Safety Policy Division Review of San Diego Gas & Electric Company's 2021 Safety Performance Metrics Submittal Pursuant to Decision 19-04-020

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December 3, 2021

Purpose

On April 1, 2021, pursuant to Ordering Paragraph 2 in Decision (D.)19-04-020 of the Safety Model Assessment Phase (S-MAP) proceeding, A.15-05-002 et al., San Diego Gas & Electric (SDG&E) filed with the California Public Utilities Commission (CPUC or Commission) a Safety Performance Metrics Report. SDG&E also concurrently distributed the report to members on the service list in A.15-05-002 et al.

D.19-04-020 also directed Safety and Enforcement Division (SED) staff to review the submitted safety performance metrics reports. Since the Risk Assessment staff section responsible for the evaluation of these reports has migrated from the Safety Enforcement Division to the Safety Policy Division (SPD), this document summarizes SPD's staff evaluation of SDG&E's Safety Performance Metrics Report.

Overview of SDG&E Report

SDG&E submitted data on 18 of the 19 metrics required by D.19-04-02 (Table 1). Their report is divided into five sections:

I. **Introduction/Overview**: provides a narrative overview of SDG&E's safety organizational structure and compliance with S-MAP Phase Two Decision Directives.
II. **Metrics Overview**: provides a summary of how metrics were used to inform improved training and corrective actions and how safety performance metrics data is used to support risk-based decision making.
III. **Description of Executive Compensation and Bias Controls – Overview:** summarizes executive compensation and bias controls.
IV. **Interim Risk Mitigation Accountability Report (RMAR) Requirements:** provides a summary of how safety metrics reflect progress against SDG&E's Risk Assessment Mitigation Phase (RAMP) and General Rate Case (GRC) safety goals and total estimated risk mitigation funding.
V. **Approved Safety Performance Metrics:** includes a narrative overview and analysis of each of SDG&E's 18 of 19 metrics, along with required reporting information on executive compensation.

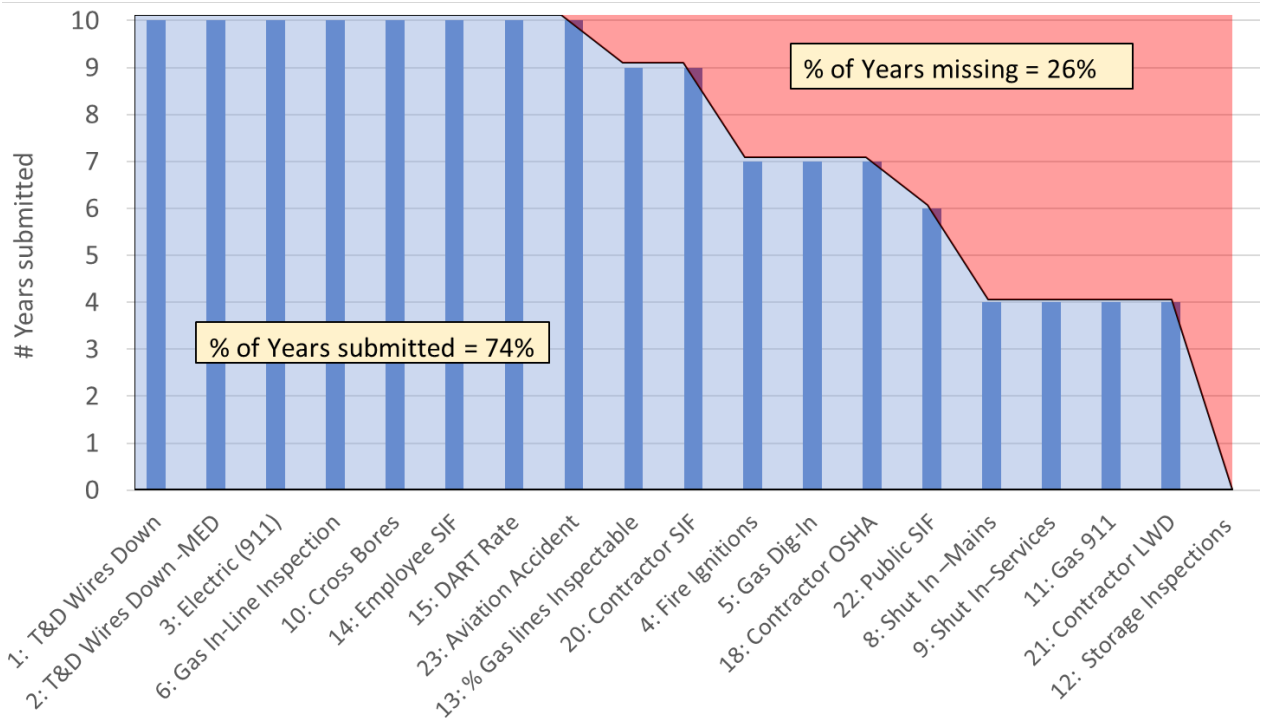
Table 1. Overview of Metric Data Submitted.

Category	Safety Performance Metric		Unit
Electric	1	Transmission and Distribution (T&D) Overhead Wires Down	Number of wire down events
	2	T&D Overhead Wires Down – Major Event Days (MED)	Number of wire down events
	3	Electric Emergency Response (911)	Percentage of time response is within 60 mins
	4	Fire Ignitions	Number of ignitions
Gas	5	Gas Dig-in	The number of 3rd party gas dig-ins per 1,000 USA tags/tickets
	6	Gas In-Line Inspection	Miles inspected
	8	Shut in the Gas Average Time – Mains	Average (median) time in minutes required to stop the flow of gas
	9	Shut in the Gas Average Time – Services	Average (median) response time in minutes required to stop the flow of gas during incidents involving services
	10	Cross Bore Intrusions	Number of cross bore intrusions per 1,000 inspections

	11	Gas Emergency Response	Average response time in minutes
	12	Natural Gas Storage Baseline Inspections Performed	# of inspections
	13	Percentage of the Gas System that can be Internally Inspected	Percentage
	14	Employee Serious Injuries and Fatalities (SIF)	Number of Serious Injuries/ Fatalities
	15	Employee Days Away, Restricted, or Transferred (DART) Rate	DART Cases times 200,000 divided by employee hours worked
	18	Contractor Occupational Health and Safety Administration (OSHA) Recordables Rate	OSHA recordable times 200,000 divided by contractor hours worked associated with work for the reporting utility
	20	Contractor SIF	Number of Work related serious injuries or fatalities associated with work for the reporting utility
	21	Contractor Lost Work Day (LWD) Case Rate	Number of LWD cases incurred for contractors per 200,000 hours worked Associated with work for the reporting utility
	22	Public SIF	Number of Serious Injuries/ Fatalities
Vehicles	23	Helicopter/ Flight Accident or Incident	Number of accidents or incidents (as defined in 49 CFR Section 830.5 "Immediate Notification")

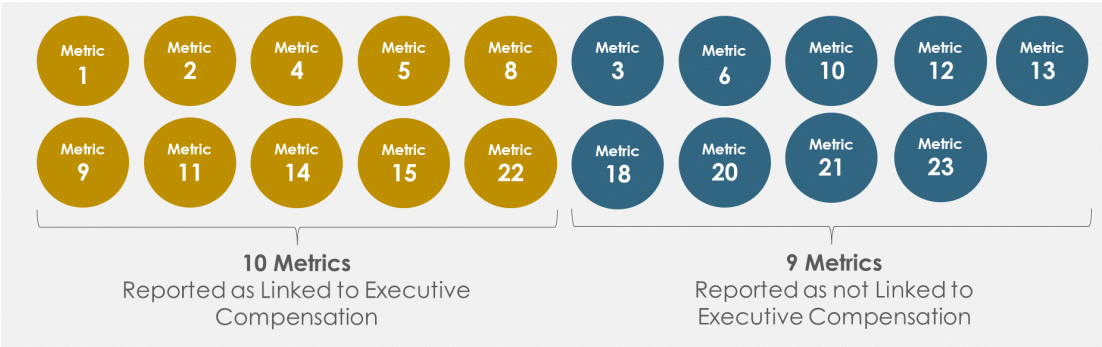
Observations: In their report, SDG&E includes: 10 years of data on eight metrics; nine years on two metrics; seven years on three metrics; six years on one metric; four years on four metrics. SDG&E did not submit any data for Metric 12. Of the ten years requested per metric, they submitted data for 74% of the years. A summary of the number of years of data provided for each metric is in Figure 1.

