	1,402	378	468	263	253	233	215	325	488	246	257	6,475
7	2018	216	175	431	231	215	231	283	204	168	219	334	287	2,994
8	2019	880	1,786	336	238	311	229	198	219	232	283	524	341	5,577
9	2020	264	393	516	229	235	213	196	375	233	206	237	196	3,293
10	2021	1,473	188	292	174	217	238	224	222	224	775	248	1,547	5,822

(a) PG&E has utilized its Integrated Logging Information System-Operations Data Base (ILIS-ODB) to provide the number of distribution outages that involved distribution wire down event conditions.

(b) Distribution wire down conditions during PSPS events are not included in these totals since these typically occur when the lines are de-energized and are generally not the initiating cause of the reported outage event.

(c) PG&E's current definition for distribution wire down events are only related to sustained outages of its primary distribution system reported in its ILIS-ODB data base.

(d) Transmission wire down events were not tracked until 2012 and 2013 was the first year distribution wire down events were uniformly tracked.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 3

ELECTRIC EMERGENCY RESPONSE TIME

**"Average and median time in minutes to respond on-site"
2012-2021**

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	avg												82
		med												
2	2013	avg												35
		med												31
3	2014	avg												35
		med												31
4	2015	avg	39	65	32	34	33	42	37	34	43	37	33	39
		med	29	34	28	28	28	27	28	30	27	28	26	27
5	2016	avg	39	32	32	43	35	39	39	33	37	33	33	37
		med	27	26	27	28	26	28	28	28	27	27	29	28
6	2017	avg	42	46	40	46	41	35	33	40	32	31	40	40
		med	31	33	28	31	28	27	30	28	29	27	28	30
7	2018	avg	27	30	35	41	41	38	39	35	36	37	36	36
		med	25	27	26	28	28	27	29	27	28	28	28	28
8	2019	avg	31	46	31	37	33	35	25	31	32	37	32	41
		med	29	32	29	30	29	31	29	30	31	32	30	30
9	2020	avg	31	39	30	30	29	29	30	33	30	30	30	31
		med	29	31	29	29	28	27	30	30	29	29	29	29
10	2021	avg	36	30	30	29	29	29	31	30	35	32	34	32
		med	32	29	29	27	29	28	29	30	32	31	30	30

(a) PG&E began tracking monthly data in 2015

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 4

FIRE IGNITIONS 2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012													
2	2013													
3	2014	1	1		2	3	51	74	40	36	41	18	12	279
4	2015	4	13	13	24	38	97	80	73	64	42	15	11	474
5	2016	2	5	1	26	38	84	71	67	60	38	7		399
6	2017	9	3	7	19	44	101	112	81	70	106	23	20	595
7	2018	7	8	6	11	38	107	93	72	56	36	30	3	467
8	2019	5	5	3	17	41	84	73	64	69	84	35	6	486
9	2020	1	16	11	17	52	106	66	86	55	61	29	16	516
10	2021	43	12	18	33	74	92	64	47	33	49	9	5	477

(a) Metric includes all powerline-involved fire incidents annually reportable to the CPUC per Decision 14-02-015 and within the entire PG&E service territory (not just HFTD). A reportable fire incident includes all of the following: 1) Ignition is associated with PG&E powerlines and 2) something other than PG&E facilities burned and 3) the resulting fire traveled more than one meter from the ignition point.

(b) PG&E began tracking this metric in July 2014. The full year of metric data is only available for 2015-2020.

(c) The 2015-2020 2019 fire ignition metric data reflects fire ignitions previously not included in the 2019 Safety Performance Metrics Report due to a misidentification in a field-based documentation system. PG&E is currently conducting an audit of the datasets that may contain fire ignition data.

(d) PG&E has included the Zogg Fire in this ignition count because CAL FIRE has announced that the cause of the Zogg Fire was a pine tree contacting PG&E overhead electric lines. PG&E's investigation into the cause of the Zogg Fire is ongoing.

(e) PG&E has included 7 ignitions in 2021 that meet Electric Incident Report criteria, defined by Appendix B to CPUC D.06-04-055. PG&E has not formed a conclusion about the origin or cause of these particular ignitions.

2021 SAFETY PERFORMANCE METRICS

TABLE 5
GAS DIG-INS
2012-2021

Line No.	Year	UOM	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012														
2	2012														
3	2012														
4	2013														
5	2013														
6	2013														
7	2014	Gas Tickets													671313
8	2014	3rd Party Dig-ins													1621
9	2014	3rd Party Dig-in Ratio													2.41
10	2015	Gas Tickets													788901
11	2015	3rd Party Dig-ins													1694
12	2015	3rd Party Dig-in Ratio													2.15
13	2016	Gas Tickets	60154	68599	73839	69660	74564	76594	70610	84300	78050	73127	68549	60926	858972
14	2016	3rd Party Dig-ins	84	115	114	147	149	179	167	211	190	142	145	91	1734
15	2016	3rd Party Dig-in Ratio	1.4	1.68	1.54	2.11	2	2.34	2.37	2.5	2.43	1.94	2.12	1.49	2.02
16	2017	Gas Tickets	62163	61145	82191	73287	85823	84379	77764	90450	81709	89552	80815	73387	942665
17	2017	3rd Party Dig-ins	65	79	155	128	175	181	192	205	162	172	129	137	1780
18	2017	3rd Party Dig-in Ratio	1.05	1.29	1.89	1.75	2.04	2.15	2.47	2.27	1.98	1.92	1.92	1.6	1.89
19	2018	Gas Tickets	82986	77901	84149	89657	95567	91232	94206	104059	87105	101917	85994	74937	1069710
20	2018	3rd Party Dig-ins	93	127	96	137	195	160	179	174	159	164	131	103	1718
21	2018	3rd Party Dig-in Ratio	1.12	1.63	1.14	1.53	2.04	1.75	1.9	1.67	1.83	1.61	1.52	1.37	1.61
22	2019	Gas Tickets	90140	93011	122101	130536	128393	122987	145646	157091	155556	165328	129355	115970	1556114
23	2019	3rd Party Dig-ins	83	76	98	132	135	161	188	193	156	178	137	82	1619
24	2019	3rd Party Dig-in Ratio	0.92	0.82	0.8	1.01	1.05	1.31	1.29	1.23	1	1.08	1.06	0.71	1.04
25	2020	Gas Tickets	132997	130127	124530	119393	126695	142897	140577	134692	141309	136592	102979	102140	1534928
26	2020	3rd Party Dig-ins	88	111	96	114	123	153	188	175	169	148	119	120	1604
27	2020	3rd Party Dig-in Ratio	0.66	0.85	0.77	0.95	0.97	1.07	1.34	1.3	1.2	1.08	1.16	1.17	1.05
28	2021	Gas Tickets	104556	129518	165637	167973	156393	162111	150562	162597	128307	119879	119327	106685	1673545
29	2021	3rd Party Dig-ins	114	104	118	143	134	169	150	163	151	130	97	58	1531
30	2021	3rd Party Dig-in Ratio	1.09	0.80	0.71	0.85	0.86	1.04	1.00	1.00	1.18	1.08	0.81	0.54	0.91