Figure 1. Years of Data per Metric. The shaded area in the top right of the figure above corresponds to the additional years of data needed for SDG&E to have 10 years of data for all metrics.



SDG&E also provides information on which metrics were tied to executive compensation through SDG&E's Incentive Compensation Plans (ICPs), reporting that 10 of 19 metrics (approximately 53%) were tied to executive compensation in 2020 (Figure 2). The discussion in the following section summarizes the linkage of executive compensation to each of the SPM metrics.

Figure 2. SDG&E reported 10 of 19 SPM metrics were linked to executive compensation in 2020



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To make observations about performance on safety metrics, SPD staff looked for trends in the data. Staff compared 2020 average values of each metric to the average of prior performance for each metric that had at least four years of data and created a performance "score."

Several metrics only have a small number of events, or no events, in any year. For example, Serious Injury or Fatality (SIF) - Metric 14 – had zero incidents reported in 2020. In the reported years, SDG&E had a

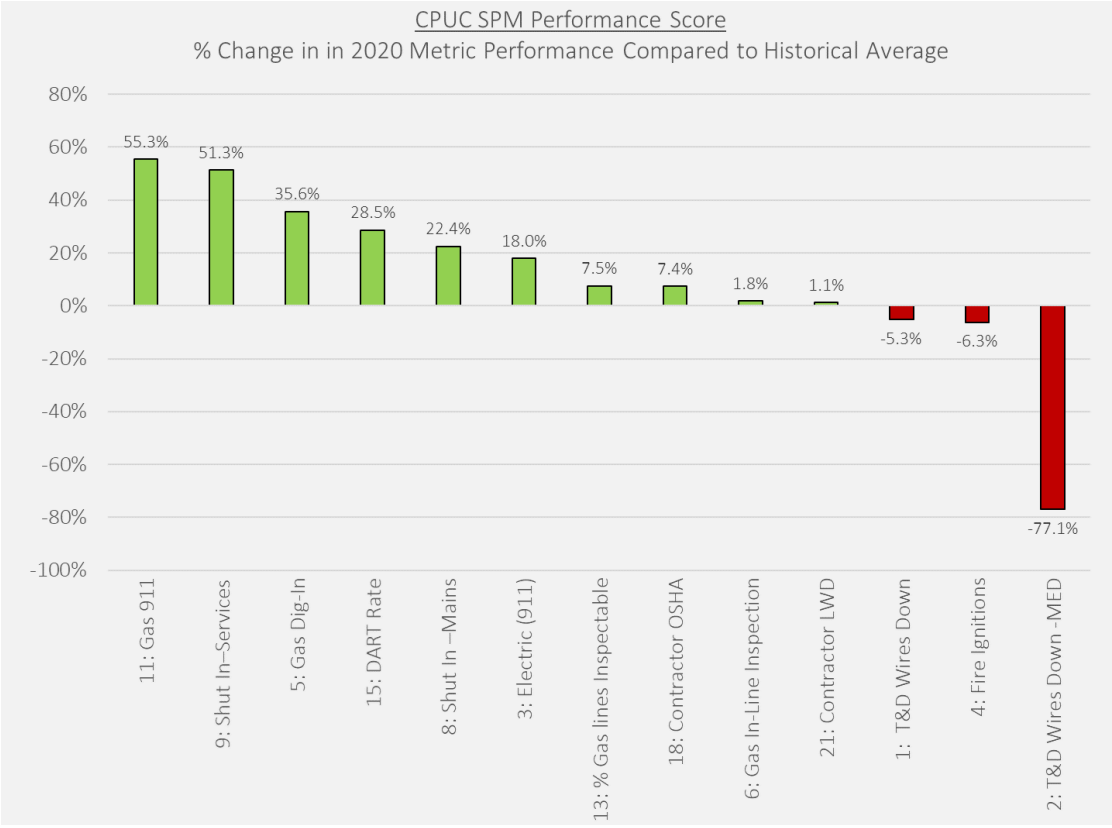
maximum of four SIFs, the zero reported annual employee SIFs are too close to the standard deviation of the samples so no discernible trend is observable. Nonetheless, SDG&E had a goal of zero SIFs and met that goal.
Six metrics were not scored because they had a small number of events.[1] These unscored metrics include:

- 10: Cross Bores
- 12: Storage Inspections
- 18: Contractor OSHA
- 20: Contractor SIF
- 21: Contractor LWD
- 23: Aviation Accident

Each of the scored metrics was ranked from highest to lowest performing and shown in Figure 3. Metrics reflecting improved performance are are shown in green. Metrics that reflect poorer/undesirable outcomes compared to prior year averages are scored as negative values and depicted in red. For example, metric 5 (Gas Dig-Ins) has a **decrease** in the 2020 rate over the 10-year average by 35.6%. Because a lower Gas Dig-In rate indicates **an increase** in safety performance, we coded this metric as +35.6%. Conversely, Metric 4 (Fire ignitions) had an 6.3% increase over its 7-year average showing a decrease in safety performance and is shown as a negative number in red as -6.3%. Overall, the Safety Performance Metrics data shows that of the 13 scored metrics, ten performed better in 2020 than the average of preceding years and three performed worse than the average of the preceding years.

[1] SDG&E notes that they do not own or operate any natural gas storage facilities. Therefore, SDG&E has not included any information on Metric 12 since it is not applicable to their company.

Figure 3. Evaluation of SDG&E's 2020 Metric Performance. For metrics where a higher value is better, positive values show a percent increase in the metric's performance in the graph. In 2020 there were no scorable metrics that were below average.



Compliance with Requirements in D.19-04-20

This section reviews SDG&E's compliance with requirements within D.19-04-20.

Ordering Paragraph 2 requires data for the last ten years for all safety performance metrics for which such data exist. SDG&E reports that they included ten years of data when possible.

Observations: In their report, SDG&E includes: 10 years of data on eight metrics; nine years on two metrics; seven years on three metrics; six years on one metric; four years on four metrics. SDG&E did not submit any data for Metric 12 because they do not operate underground gas storage facilities. Of the ten years requested per metric, they submitted data for 74% of the years. A summary of the number of years of data provided for each metric is in Figure 1.

Ordering Paragraph 3 requires the utility to submit current year data on public serious injuries and fatalities (SIF). Under Ordering Paragraph 3 of D.19-04-020, SDG&E provided SED staff with its data on Public Serious Injuries and Fatalities sixty days before the due date for this report on January 31, 2020, fulfilling this requirement.

Ordering Paragraph 6 (a) requires the utility to identify all metrics linked to or used in any way for the purpose of determining executive compensation levels and/or incentives, regardless of whether or not systems are in place to control bias, and including all metrics linked to individual and group performance goals; executive compensation. SDG&E focuses on safety through their compensation and benefits programs and reports that they have increased emphasis on employee and operational safety measures in their Variable Pay plans, referred to as the Incentive Compensation Plans (ICPs). Within the narrative accompanying each metric, SDG&E states whether the metric was linked to executive compensation or incentives in 2020.