(a) PG&E has data available as of 2014

2021 SAFETY PERFORMANCE METRICS REPORT

**TABLE 6
GAS IN-LINE INSPECTION
2012-2021
"Miles Inspected"**

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY	Current System Total (Transmission)	% of Transmission Lines Inspected Annually
1	2012													175.6	5751	3%
2	2013													257.3	5737	4%
3	2014		52.1	20.3	17.9	11.9	6.4	66.8		6.9	96.3		142.8	421.3	5733	7%
4	2015			133.3				23.0	60.2	43.8		5.1		265.4	6541	4%
5	2016	3.0	7.1	0.8	15.9	29.0	12.8	57.5	8.6	7.7	114.6	1.9	0.6	259.5	6530	4%
6	2017	0.7	21.3			33.4	73.4	9.1	28.0	27.3		55.4	60.2	308.8	6535	5%
7	2018	43.2	22.4	7.4	36.9	42.9	0.6	1.3	18.3	6.0	75.2	43.2		297.4	6531	5%
8	2019		22.5	39.9	44.8	88.7	54.1	13.7	121.8	17.1	12.8	53.3	9.3	478.0 ^(a)	6498	7%
9	2020	0.4	0.0	29.0	62.7	67.3	120.9	17.1	25.7	1.3	8.9	22.4	4.0	359.6	6551	5%
10	2021		94.9	91.6	0.1	73.0	160.5	108.8	152.5	137.7	0.1	74.6	76.7	970.5	6417	15%

(a) Includes miles inspected for PSEP and base reliability work

(b) Prior year report incorrectly reported 2019 results; for EOY 2019 there were a total of 478.0 miles in-line inspected.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 7

GAS IN-LINE UPGRADE

2012-2021

"Miles Upgraded"

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012		15.8						7.3			79.6		102.7
2	2013							67.0		20.0	68.7		6.5	162.2
3	2014	6.7		21.9		32.9					4.0	6.4		71.9
4	2015					6.3		12.2		11.2	5.8	11.3	25.3	72.1
5	2016	1.5				44.3	21.7	11.9		4.8	10.5	12.4		107.2
6	2017						54.2				53.4	22.4	24.4	154.4
7	2018							13.1			97.9	63.2	68.7	243.0
8	2019			36.3	62.8	2.6		3.1		70.7	10.7		59.6	245.7
9	2020			44.0	43.6	47.2	55.9	85.9			48.8	95.5	43.3	464.2
10	2021				26.7	65.9	21.9	6.6		14.5			10.0	145.6

(a) Includes miles upgraded in both PSEP and base reliability programs.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 8

SHUT IN THE GAS MEDIAN TIME - MAINS

2012-2021

"Median Number of Minutes"

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY (Median)	EOY (Avg)	
1	2012															
2	2013															
3	2014													97.0	120.77	
4	2015													87.0	102.8	
5	2016													87.0	104.43	
6	2017													89.0	103.78	
7	2018													73.0	88.77	
8	2019													73.7	85.13	
9	2020													77.1	93.72	
10	2021													73.3	102.57	

(a) Monthly data not available due to various tools/databases utilized to measure SITG since 2012. 2012 + 2013 raw data not available to recalculate EOY values from Average to Median.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 9

SHUT IN THE GAS AVERAGE TIME - SERVICES

2012-2021

"Median Number of Minutes"

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY (Avg)	EOY (Median)
1	2012													70	
2	2013													61	
3	2014													52.2	38
4	2015													49	40
5	2016													45.76	37
6	2017													45.16	36
7	2018													43.3	34.6
8	2019													41.4	33.6
9	2020													41.9	33
10	2021													43.53	32.3

(a) Year end data has been provided from 2012 through 2021. Monthly data is not available due to various tools utilized to manage daily dispatch time that have since been retired. 2012 + 2013 raw data not available to recalculate EOY values from Average to Median.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 10