SDG&E reports that 10 of their 19 Safety Performance Metrics (approximately 53%) were linked to executive compensation for all director-level and higher positions through their Executive and non-executive ICPs in 2020.

Observations: SDG&E provides helpful context in understanding the extent to which safety performance is linked to Variable Pay for executive officers, but left out certain quantitative and qualitative details. For example, we do not know whose specific compensation is tied to various metrics beyond that all executive officers are covered by either the Executive or non-executive ICPs. SDG&E states their Board of Directors can reduce or withhold Variable Pay if safety performance goals are not met. Under Public Utilities Code 83889, the Office of Energy Infrastructure Safety is required to evaluate if electrical corporations have "established an executive incentive compensation…structured to promote safety as a priority and to ensure public safety and utility financial stability with performance metrics, including incentive compensation based on meeting performance metrics that are measurable and enforceable…" The Office of Energy Infrastructure Safety's evaluations of executive compensation can be found here: https://energysafety.ca.gov/what-we-do/wildfire-mitigation-and-safety/executive-compensation/

Ordering Paragraph 6 (b) requires the utility to identify the Director-level or higher executive positions to which the metric(s) is linked. SDG&E states that the metrics are linked to all executive (Director level or higher) positions.

Ordering Paragraph 6 (c) requires the utility to describe the bias controls that the utility has in place to ensure that reporting of the metric(s) has not been gamed or skewed to support a financial incentive goal. SDG&E reports that regularly scheduled internal audits are performed by Sempra Energy's

Audit Services. Audit Services investigates whether SDG&E's processes and business controls are adequate; in compliance with plans, procedures, laws, and contracts; and reflect reliability and integrity of operating and financial information. SDG&E reports that this independent audit function allows Audit Services to identify if appropriate business controls are in place and designed and functioning properly.

SDG&E notes that each of their 2020 Executive and non-executive ICPs includes 17 separate safety-related performance measures, including leading and lagging measures. SDG&E states that having several measures across all lines of business serves as a bias control because the company must perform on all measures to achieve target goals. Metric-specific bias controls are listed in the narrative accompanying some of their metrics.

Observations: While some other utilities included quality assurance/controls as bias controls for metrics, SDG&E only included bias controls related to auditing the results of their ICPs. Therefore, if a metric was not linked to executive compensation, no bias controls were listed for that metric. This complies with the ordering paragraph.

Ordering Paragraph 6 (d) requires the utility to provide three to five examples of how the utility has used Safety Performance Metrics (metrics) data to improve staff and/or contractor training, and/or to take corrective actions to minimize top risks or risk drivers; and, provide three to five examples of how the utility is using metrics data to support risk-based decision-making as required in the Safety Model Assessment Proceeding and Risk Assessment Mitigation Phase (RAMP) processes.

SDG&E notes that they were tracking safety metrics, taking corrective actions, and implementing and improving safety training in years prior to the S-MAP Phase Two Decision. They frame their Safety Performance Metric work as a part of their broader Safety Management System (SMS) that drives continuous safety improvement through people, policies, procedures, and programs. Their goal is to continue to move towards a data-driven approach to proactively identify threats and hazards, assess, and prioritize risks, and implement mitigation efforts.

To illustrate their work towards safety improvement, SDG&E provides three recent examples of improvements to trainings or corrective actions. These programs are listed below:

1. **Energized Skills Training and Testing Yard – Metric No. 14, 15, 18, 20, and 21:** SDG&E has converted undisturbed land owned by SDG&E to an Energized Skills Training and Testing Yard to allow for hands-on training for electric crews, linemen foreman, and/or troubleshooters on electrical equipment

2. **Enhanced Employee Safe Driving Training – Metric Nos. 14, 15, 18, 20, 21, and 22:** Using data-driven vehicle analytics, SDG&E can develop a program based upon a comprehensive view of the vehicle driver and fleet performance. In 2020, hard braking, hard acceleration, hard cornering, speeding, and seatbelt use data enabled SDG&E to provide employees with coaching and specific driver training to reinforce safe driving habits.

3. **Enhanced "Safety in Action" Program – Metric Nos. 14, 20, and 22:** Through the enhanced Safety in Action (SIA) program, SDG&E is developing a SIF exposure reduction process. This process goes beyond traditional classification and recording of incidents to evaluate both the exposures that resulted in an actual SIF and those with reasonable potential to result in a SIF. The process will provide the tools necessary to identify and understand the Company's specific SIF precursors and to design effective steps to mitigate SIF exposure.

Additionally, SDG&E provides three examples of how the Safety Performance Metric data is used to support risk-based decision-making:

1. **Wildfire Next Generation System (WiNGS) – Metric Nos. 1, 2, and 4:** The Wildfire Next Generation System (WiNGS) evaluates the wildfire and Public Safety Power Shut-off (PSPS) risks at a sub-circuit or segment level and is used to inform grid hardening strategies in the future. WiNGS uses ignition history to evaluate the risk of wildfires for each segment in the model based on the unique characteristics of the segment.

2. **Safety Management System - Metrics Nos. 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 18, 20, 21, 22, 23:** The SMS aims to identify safety and risk concerns early and take proactive action to prevent future safety incidents. The SMS increases SDG&E's utilization of leading indicator data and will assess trends and observations broadly to further improve safety performance.

3. **Enterprise Asset Management Platform (EAMP) – Metric Nos. 1, 2, and 4:** SDG&E started developing an Enterprise Asset Management Platform (EAMP), a centralized repository for asset data, which will enable SDG&E to predict and assign asset health indexes on its critical electric assets to compare assets based on their likelihood of failure.

Observations: SDG&E provides several examples of programs that could potentially influence SPMs. While it seems intuitive that each of the programs described above will impact the performance of the SPMs, SDG&E did not provide a specific means of quantifying the expected impact of each program. In addition, like other utility's SPM Reports, SDG&E did not provide information explicitly tying the use of SPMs to improve performance. This is likely because SDG&E uses other key performance indicators for this purpose.

Ordering Paragraph 6 (e) requires the utility to explain how the safety metrics reflect progress against the utility's RAMP and General Rate Case safety goals. SDG&E states that "In its TY 2019 GRC testimony, SDG&E stated that it would continue to expand the use of probabilistic models, data and quantification and explore areas where further quantification would help address other enterprise-level risks."

SDG&E also references testimony from its 2017 GRC by witness Diana Day "[t]he operating unit risk registries are intended to provide each operating unit with a tool to capture its specific risks and enable a more structured management of lower consequence risks that occur more frequently and are dealt with at the operating unit levels. As the operating unit risk registries evolve and mature, they will inform the assessment of risks at the enterprise level and provide improved risk quantification and granularity across the Company."

SDG&E states that it "continually seeks to implement metrics into its risk-based decision-making processes. Metrics span risk, asset, and investment management and provide a framework to evaluate and monitor asset health and potentially inform and demonstrate progress related to investments."

Observations: SDG&E discusses several steps and initiatives to improve their risk modeling capabilities. However, the impact and influence of SPMs on these efforts are not discussed. There is no information that would allow the CPUC to assess the use of SPMs on the development and/or validation of these new risk models and tools. Presumably, this is because SDG&E relies on other key performance indicators and possibly Wildfire Mitigation Plan data for risk-based decision-making.

Ordering Paragraph 6 (f) requires the utility to provide a high-level summary of their total estimated risk mitigation spending level as approved in their most recent GRC. SDG&E includes a table summarizing total estimated risk mitigation spending as presented in the 2016 RAMP filing and approved in the TY 2019 GRC.

Table 2: SDG&E Interim RMAR Summary: O&M

SDG&E O&M (2020 Direct $000)					
Ramp Chapter	RAMP Risk Description	2020 Actuals	2020 Imputed Authorized	$ Variance	% Variance
SDG&E-01	Wildfires Caused by SDG&E Equipment	88,159	40,986	47,172	115%
SDG&E-02	Catastrophic Damage Involving Third Party Dig-Ins	7,922	4,115	3,807	93%
SDG&E-03	Employee, Contractor, and Public Safety	62,176	51,720	10,457	20%
SDG&E-04	Distributed Energy Resources – Safety and Operational Concerns	75	82	(7)	-8%
SDG&E-06	Fail to Blackstart	18	45	(27)	-60%
SDG&E-07	Cyber Security	11,557	8,434	3,122	37%
SDG&E-08	Aviation Incident	509	452	58	13%
SDG&E-09	Workplace Violence	4,748	5,240	(492)	-9%
SDG&E-10	Catastrophic Damage Involving High-Pressure Gas Pipeline Failure	9,030	5,693	3,337	59%
SDG&E-11	Unmanned Aircraft System Incident	290	179	111	62%
SDG&E-12	Electric Infrastructure Integrity	8,697	21,881	(13,184)	-60%
SDG&E-13	Records Management	6,809	9,431	(2,622)	-28%
SDG&E-14	Climate Change Adaptation	1,095	443	652	147%
SDG&E-16	Catastrophic Damage Involving Medium-Pressure Gas Pipeline Failure	11,769	15,543	(3,774)	-24%
SDG&E-17	Workforce Planning	3,493	2,411	1,081	45%
	Total SDG&E RAMP	**216,347**	**166,655**	**49,692**	**0.3**

Observations: SDG&E provides the information required in this ordering paragraph.

Overall Compliance: SDG&E's submitted metrics report complies with all the required elements listed in Question 1 above.

Summary of 2020 Metrics

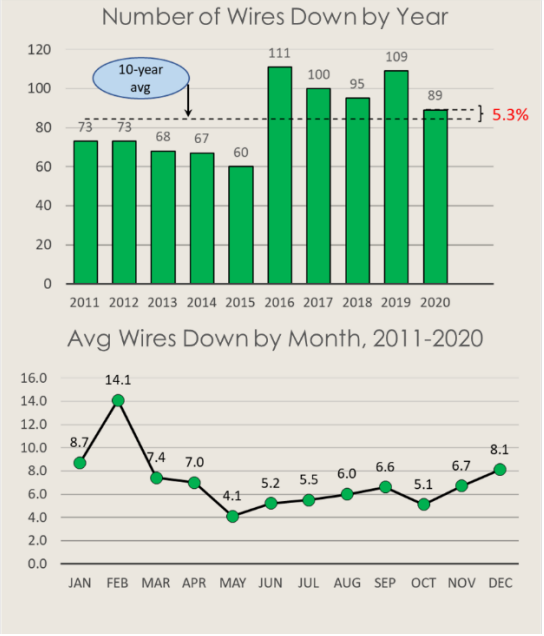
This section provides an overview of information submitted for each of SDG&E's 19 metrics. The graphic for each metric shows:

- Whether the metric is a leading or lagging indicator: per D.19-04-020, lagging metrics typically indicate post-incident reporting (for example, cross bore intrusions), whereas the related leading metric would anticipate potential future safety incidents;
- Data reported by the utility: data is plotted in graphs with the historical average, where relevant, to compare 2020 performance to past performance for the metric.
- The definition of the metric from D.19-04-020, associated bias controls, and executive compensation linkages listed for the metric.

To caveat the metric reviews in the following pages, note that the smaller the number of reported occurrences (relative to the exposure), the higher is the uncertainty associated with the reported metric numbers. For these metrics with few occurrences relative to exposures, observed trends over a longer period may be necessary to reach credible conclusions based on the data.

SDG&E Metric 1: T&D Overhead Wires Down – No MED

Lagging | Electric



METRIC DEFINITION

of instances where an electric transmission or primary distribution conductor is broken and falls to rest on the ground or a foreign object; excludes down secondary distribution wires and Major Event Days.

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Executive compensation

- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

Metric 1 Summary: SDG&E states that "A wire down event is one of SDG&E's primary concerns with respect to its overhead equipment. Accordingly, SDG&E continues to take proactive measures to determine the cause of any such wire down event and has a dedicated team reviewing all wire down events to determine the root cause and identify any trends to potentially trigger the development of a new program. The identification of wire-down events key drivers is captured through a collaboration of data analysis and engineering."

SDG&E has implemented "programs targeting the wire most prone to potential wire down events to decrease this risk. The mitigations are included in the capital rebuild and wildfire mitigation programs such as SDG&E's Fire Risk Mitigation (FiRM), Overhead Public Safety (OPS), and Wire Safety Enhancement (WiSE)."

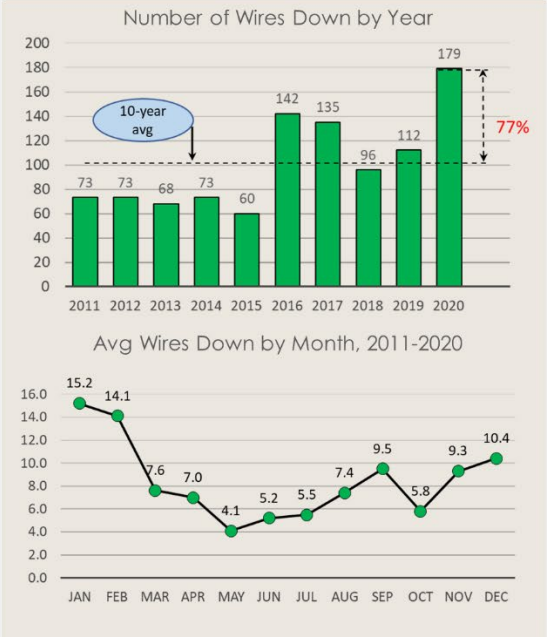
This metric is linked to SDG&E's 2020 Executive and non-executive ICPs through a "proxy" metric: "System and Customer Safety" performance measures including "Fire Hardening: Wood-to-Steel Pole Replacements." This metric is weighted at 3% of the 59% overall safety weighting for Executive ICP and 2% of 34% overall safety weighting for SDG&E's 2020 non-executive ICPs.

Observations: SDG&E provides a detailed summary of how this metric is linked to risk mitigation measures. However, they do not acknowledge the substantial and sustained increase in wire down events since 2016 and the potential causes for this increase.

There are no metric-specific bias controls in place beyond an audit of ICP results and tracking in monthly reports.

SDG&E Metric 2: T&D Overhead Wires Down – MED

Lagging | Electric



METRIC DEFINITION

of instances where an electric transmission or primary distribution conductor is broken and falls from its intended position to rest on the ground or a foreign object; includes down secondary distribution wires and Major Event Days.

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Executive compensation

- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

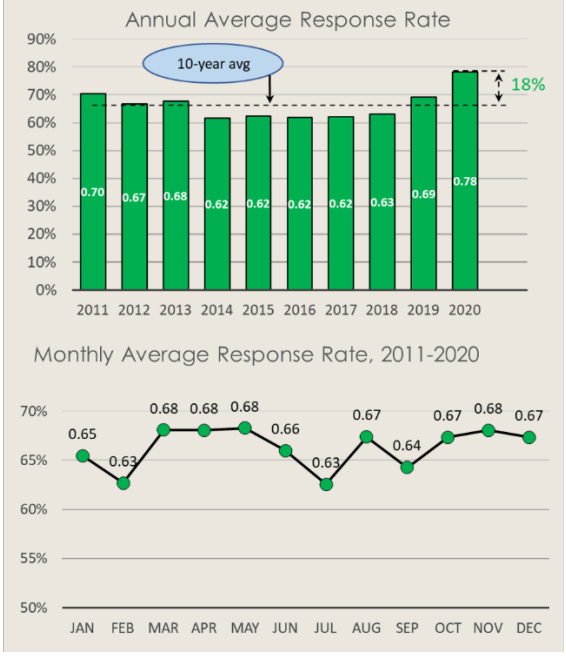
Metric 2 Summary: SDG&E notes that, "In comparing 2020 to previous years, there is a noticeable increase in wire down events. This is directly related to the inclusion of secondary wire down reporting, beginning in August of 2020, which added an additional 82 events to the 2020 total."