CROSS BORE INTRUSIONS

2012-2021

Line No.	Year	Unit Type	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	Inspections Complete													
2	2012	Cross Bores Found													
3	2012	Find Rate													
4	2013	Inspections Complete													19,500
5	2013	Cross Bores Found													151
6	2013	Find Rate													7.74
7	2014	Inspections Complete													33,570
8	2014	Cross Bores Found													193
9	2014	Find Rate													5.72
10	2015	Inspections Complete													23,531
11	2015	Cross Bores Found													104
12	2015	Find Rate													4.42
13	2016	Inspections Complete	707	520	1467	1023	901	748	2064	1874	5276	2233	4494	2346	23,653
14	2016	Cross Bores Found	4	1	7	6	7	9	11	11	7	11	8	8	90
15	2016	Find Rate	5.657709	1.923077	4.771643	5.865103	7.769145	12.03209	5.329457	5.869797	1.3267627	4.926108	1.7801513	3.4100597	3.81
16	2017	Inspections Complete	509	1000	1438	1923	2031	1936	653	3023	4707	5481	6291	6168	35,160
17	2017	Cross Bores Found	1	5	15	4	5	1	2	2	1	1	3	0	38
18	2017	Find Rate	1.96	3.98	7.13	5.13	4.35	3.51	3.48	2.72	2.03	1.67	1.31	1.08	1.08
19	2018	Inspections Complete	3232	3215	2166	4419	3568	4407	4463	5613	4851	2701	3844	3569	46,048
20	2018	Cross Bores Found	2	5	4	4	6	2	3	4	1	6	1	7	45
21	2018	Find Rate	0.62	1.09	1.28	1.15	1.27	1.09	1.02	0.97	0.86	0.96	0.89	0.98	0.98
22	2019	Inspections Complete	1739	1647	4365	2086	2816	9120	3480	6103	3035	3780	3880	1374	43,425
23	2019	Cross Bores Found	5	3	6	3	3	1	5	5	3	2	2	2	40
24	2019	Find Rate	0.62	1.09	1.28	1.15	1.27	1.09	1.02	0.97	0.86	0.96	0.89	0.98	0.98
25	2020	Inspections Complete	1788	1211	493	1435	1295	3052	681	1743	396	1720	622	2229	16665
26	2020	Cross Bores Found	5	3	7	10	4	1	7	3	4	3	6	3	56
27	2020	Find Rate	2.80	2.67	4.30	5.07	4.66	3.23	3.72	3.42	3.64	3.40	3.67	3.36	3.36
28	2021	Inspections Complete	1317	1389	1954	2300	1583	1629	2413	2593	3945	3278	3512	2380	28293
29	2021	Cross Bores Found	0	1	9	2	0	2	2	3	3	0	0	1	23
30	2021	Find Rate	0.00	0.37	2.15	1.72	1.40	1.38	1.27	1.25	1.15	0.98	0.85	0.81	0.81

(a) PG&E did not track this metric before 2013.

(b) From 2013-2015, the Cross-Bore Inspection Program was executed by an external contractor. Monthly data is not currently available.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 11A

GAS EMERGENCY RESPONSE TIME

2012-2021

MEDIAN MINUTES

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY (Median)
1														
2	2013	21.0	19.6	19.6	19.4	19.8	20.0	19.9	20.3	20.4	18.3	18.0	18.0	19.4
3	2014	18.1	18.3	18.3	17.8	18.0	17.8	17.4	17.8	18.2	18.4	18.4	18.0	18.1
4	2015	18.0	18.1	18.2	18.3	18.4	18.7	18.8	19.2	18.9	18.5	18.5	18.2	18.5
5	2016	18.8	18.5	18.4	18.4	18.2	18.1	18.1	18.2	18.0	18.0	15.2	18.3	18.3
6	2017	18.4	18.2	18.1	18.2	18.4	18.8	19.5	19.0	18.8	19.2	15.4	19.1	18.7
7	2018	18.8	18.6	18.5	18.8	18.7	18.8	18.9	19.3	19.3	19.1	18.7	18.5	18.8
8	2019	18.7	19.1	18.9	18.4	18.4	19.0	19.0	19.0	19.3	19.4	19.3	18.9	18.9
9	2020	19.0	19.1	17.8	17.7	18.5	19.1	19.2	19.1	18.7	18.9	19.1	18.8	18.8
10	2021	19.0	19.0	18.9	18.8	18.9	18.7	18.7	18.7	18.8	18.8	19.0	18.8	18.8

TABLE 11B

GAS EMERGENCY RESPONSE TIME

2012-2021

AVERAGES

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012													26.0
2	2013	23.0	21.0	21.0	21.0	22.0	22.0	22.0	22.0	22.0	20.0	20.0	20.0	21.3
3	2014	19.9	20.3	20.0	19.7	19.9	19.6	19.4	19.7	20.2	20.2	20.4	19.7	20.0
4	2015	19.7	19.8	20.1	20.1	20.5	20.7	20.8	21.0	20.7	20.4	20.4	19.9	20.3
5	2016	20.6	20.2	20.1	20.2	19.8	19.9	19.8	19.7	20.0	19.6	19.9	20.0	20.0
6	2017	20.2	19.9	19.7	19.8	20.0	20.5	21.1	20.8	21.1	20.9	20.8	21.0	20.4
7	2018	20.5	20.5	20.3	20.5	20.4	20.5	20.8	21.2	21.3	21.0	20.4	20.4	20.6
8	2019	20.6	21.0	20.7	20.0	20.1	20.8	20.9	20.8	21.2	21.2	21.3	20.8	20.8
9	2020	20.9	20.9	19.5	19.4	20.0	20.7	20.8	20.9	20.3	20.4	21.5	20.5	20.5
10	2021	20.8	20.7	20.7	20.6	20.6	20.6	20.6	20.5	20.5	20.5	20.6	20.6	20.6

(a) PG&E did not track this metric on a monthly basis until 2013

2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 12
NATURAL GAS STORAGE BASELINE INSPECTIONS PERFORMED
2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY Well Baseline Inspections	EOY % Progress to Goal ^b
1	2012														
2	2013				1	1	2	1	1					6	6%
3	2014								2	3	1			6	11%
4	2015						2	1	2	1				6	17%
5	2016					1	1	1	2	3		1	1	9	25%
6	2017							1	1	2	2	1	1	7	31%
7	2018				3	2	4	1	2	1				13	43%
8	2019			1	1	2	2	2	2	1	1	2		14	56%
9	2020				3	3	5	3	4	2				20	74%
10	2021			1	1	4	5	5				1	1	17	90%

(a) PG&E did not track this metric before 2013

(b) PG&E has a goal to complete baseline well production casing assessments on 109 wells by 2025 as stated in plan filed to CalGEM

**2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 13**

**GAS SYSTEM INTERNAL INSPECTION STATUS
2012-2021**

System Piggability

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY System Piggability	EOY Piggable Mileage Total
1	2012													19.49%	1277
2	2013													21.88%	1433
3	2014													22.99%	1506
4	2015													24.11%	1580
5	2016													25.75%	1687
6	2017													28.03%	1836
7	2018													31.73%	2079
8	2019													35.48%	2325
9	2020													42.55%	2788
10	2021													46.08%	2957

(a) Piggability % is dynamic since the Current system total mileage changes over the course of the year.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 14

DART RATE

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	0.42	0.56	0.58	0.63	0.78	0.74	0.73	0.73	0.69	0.63	0.60	0.63	0.63
2	2013	0.32	0.60	0.82	1.01	0.96	0.99	0.98	1.03	0.98	0.99	0.96	0.94	0.94
3	2014	0.27	0.19	0.28	0.38	0.35	0.37	0.37	0.38	0.86	0.94	0.98	1.05	1.05
4	2015	0.23	0.59	0.72	0.70	0.73	1.11	1.25	1.33	1.39	1.46	1.53	1.52	1.52
5	2016	0.57	1.41	1.39	1.31	1.33	1.31	1.35	1.51	1.58	1.52	1.59	1.70	1.70
6	2017	0.36	0.83	1.05	1.61	1.90	1.89	2.03	2.03	2.01	2.02	1.99	1.99	1.99
7	2018	1.22	1.30	1.29	1.47	1.56	1.51	1.65	1.74	1.81	1.78	1.74	1.81	1.81
8	2019	0.65	0.98	1.43	1.66	1.76	1.89	1.96	2.09	2.01	2.03	2.04	2.05	2.05
9	2020	0.76	1.44	1.34	1.30	1.19	1.17	1.22	1.37	1.31	1.36	1.37	1.34	1.34
10	2021	0.36	0.76	0.78	0.94	1.05	1.13	1.07	1.02	0.98	1.02	1.02	1.01	1.01

(a) Change in reporting process in 2016 which resulted in earlier classification

(b) Rates are company-wide

(c) Rates are cumulative

**2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 15A**

**Rate of EMPLOYEE SIF Actual using EEI SCL Model
2012-2021**

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY	EOY Rate SPM (SCL model)	EOY Labor Hours
1	2012															
2	2013															
3	2014															
4	2015															
5	2016															
6	2017	0	1	0	1	0	0	0	0	0	0	0	0	2	0.01	46,859,884
7	2018	0	0	0	0	0	0	0	1	0	0	0	0	1	0.00	45,913,811
8	2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	46,684,596
9	2020	0	0	1	0	0	0	0	1	0	0	1	1	4	0.02	49,672,365
10	2021	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	51,877,570

(a) PG&E started tracking Employee SIF Actuals using the EEI SCL Model in 2017

Labor hours by Month

Years	January	February	March	April	May	June	July	August	September	October	November	December
2017	3,896,332	3,771,980	4,333,833	3,765,548	4,251,370	4,004,976	3,517,755	4,135,723	3,745,093	4,308,181	3,687,157	3,441,936
2018	3,598,158	3,610,153	4,120,015	3,755,744	3,963,225	3,745,561	3,670,275	4,221,669	3,549,021	4,264,909	4,117,251	3,297,829
2019	3,707,483	3,823,635	3,939,982	3,934,898	3,955,218	3,654,569	3,867,271	3,984,534	3,793,849	4,686,374	3,595,922	3,740,862
2020	3,673,876	3,681,169	4,145,234	4,038,426	3,761,387	4,256,322	4,421,339	4,334,463	4,573,318	4,882,418	3,694,751	4,209,662
2021	3,839,472	4,020,854	4,883,961	4,466,083	4,094,847	4,471,078	4,233,635	4,554,241	4,353,125	4,468,465	3,940,192	4,393,539

2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 15B
Rate of EMPLOYEE SIF Actual using OSHA definition
2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY	EOY Rate	EOY Labor Hours
1	2012	0	1	2	0	0	0	0	0	0	2	2	0	7	0.03	42,370,076
2	2013	0	3	0	1	1	1	0	1	0	0	1	1	9	0.04	43,898,780
3	2014	0	0	0	0	0	0	0	1	0	0	1	0	2	0.01	45,772,256
4	2015	0	1	0	1	1	0	1	0	1	0	0	0	5	0.02	46,832,638
5	2016	1	0	0	0	0	0	1	0	1	0	1	0	4	0.02	48,269,076
6	2017	1	2	0	2	0	1	1	0	0	0	0	0	7	0.03	46,859,884
7	2018	0	0	0	1	0	0	0	1	0	0	0	1	3	0.01	45,913,811
8	2019	1	1	0	0	0	0	0	0	1	0	1	0	4	0.02	46,684,596
9	2020	1	0	1	0	0	0	0	2	0	0	0	1	6	0.02	49,672,365
10	2021	0	0	0	0	0	0	0	0	1	0	0	0	1	0.00	51,877,570

Labor hours by Month

Years	January	February	March	April	May	June	July	August	September	October	November	December
2017	3,896,332	3,771,980	4,333,833	3,765,548	4,251,370	4,004,976	3,517,755	4,135,723	3,745,093	4,308,181	3,687,157	3,441,936
2018	3,598,158	3,610,153	4,120,015	3,755,744	3,963,225	3,745,561	3,670,275	4,221,669	3,549,021	4,264,909	4,117,251	3,297,829
2019	3,707,483	3,823,635	3,939,982	3,934,898	3,955,218	3,654,569	3,867,271	3,984,534	3,793,849	4,686,374	3,595,922	3,740,862
2020	3,673,876	3,681,169	4,145,234	4,038,426	3,761,387	4,256,322	4,421,339	4,334,463	4,573,318	4,882,418	3,694,751	4,209,662
2021	3,839,472	4,020,854	4,883,961	4,466,083	4,094,847	4,471,078	4,233,635	4,554,241	4,353,125	4,468,465	3,940,192	4,393,539

Rates

Years	January	February	March	April	May	June	July	August	September	October	November	December
2017	0.051	0.106	0.000	0.106	0.000	0.050	0.057	0.000	0.000	0.000	0.000	0.000
2018	0.000	0.000	0.000	0.053	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.061
2019	0.054	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.053	0.000	0.056	0.000
2020	0.054	0.000	0.048	0.000	0.000	0.000	0.000	0.092	0.000	0.000	0.054	0.048
2021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000

2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 16A

Rate of CONTRACTOR SIF Actual using EEI SCL Model
2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY Rate
1	2012													
2	2013													
3	2014													
4	2015													
5	2016													
6	2017													0.01
7	2018													0.02
8	2019													0.01
9	2020	0.00	0.00	0.00	0.00	0.00	0.15	0.10	0.00	0.08	0.04	0.00	0.00	0.03
10	2021	0.00	0.00	0.05	0.00	0.09	0.04	0.00	0.00	0.00	0.03	0.03	0.00	0.02

(a) PG&E started tracking Contractor SIF Actuals using the EEI SCL Model in 2017 annually and 2020 monthly.