This metric is linked to SDG&E's 2020 Executive and non-executive ICPs through a "proxy" metric: "System and Customer Safety" performance measures including "Fire Hardening: Wood-to-Steel Pole Replacements." This metric is weighted at 3% of the 59% overall safety weighting for Executive ICP and 2% of 34% overall safety weighting for SDG&E's 2020 non-executive ICP.

Observations: Secondary distribution wires are not included in SDG&E's reporting because SDG&E did not track secondary distribution wires before 2020, so the data for this metric is incomplete. Like the previous metric, there is a notable increase in wire-down events during Major Event Days beginning in 2016, and SDG&E does not provide context to explain this increase. There are no metric-specific bias controls in place beyond an audit of ICP results and tracking in monthly reports.

SDG&E Metric 3: Electric Emergency Response

Lagging | Electric



METRIC DEFINITION

% of time utility personnel respond (are on-site) within one hour after receiving a 911 (electric related) call, with on-site defined as arriving at the premises to which the 911 call relates.

Bias controls

- No bias controls listed

Executive compensation

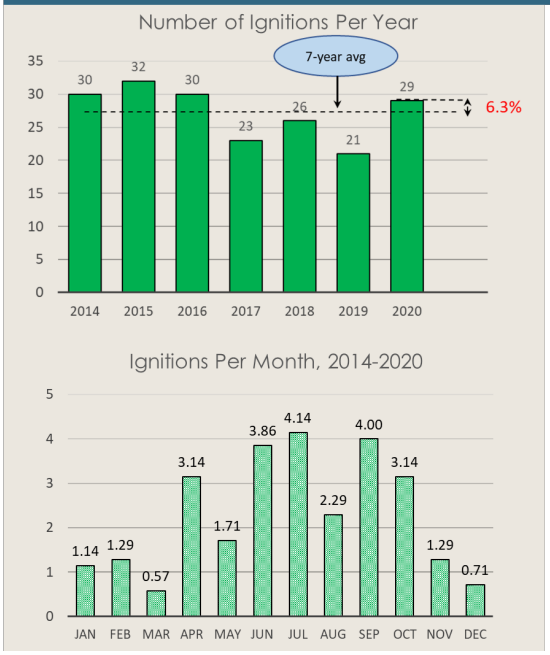
- Executive compensation: ✗
- Individual/group performance goals: ✗
- Executive positions identified: ✗

Metric 3 Summary: SDG&E notes that "The unadjusted rate from raw data, used to report the metric in prior years, found that 2020 was nearly equivalent to 2019, with an electric emergency response rate of 69%. The adjusted rate from audited data for 2020 increased the emergency response percentage to 78% after correcting for delayed data input on enroute and arrival times, often due to the priority of responding to the emergency at-hand or other anomalous timekeeping data errors. The difference between the raw and audited data seen in 2020 showed monthly ranges between 4 - 12%, with no apparent seasonal or quarterly trend."

Observations: SDG&E acknowledges a significant finding from their audit process, noting a measurement error of 4 – 12 % in this metric. It is unclear if there are other yet-to-be-determined measurement errors, record keeping, or different types of errors that may exist in this metric or other metrics in this report.

SDG&E Metric 4: Fire Ignitions

Lagging | Electric



METRIC DEFINITION

of powerline-involved fire incidents reportable to the CPUC per D. 14-02-015. A reportable ignition meets all these criteria: 1) Ignition is associated with a utility's powerlines and 2) something other than the utility's facilities burned and 3) the resulting fire traveled more than one meter from the ignition point.

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Executive compensation

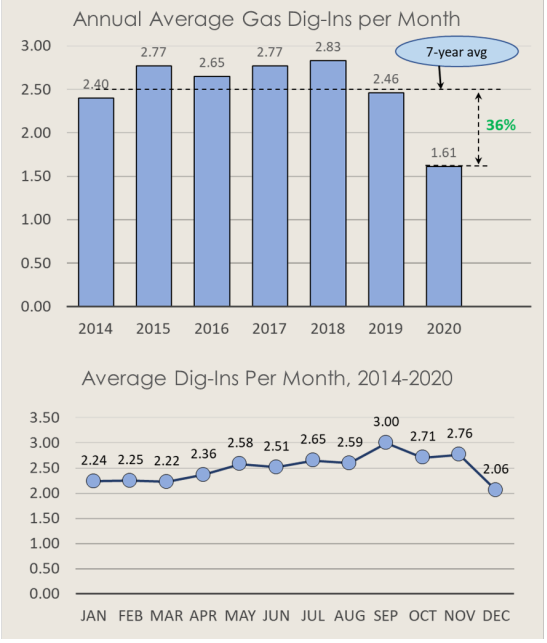
- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

Metric 4 Summary: SDG&E's wildfire mitigation initiatives, as outlined in SDG&E's 2020 Wildfire Mitigation Plan (SDG&E WMP), attempt to address both the likelihood of ignition and reduction of the consequences of ignition should one occur. For more details, see SDG&E's 2020 Wildfire Mitigation Plan, available at https://www.sdge.com/2020-wildfire-mitigation-plan.

This metric is linked to SDG&E's 2020 Executive and non-executive ICPs through "proxy" metrics including: "Fire and Public Safety" performance measures: Wood to Steel Pole Replacements and Wildfire Safety Communications. Wildfire Safety Communications measures the percent of fire safety messages confirmed as received by customers sent prior to a Public Safety Power Shutoff Event. These metrics are each weighted at 3% of the 59% overall safety weighting for SDG&E's 2019 Executive ICPs and 2% (Fire Hardening) and 1% (Wildfire Safety Communications) respectively of the 34% overall safety weighting for SDG&E's 2019 non-executive ICPs.

SDG&E Metric 5: Gas Dig-In

Lagging Gas



METRIC DEFINITION

of 3rd party gas dig-ins per 1,000 Underground Service Alert (USA) tags/tickets for gas; excludes fiber and Electric tickets. Any damage (impact or exposure) that results in a repair or replacement of underground gas facility as a result of an excavation, caused by someone other than the utility or a utility contractor

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Links to compensation

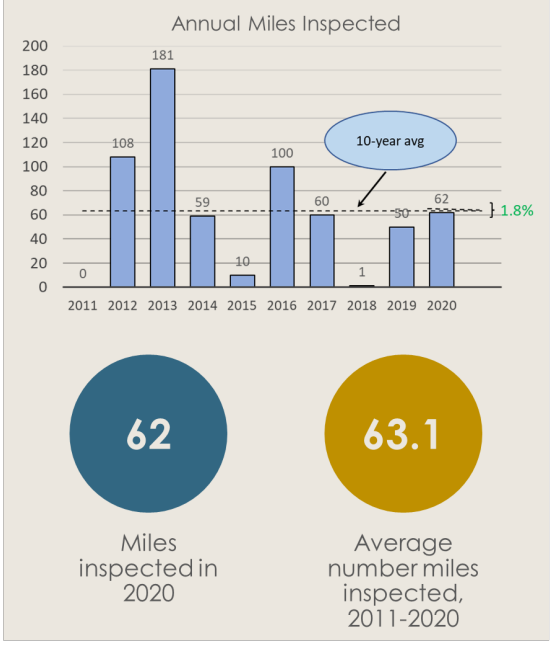
- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

Metric 5 Summary: Third party Gas Dig-Ins is identified as a RAMP risk for SDG&E. SDG&E reports that they analyzed the drivers of third-party Dig-In incidents and found that over 58% were due to lack of notifications to 811 Underground Service Alerts (USA) for locate and mark ticket and approximately 31% were due to insufficient excavation practices. They promote safe digging through their Public Awareness Program and stakeholder outreach.