SIF A Counts

Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY Total
2017				1						1			2
2018		1						1					3
2019						1	2						3
2020	0	0	0	0	0	3	2	0	2	1	0	0	8
2021	0	0	1	0	2	1	0	0	0	1	1	0	6

Labor Hours

Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY Total
2017													35,549,334
2018													37,533,432
2019													45,602,936
2020	4,679,580	4,184,702	4,092,337	3,362,517	3,705,474	3,957,041	3,902,279	4,148,883	5,155,493	5,213,213	4,522,152	3,803,737	50,727,409
2021	3,694,147	3,572,311	4,088,318	4,342,521	4,243,240	4,892,206	4,875,056	5,699,173	6,406,370	6,753,807	5,964,609	6,086,095	60,617,853

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 16B

Rate of CONTRACTOR SIF Actual using OSHA definition

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY	EOY Rate	EOY Labor Hours
1	2012	0	0	0	0	1	3	2	0	0	1	0	0	8		
2	2013	1	0	0	0	1	0	1	2	0	0	0	0	5		
3	2014	0	0	0	0	0	0	0	0	1	1	0	0	2		
4	2015	0	0	0	0	0	0	0	0	0	1	0	1	2		
5	2016	0	0	0	0	0	0	0	0	0	0	0	1	1		
6	2017	0	1	0	1	0	0	0	0	0	0	0	0	3	0.02	35,549,334
7	2018	0	1	0	0	0	0	0	2	1	0	0	0	4	0.02	37,533,432
8	2019	0	0	0	0	0	4	3	0	0	0	0	0	7	0.03	45,602,936
9 (a)	2020	0	0	1	0	0	4	2	0	5	1	0	1	14	0.06	50,727,409
10	2021	0	1	2	2	3	3	0	0	0	1	1	0	13	0.04	60,617,853

(a) Four additional SIF events were added to July and September for 2020. There was a gap in the process which resulted in under-reported incidents at the end of the year.

Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY Total
2019	2,806,768	3,050,589	3,330,635	3,429,181	3,948,334	3,716,684	3,905,669	4,507,574	4,031,132	4,477,318	4,370,348	4,028,703	45,602,936
2020	4,679,580	4,184,702	4,092,337	3,362,517	3,705,474	3,957,041	3,902,279	4,148,883	5,155,493	5,213,213	4,522,152	3,803,737	50,727,409
2021	3,694,147	3,572,311	4,088,318	4,342,521	4,243,240	4,892,206	4,875,056	5,699,173	6,406,370	6,753,807	5,964,609	6,086,095	60,617,853

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 17

RATE OF SIF POTENTIAL - EMPLOYEE

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012													
2	2013													
3	2014													
4	2015													
5	2016													
6	2017	0.10	0.11	0.09	0.16	0.19	0.25	0.06	0.19	0.05	0.14	0.05	0.17	0.13
7	2018	0.06	0.06	0.10	0.11	0.05	0.00	0.16	0.14	0.17	0.09	0.10	0.06	0.09
8	2019	0.16	0.16	0.10	0.20	0.25	0.27	0.05	0.05	0.05	0.13	0.22	0.05	0.14
9	2020	0.05	0.27	0.10	0.05	0.16	0.00	0.14	0.09	0.00	0.04	0.22	0.10	0.10
10	2021	0.10	0.00	0.04	0.09	0.00	0.13	0.14	0.09	0.09	0.13	0.05	0.18	0.09

(a) Rates are monthly

(b) PG&E started tracking Employee SIF Potentials in 2017

SIF P Counts

Years	January	February	March	April	May	June	July	August	September	October	November	December	EOY
2017	2	2	2	3	4	5	1	4	1	3	1	3	31
2018	1	1	2	2	1	0	3	3	3	2	2	1	21
2019	3	3	2	4	5	5	1	1	1	3	4	1	33
2020	1	5	2	1	3	0	3	2	0	1	4	2	24
2021	2	0	1	2	0	3	3	2	2	3	1	4	23

Labor hours by Month

Years	January	February	March	April	May	June	July	August	September	October	November	December	EOY
2017	3,896,332	3,771,980	4,333,833	3,765,548	4,251,370	4,004,976	3,517,755	4,135,723	3,745,093	4,308,181	3,687,157	3,441,936	46,859,884
2018	3,598,158	3,610,153	4,120,015	3,755,744	3,963,225	3,745,561	3,670,275	4,221,669	3,549,021	4,264,909	4,117,251	3,297,829	45,913,811
2019	3,707,483	3,823,635	3,939,982	3,934,898	3,955,218	3,654,569	3,867,271	3,984,534	3,793,849	4,686,374	3,595,922	3,740,862	46,684,596
2020	3,673,876	3,681,169	4,145,234	4,038,426	3,761,387	4,256,322	4,421,339	4,334,463	4,573,318	4,882,418	3,694,751	4,209,662	49,672,365
2021	3,839,472	4,020,854	4,883,961	4,466,083	4,094,847	4,471,078	4,233,635	4,554,241	4,353,125	4,468,465	3,940,192	4,393,539	51,877,570

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 18

RATE OF SIF POTENTIAL - CONTRACTOR

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012													
2	2013													
3	2014													
4	2015													
5	2016													
6	2017													
7	2018													
8	2019													
9	2020						0.30	0.10	0.14	0.08	0.00	0.04	0.00	0.09
10	2021	0.11	0.00	0.10	0.09	0.24	0.29	0.00	0.14	0.12	0.12	0.03	0.16	0.12

(a) PG&E started tracking Contractor SIF Potentials in June of 2020

(b) Rates are monthly

Contractor SIF P Counts

Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
2020						6	2	3	2	0	1	0	14
2021	2	0	2	2	5	7	0	4	4	4	1	5	36

Contractor Hours Worked

Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
2020						3,957,041	3,902,279	4,148,883	5,155,493	5,213,213	4,522,152	3,803,737	30,702,798
2021	3,694,147	3,572,311	4,088,318	4,342,521	4,243,240	4,892,206	4,875,056	5,699,173	6,406,370	6,753,807	5,964,609	6,086,095	60,617,853

**2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 19**

CONTRACTOR DART CASE RATE

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY Avg.
1	2012													
2	2013													
3	2014													
4	2015													
5	2016													
6	2017	0.73	0.22	0.68	0.41	0.74	0.46	0.90	0.44	0.58	0.33	0.81	0.47	0.56
7	2018	0.85	1.21	0.95	0.54	0.14	0.44	0.50	0.57	0.83	0.37	0.47	0.39	0.61
8	2019	0.36	0.13	0.49	0.65	0.77	0.55	0.58	0.27	0.51	0.60	0.25	0.43	0.47
9	2020	0.34	0.43	0.15	0.24	0.22	0.71	0.77	0.34	0.78	0.42	0.22	0.37	0.42
10	2021	0.27	0.22	0.44	0.18	0.42	0.16	0.16	0.11	0.09	0.33	0.20	0.12	0.22

(a) ISNetworld program implementation began in 2017

(b) Data is self-reported for PG&E performance work

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 20

PUBLIC SIF

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
2	2012	2	3	4	1	5	3	3	1	6	3	1	2	34
3	2013	2	1	4	5	1	7	5	6	1	3	4	3	42
4	2014	1	4	4	5	8	1	8	6	4	4	9	10	64
5	2015	1	6	3	8	3	9	5	7	6	4	5	2	59
6	2016	2	0	3	5	5	3	3	4	2	3	1	0	31
7	2017	2	0	3	2	0	2	4	4	2	3	3	1	26
8	2018		5	2	1	4	1	1	1	2	0	88	1	106
9	2019	4	1	2	1	2	3	4	2	3	5	2	2	31
10	2020		0	2	1	2	2	2		1	3	2	2	17
11	2021	1	1	0	6	2	2	0	6	1	0	1	0	20

(a) Regarding wildfire fatality reporting, for 2015 through 2021 PG&E is including data for fires CAL FIRE concluded were caused by PG&E equipment. Wildfire fatality data for 2011 through 2014 is based on reportable incidents as defined in Appendix B to D.06-04-055 and CPUC Resolution E-4184.

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 21

HELICOPTER / FLIGHT ACCIDENT OR INCIDENT

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012													
2	2013								1					1
3	2014													
4	2015													
5	2016													
6	2017							1						1
7	2018													
8	2019													
9	2020						1							2
10	2021													

2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 22
PERCENTAGE OF SIF CORRECTIVE ACTIONS COMPLETED ON TIME
2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012													
2	2013													
3	2014													
4	2015													
5	2016													
6	2017				100%	100%	100%	87%	94%	100%	100%	96%	100%	100%
7	2018	100%	100%	100%	100%	96%	97%	96%	95%	92%	93%	93%	93%	93%
8	2019	69%	89%	91%	95%	95%	96%	96%	97%	95%	95%	93%	94%	94%
9	2020	86%	75%	65%	72%	68%	71%	72%	78%	78%	79%	80%	79%	79%
10	2021	72%	86%	92%	92%	95%	95%	94%	95%	96%	96%	97%	97%	97%

(a) Tracking began in 2017

(b) Percentages are cumulative

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 23

HARD BRAKE RATE

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012													
2	2013													
3	2014													
4	2015													
5	2016	4.3	4.5	4.6	4.7	4.6	4.3	4.2	4.0	4.0	4.1	4.1	4.0	4.0
6	2017	3.3	3.3	3.4	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.6	3.6	3.6
7	2018	3.0	3.0	3.0	2.9	2.9	2.8	2.7	2.7	2.7	2.7	2.7	2.6	2.6
8	2019	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1
9	2020	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.6
10	2021	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6

(a) Rates were not tracked until 2016

(b) Rates are cumulative

**2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 24**

**DRIVER'S CALL COMPLAINT RATE
2012-2021**

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012													
2	2013													
3	2014													
4	2015													
5	2016	12.8	11.0	10.6	10.7	10.3	10.1	10.2	10.3	10.5	10.2	10.2	10.0	10.0
6	2017	6.5	7.9	8.5	8.2	8.4	8.6	8.4	9.4	9.7	8.0	7.9	8.0	8.0
7	2018	7.7	8.2	9.3	8.8	8.4	7.7	7.3	8.4	8.3	8.1	8.0	8.0	8.0
8	2019	5.4	6.2	6.3	5.7	5.8	6.0	6.4	6.4	6.3	6.3	6.1	5.9	5.9
9	2020	5.1	5.3	5.3	4.8	4.7	4.5	4.5	4.5	4.5	4.3	4.3	4.3	4.3
10	2021	2.6	2.5	2.7	3.0	2.7	2.7	4.3	4.5	4.7	4.7	4.6	4.5	4.5

(a) Rates were not tracked until 2016

(b) Rates are cumulative

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 25A

DISTRIBUTION WIRES-DOWN NOT RESULTING IN AUTOMATIC DE-ENERGIZATION (ANNUAL)

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	2016	9.2%	14.2%	12.1%	14.3%	9.9%	15.8%	13.2%	15.3%	14.6%	14.4%	15.1%	9.0%	12.7%
6	2017	7.5%	7.2%	8.8%	9.5%	14.3%	12.3%	14.6%	18.0%	14.4%	9.0%	12.4%	13.5%	9.6%
7	2018	10.3%	7.6%	10.1%	14.9%	16.6%	17.1%	11.3%	19.1%	14.7%	14.9%	15.1%	12.0%	13.4%
8	2019	11.5%	8.6%	13.6%	12.9%	11.1%	15.3%	14.4%	13.6%	11.7%	14.4%	9.9%	13.0%	11.2%
9	2020	13.1%	11.1%	10.0%	16.7%	23.3%	23.2%	22.9%	17.5%	18.2%	18.3%	17.5%	9.2%	15.9%
10	2021	8.6%	14.3%	20.8%	18.0%	13.1%	18.6%	21.5%	21.6%	16.8%	18.1%	19.6%	7.7%	13.1%

(a) PG&E updated its reporting tools and began reporting energized distribution wire down events starting in 2015 with 2016 being the first full year reporting these events.

(b) For safety reasons, field personnel generally treat wire down events an energized if unknown and these percentages represent the information reported as actually being energized.