This metric is linked to SDG&E's 2020 Executive and non-executive ICPs through a "proxy" gas safety metric: "Damage Prevention - Damages per USA Ticket Rate." This metric is weighted at 3% of the 59% overall safety weighting for SDG&E's 2020 Executive ICP and 2% of the 34% overall safety weighting for SDG&E's 2020 non-executive ICP.

SDG&E Metric 6: Gas In-Line Inspection

Leading Gas



METRIC DEFINITION

Total miles of transmission pipe inspected by in-line inspection

Bias controls

- No bias controls listed

Links to compensation

- Executive compensation: ✗
- Individual/group performance goals: ✗
- Executive positions identified: ✗

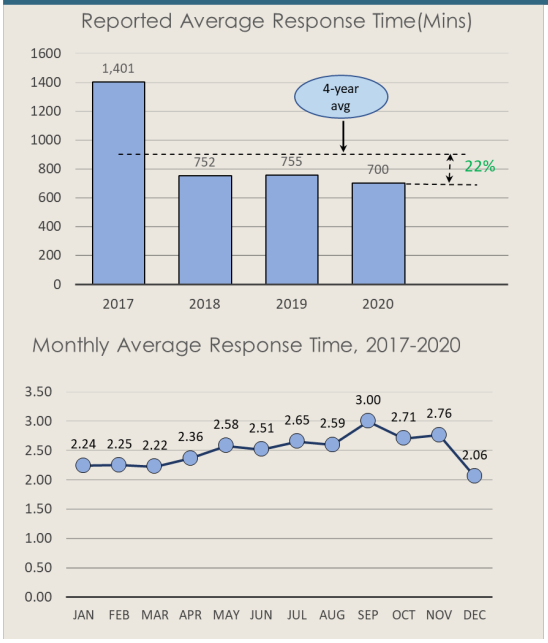
Metric 6 Summary: SDG&E reports that through the federally-mandated Transmission Integrity Management Program (TIMP), they identify threats to transmission lines, determine the risk posed by those threats, schedule prescribed assessments to evaluate threats, collect information about the condition of pipelines, and take actions to minimize risks. SDG&E notes that the numbers of assessment and mitigation activities planned under TIMP varies from year to year and that transmission pipelines are required to be assessed at least once every seven years in High Consequence Areas and every ten years in Moderate Consequence Areas.

Observations: SDG&E's narrative provides context to explain year-to-year variation in the annual number of gas in-line inspections conducted. The frequency of inspection is driven by the federally mandated inspection schedule cycle for Moderate Consequence Areas (ten-years cycle) and High Consequence Area (seven-year cycle). SDG&E notes that assessments of progress on this metric may be skewed because the data are the composite of inspections with mixed mandatory cycles. SDG&E should prioritize inspections consistent with federal mandates and provide data representing their efforts in conducting inspection.

There are no metric-specific bias controls for this metric beyond the Annual ICP results being audited by Sempra Energy's Audit Services.

SDG&E Metric 8: Shut in the Gas Average Time – Mains

Lagging Gas



METRIC DEFINITION

The average time (in minutes) required for the utility to stop the flow of gas during incidents involving mains when responding to any unplanned/uncontrolled release of gas.

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Links to compensation

- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

Metric 8 Summary: SDG&E began tracking this metric in 2017. This data is also reported externally per General Order (GO) 112-F. However, the 2019 Safety Performance Metrics Report was the first-time the information was segregated to distinguish between Mains and Services.

This metric is linked to SDG&E's 2020 Executive and non-executive ICPs through a "proxy" metric, "P1 Gas Response Time (Minutes). For ICP purposes, the P1 Gas Response Time performance measure is the average time it takes either Customer Service Field or Gas Operations to response to a Priority 1 gas emergency.

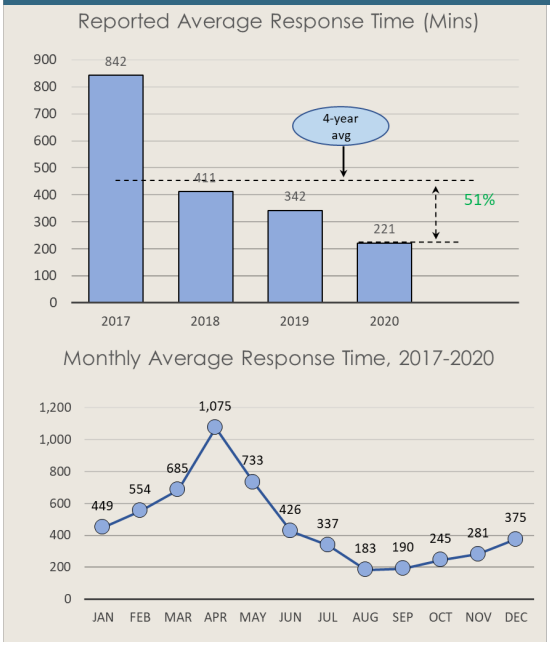
This metric is weighted at 2% of the 59% overall safety weighting for SDG&E's 2020 Executive ICPs and 1% of the 34% overall safety weighting for SDG&E's 2020 non-executive ICPs and is linked to all SDG&E director level or higher positions.

Observations: SDG&E's does not discuss any changes that it made to measurement or operational practices that resulted in a 50% drop in the value of this metric in 3 years from 2017 – 2020.

There are no metric-specific bias controls for this metric or any audit results discussed.

SDG&E Metric 9: Shut in the Gas Average Time – Services

Lagging Gas



METRIC DEFINITION

The average time (minutes) that a Gas Service Representative (GSR) or qualified first responder (Gas Crew, Leak Surveyor, etc.) takes to respond and stop gas flow during incidents involving services.

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Links to compensation

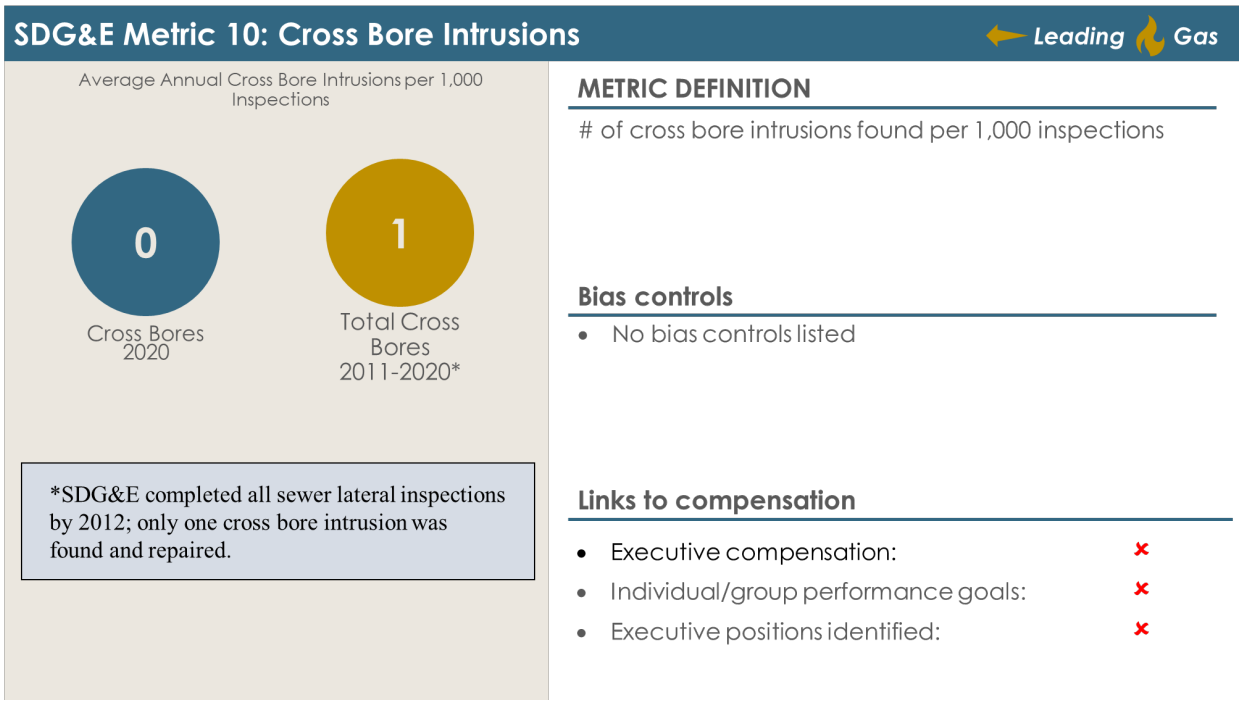
- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