TABLE 25B

TRANSMISSION WIRES-DOWN NOT RESULTING IN AUTOMATIC DE-ENERGIZATION (ANNUAL)

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	2015	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	25.0%	0.0%	28.6%	0.0%	0.0%	7.7%
5	2016	0.0%	16.7%	0.0%	25.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	6.4%
6	2017	5.9%	13.6%	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%	0.0%	9.1%	0.0%	0.0%	6.3%
7	2018	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%
8	2019	12.5%	3.7%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	0.0%	0.0%	9.1%
9	2020	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	4.5%
10	2021	3.7%	33.3%	11.1%	0.0%	0.0%	0.0%	100.0%	25.0%	0.0%	20.0%	0.0%	3.8%	8.8%

(a) Based on outages where the circuit was manually de-energized without securing in advance approval from CAISO (emergency force out)

2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 26A
MISSED INSPECTIONS AND PATROLS FOR ELECTRIC CIRCUITS
2015-2021

Transmission Patrols

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1														
2														
3														
4	2015	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	2016	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6	2017	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	2018	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8	2019	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	2020	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10	2021	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.03%

(a) PG&E did not track this metric until 2015

TABLE 26B
MISSED INSPECTIONS AND PATROLS FOR ELECTRIC CIRCUITS
2015-2021

Transmission Inspections

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1														
2														
3														
4	2015	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	2016	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6	2017	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	2018	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8	2019	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	2020	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10	2021	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	0.03%

(a) PG&E did not track this metric until 2015

TABLE 26C
MISSED INSPECTIONS AND PATROLS FOR ELECTRIC CIRCUITS
2015-2021

Distribution Patrols

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1														
2														
3														
4	2015	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	2016	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6	2017	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	2018	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8	2019	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%
9	2020	0.00%	0.00%	2.37%	26.42%	25.94%	36.51%	29.84%	31.15%	28.74%	28.96%	10.09%	0.00%	20.66%
10	2021	0.00%	0.00%	0.00%	68.97%	41.28%	27.21%	2.88%	9.88%	15.88%	6.74%	1.38%	0.00%	10.78%

(a) PG&E did not track this metric until 2015

TABLE 26D
MISSED INSPECTIONS AND PATROLS FOR ELECTRIC CIRCUITS
2015-2021

Distribution Inspections

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1														
2														
3														
4	2015	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	2016	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%
6	2017	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.42%	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%
7	2018	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8	2019	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	2020	0.00%	0.00%	0.00%	98.84%	89.78%	65.47%	40.62%	24.99%	15.31%	9.20%	1.59%	0.00%	26.22%
10	2021	0.00%	0.00%	0.00%	47.28%	59.33%	41.85%	20.48%	5.16%	5.90%	6.85%	4.23%	28.50%	16.31%

(a) PG&E did not track this metric until 2015

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 27

OVERHEAD CONDUCTOR SIZE IN HIGH FIRE THREAT DISTRICT, TIERS 2 AND 3, (HFTD)

TRANSMISSION AND DISTRIBUTION (T&D) OVERHEAD WIRES DOWN

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	233	191	427	247	176	231	206	200	146	203	395	377	3032
2	2013	163	179	192	225	225	209	176	207	203	237	160	219	2395
3	2014	168	302	246	193	178	181	194	189	163	221	182	399	2616
4	2015	158	237	143	185	154	198	184	225	189	218	274	410	2575
5	2016	430	184	511	270	225	211	224	178	213	343	219	292	3300
6	2017	283	376	378	242	263	238	233	215	230	205	246	158	3067
7	2018	216	175	370	231	210	231	272	205	168	213	208	288	2787
8	2019	336	249	336	238	311	207	198	210	216	138	232	342	3013
9	2020	159	172	245	229	235	213	196	240	192	180	237	196	2494
10	2021	262	188	292	174	217	238	213	181	208	255	248	268	2744

- (a) PG&E has utilized its Integrated Logging Information System-Operations Data Base (ILIS-ODB) to provide the number of distribution outages that involved distribution wire down event conditions.
- (b) Distribution wire down conditions during PSPS events are not included in these totals since these typically occur when the lines are de-energized and are generally not the initiating cause of the reported outage event.
- (c) PG&E's current definition for distribution wire down events are only related to sustained outages of its primary distribution system reported in its ILIS-ODB data base.
- (d) Transmission wire down events were not tracked until 2012.

**2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 28A**

**GAS OPERATION CORRECTIVE ACTIONS BACKLOG (ANNUAL)
2012-2021**

GAS DISTRIBUTION

Line No.	Year	Overdue Work Orders	Total Work orders	EOY
1	2012	186	4471	0.04
2	2013	87	6000	0.01
3	2014	8	6531	0.00
4	2015	74	7234	0.01
5	2016	2	7127	0.00
6	2017	22	4419	0.00
7	2018	48	4803	0.01
8	2019	37	24698	0.00
9	2020	74	11675	0.01
10	2021	324	13067	0.02

TABLE 28B

**GAS OPERATION CORRECTIVE ACTIONS BACKLOG (ANNUAL)
2012-2021**

GAS TRANSMISSION

Line No.	Year	Overdue Work Orders	Total Work orders	EOY
1	2012	1	434	0.00
2	2013	1	541	0.00
3	2014	0	416	0.00
4	2015	17	404	0.04
5	2016	0	957	0.00
6	2017	0	518	0.00
7	2018	9	829	0.01
8	2019	10	559	0.02
9	2020	20	716	0.03
10	2021	32	977	0.03

2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 29
GO-95 CORRECTIVE ACTIONS (TIERS 2 AND 3, HFTD)

2012-2021

DISTRIBUTION, TRANSMISSION AND VEGETATION MANAGEMENT

	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
Distribution	2012													
	2013													
	2014													
	2015													
	2016													
	2017													
	2018													
	2019													
	2020	23%	30%	15%	12%	18%	28%	9%	19%	27%	16%	12%	15%	
	2021	7%	5%	21%	18%	11%	13%	15%	17%	22%	19%	25%	16%	
	2012													
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020	71%	67%	68%	72%	76%	75%	77%	77%	77%	75%	54%	34%	30%	70%
2021	31%	39%	51%	55%	65%	52%	64%	64%	78%	58%	45%	24%	33%	49%
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020	98%	98%	84%	91%	94%	96%	96%	96%	96%	92%	89%	88%	85%	92%
2021	94%	95%	92%	94%	94%	91%	94%	94%	96%	95%	96%	97%	98%	95%