Metric 9 Summary: SDG&E began tracking this metric in 2017. This data is also reported externally per GO 112-F. However, the 2019 Safety Performance Metrics Report was the first-time the information was segregated to distinguish between Mains and Services.

As with Metric 8, this metric is linked to SDG&E's 2020 Executive and non-executive ICPs through a "proxy" metric, "P1 Gas Response Time (Minutes). For ICP purposes, the P1 Gas Response Time performance measure is the average time it takes either Customer Service Field or Gas Operations to response to a Priority 1 gas emergency.

Observations: SDG&E's does not discuss any changes they made to measurement or operational practices that resulted in a 70% drop in the value of this metric in 3 years from 2017 – 2020.

There are no metric-specific bias controls for this metric or any audit results discussed.

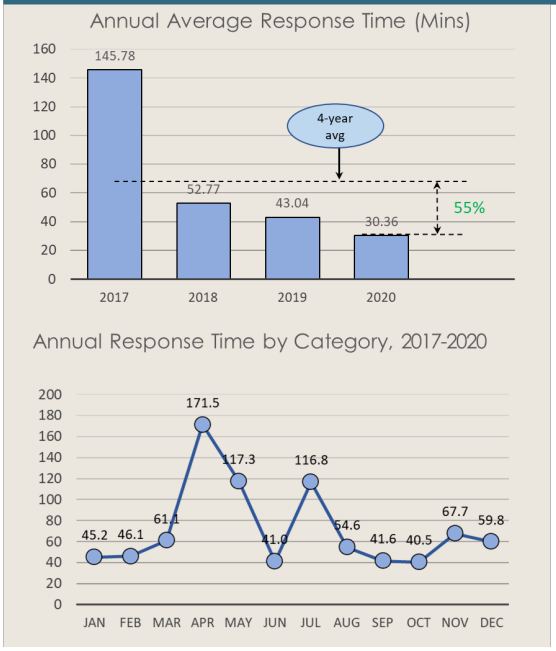


Metric 10 Summary: Part of SDG&E's Distribution Integrity Management System, the Sewer Lateral Inspection Project is a risk mitigation activity that helps identify the threats of events concerning pipeline damage within sewer laterals. Since this program was initiated in 2010, approximately three million services have been reviewed, and over 400,000 services have been inspected in the field.

This metric is not tied to executive compensation, and there are no bias controls listed for this metric.

SDG&E Metric 11: Gas Emergency Response – Mean

Lagging Gas



METRIC DEFINITION

The average time that a Gas Service Representative or a qualified first responder takes to respond after receiving a call which results in an emergency order

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Links to compensation

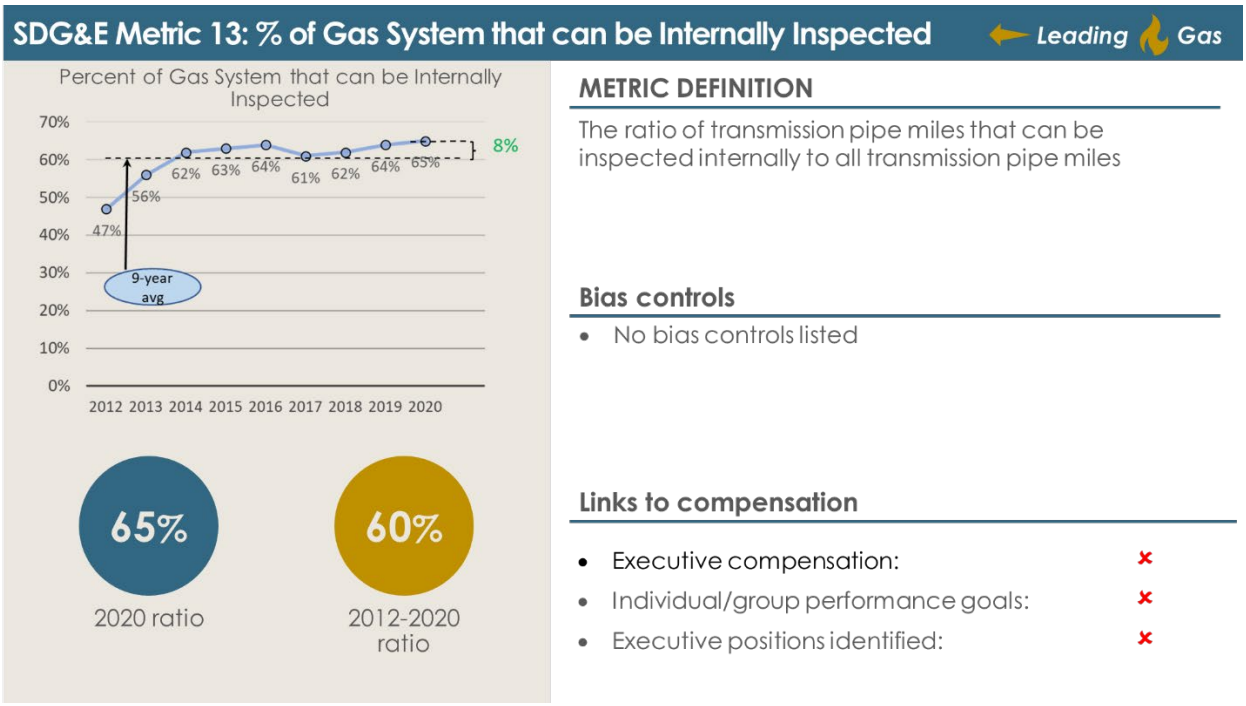
- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

Metric 11 Summary: SDG&E's Customer Service Field technicians respond to calls of gas leaks or odors and perform gas leak investigations. SDG&E attributes improvement in response times since 2017 in part to a Real Time Monitoring data collection effort that more accurately captures arrival times. They note that certain singular events that receive multiple calls can skew the average towards a slower average response time.

The same as Metric 8, this metric is linked to SDG&E's 2020 Executive and non-executive ICPs through a "proxy" metric, "P1 Gas Response Time (Minutes). For ICP purposes, the P1 Gas Response Time performance measure is the average time it takes either Customer Service Field or Gas Operations to respond to a Priority 1 gas emergency.

This metric is weighted at 2% of the 59% overall safety weighting for SDG&E's 2020 Executive ICPs and 1% of the 34% overall safety weighting for SDG&E's 2020 non-executive ICPs and is linked to all SDG&E director level or higher positions.

Observations: There are no metric-specific bias controls listed for this metric beyond annual audits of ICP results.