(a) PG&E's history of available data, which is recorded in our electric work management systems (e.g. SAP) goes back to 2010. However, we are focusing our historical reporting for this metric starting at 2020 due to various changes that occurred prior to 2020, which reshaped GO 95 and GO 165 to include boundaries for HFTD, as well as informed our current inspection methods to be more enhanced towards identifying ignition risks

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 30

GAS LARGE OVERPRESSURE EVENTS

2012-2021

Number of Large OP Events

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	2	0	1	0	1	0	0	0	1	0	0	2	7
2	2013	2	1	1	1	0	0	0	2	0	0	1	0	8
3	2014	3	0	0	0	0	0	0	2	0	0	2	0	7
4	2015	1	0	1	0	0	0	1	2	0	0	0	0	5
5	2016	0	0	0	1	0	3	1	1	0	2	1	1	10
6	2017	1	0	0	2	1	0	1	1	1	4	0	0	11
7	2018	0	0	0	0	0	0	1	0	0	1	2	1	5
8	2019	1	0	0	1	1	1	1	1	0	2	2	1	11
9	2020	0	1	1	0	0	2	1	3	1	0	0	0	9
10	2021	0	0	0	0	1	0	1	0	0	1	1	1	5

2021 SAFETY PERFORMANCE METRICS REPORT

TABLE 31

GAS IN-LINE INSPECTIONS MISSED

2012-2021

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	0	0	0	0	0	0	0	0	0	0	0	0	0
2	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
3	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
5	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
6	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
7	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
8	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
9	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
10	2021	0	0	0	0	0	0	0	0	0	0	0	1	1

**2021 SAFETY PERFORMANCE METRICS REPORT
TABLE 32
OVERHEAD CONDUCTOR SAFETY INDEX (ANNUAL)**

2012-2021

A) T&D Wire Down Events (non MED)

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	233	191	427	247	176	231	206	200	146	203	395	377	3032
2	2013	163	179	192	225	225	209	176	207	203	237	160	219	2395
3	2014	168	302	246	193	178	181	194	189	163	221	182	399	2616
4	2015	158	237	143	185	154	198	184	225	189	219	274	410	2576
5	2016	430	184	511	270	225	211	224	178	213	343	219	292	3300
6	2017	283	376	378	242	263	238	233	215	230	205	246	158	3067
7	2018	216	175	370	231	210	231	272	204	168	213	208	287	2785
8	2019	335	249	336	238	311	206	198	210	216	138	232	341	3010
9	2020	159	172	245	229	235	213	196	240	192	180	237	196	2494
10	2021	262	188	292	174	217	238	213	181	208	255	248	265	2741

B) T&D Wire Down Events (non MED)/Total Circuit Miles

Line No.	Year	January	February	March	April	May	June	July	August	September	October	November	December	EOY
1	2012	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.004	0.004	0.031
2	2013	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.024
3	2014	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0.026
4	2015	0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.004	0.026
5	2016	0.004	0.002	0.005	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.002	0.003	0.033
6	2017	0.003	0.004	0.004	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.031
7	2018	0.002	0.002	0.004	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.003	0.028
8	2019	0.003	0.003	0.003	0.002	0.003	0.002	0.002	0.002	0.002	0.001	0.002	0.003	0.030
9	2020	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.025
10	2021	0.003	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.028

PACIFIC GAS AND ELECTRIC COMPANY
2021 SAFETY PERFORMANCE METRICS REPORT
ATTACHMENT B
REPORT METRIC 22 – PUBLIC SIF SUBCATEGORIES
PER SPD REQUEST

**2021 SAFETY PERFORMANCE METRICS REPORT
REPORT METRIC 22 - PUBLIC SIF SUBCATEGORIES PER SPD REQUEST**

Event Date	Description	SED Subcategories	Total Fatalities
1/25/2021	Third-party Contact with energized line	Overhead Electric Contact - With overhead conductors	1
4/1/2021	PG&E vehicle struck struck the 3rd Party pedestrian who was jaywalking which resulted in a 3rd Party fatality.	Vehicle Related	1
4/15/2021	Car/pole accident resulting in one fatality	Vehicle Related	1
4/29/2021	Car/pole accident resulting in three fatalities and one serious injury	Vehicle Related	3
5/7/2021	Car/pole accident resulting in one fatality	Vehicle Related	1
6/5/2021	Unknown 3rd party struck by Contractor Rokstad employee resulting in fatality	Vehicle Related	1
7/1/2021	Head on collision between PG&E driver and third party	Vehicle Related	1
7/22/2021	Third-party climbed tower and touched insulator sustaining an electric shock	Overhead Electric Contact - With overhead conductors	1
8/14/2021	Single vehicle accident involving 3 individuals. 1 female (deceased), 1 male (life flighted to Sutter Roseville), 1 infant (flown to UC Davis.) Vehicle left the roadway rolling down the embankment. 1	Vehicle Related	1
11/24/2021	During the construction of a building under the span of existing conductors between two poles, a third-party fell through the roof onto a concrete floor which resulted in a fatality.	Other Non-Categorized Cause	1

Event Date	Description	SED Subcategories	Total Serious Injuries
4/29/2021	Car/pole accident resulting in three fatalities and one serious injury	Vehicle Related	1
5/23/2021	Third-party contact with metering equipment related to theft	Other Non-Categorized Cause	1
6/28/2021	Third party injured while fishing. Fell forward, head first into rocks above water line; sustained deep cut on head	Other Non-Categorized Cause	1
7/24/2021	Third party injury. Recreation boating activity, 2 people riding inflatable tube towed by boat struck a rock. One indivial was thrown from the tube, struck a rock injuring wrist. Likely that the incident is related to hazardous boating practices too close to the shoreline.	Other Non-Categorized Cause	1
8/7/2021	Dixie Fire Fighter injuries due to falling tree	Other Non-Categorized Cause	3
9/30/2021	Third-party Contact with energized line	Overhead Electric Contact - With overhead conductors	1