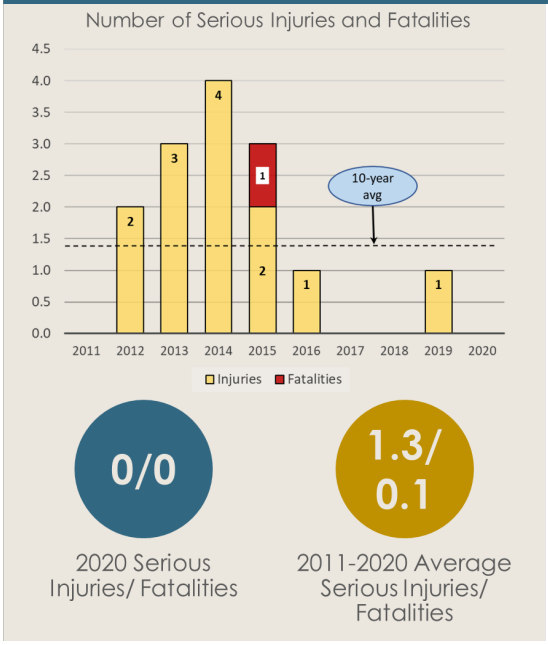


Metric 13 Summary: As described within the narrative context for Metric 6, SDG&E's Transmission Integrity Management Program identifies and addresses threats to transmission pipelines, and pipelines are assessed at a minimum of every seven year. SDG&E notes that this metric represents the ratio of two metrics that are tracked and reported to Pipeline Hazardous Materials Safety Administration (PHMSA): (1) transmission miles that can be inspected internally, and (2) the number of transmission miles.

Observations: There are no metric-specific bias controls listed for this metric beyond annual audits of ICP results. This metric had the same value for the past three years (67%). Progress to make more transmission pipelines accessible to internal inspections leveled off beginning in 2015. SDG&E states that "This metric has remained relatively constant since 2017 at 66%-67% because not all transmission pipelines can accommodate In-Line Inspection (ILI) tools."

SDG&E Metric 14: Employee Serious Injuries and Fatalities

Lagging — Injuries



METRIC DEFINITION

of employee work-related injuries or illnesses annually that result in a fatality, inpatient hospitalization for more than 24 hours (other than for observation purposes), a loss of any member of the body, or any serious degree of permanent disfigurement

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Links to compensation

- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

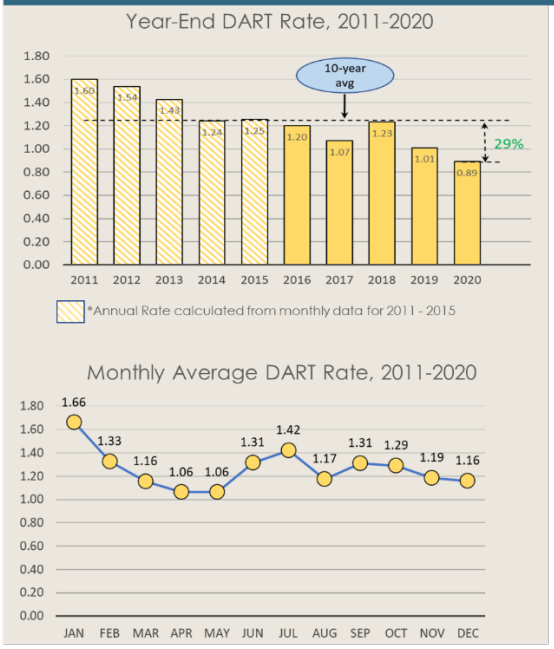
Metric 14 Summary: SDG&E's employee safety risk mitigation programs are founded on proven employee-based programs, safety training, workforce education, site inspections, and SDG&E's Injury and Illness Prevention Program (IIPP).

Additionally, SDG&E has undertaken an initiative to implement an enhanced Safety in Action (SIA) Program. Designed for executives and field operations directors, the enhanced SIA initiative will provide SDG&E with the necessary tools to measure SIF exposures, understand the Company's specific SIF exposure precursors, and design effective steps to eliminate or mitigate SIF exposure. This leading indicator program goes beyond traditional classification and recording of incidents to evaluate both the exposures that resulted in an actual SIF and those that have reasonable potential to result in a SIF.

This metric is linked to SDG&E's 2020 Executive and non-executive ICPs through "proxy" metrics. SDG&E states that performance related to (1) Zero Employee Electric Contacts, (2) Lost Time Incident (LTI) Rate (3) Controllable Motor Vehicle Incidents (CMVI), (4) Environmental Safety Compliance Management Program (ESCMP) Corrective Action Findings Mediated, and (5) Field Observations are included in SDG&E's 2020 Executive and non-executive ICPs. These specific performance measures are each weighted 3% - 4% of the overall 59% public and employee safety operations measures in the 2020 Executive ICPs and apply to all SDG&E executives covered by the plan. They are weighted at 1% - 4% of the overall 34% of public and employee safety operations measures of the 2020 non-executive ICPs and apply to all SDG&E employees covered by the plan."

SDG&E Metric 15: Employee DART Rate

Lagging | Injuries



METRIC DEFINITION

Rate is calculated based on number of OSHA-recordable injuries resulting in Days Away from work and/or Days on Restricted Duty or Job Transfer, and hours worked

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Links to compensation

- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

Metric 15 Summary: SDG&E's DART rate has fallen by nearly 60% in the last ten years. SDG&E attributes this downward trend to its strong injury case management and continual evaluation of initiatives to eliminate or mitigate exposure to workplace hazards.

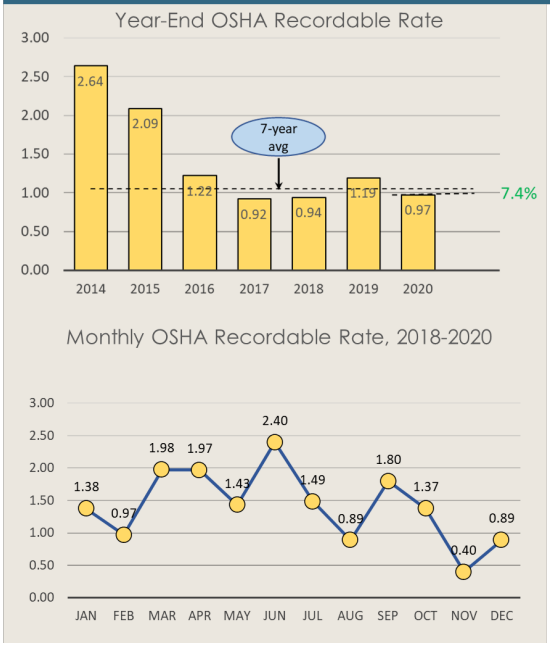
This metric is linked to SDG&E's 2020 Executive and non-executive ICPs through "proxy" metrics. SDG&E states that performance is related to the Lost Time Incident (LTI) Rate. This specific performance measures are each weighted 4% of the overall 59% public and employee safety operations measures in the 2020 Executive ICPs and applies to all SDG&E executives covered by the plan and are weighted at 4% of the overall 34% of public and employee safety operations measures of the 2020 non-executive ICPs and applies to all SDG&E employees covered by the plan.

Observations: There are no metric-specific bias controls listed for this metric beyond annual audits of ICP results.

Note: SDG&E provided ten years of monthly data for Metric 15 and annual data only for the years 2016 – 2020. The CPUC calculated the annual rate, averaging the monthly data, for the years 2011 – 2015.

SDG&E Metric 18: Contractor OSHA Recordable Rate

Lagging | Injuries



METRIC DEFINITION

Rate is calculated as # of OSHA recordable incidents times 200,000 divided by contractor hours worked, where an OSHA recordable incident is an occupational (job-related) injury or illness that requires medical treatment beyond first aid, or results in work restrictions, death or loss of consciousness

Bias controls

- No bias controls listed

Links to compensation

- Executive compensation: ✗
- Individual/group performance goals: ✗
- Executive positions identified: ✗

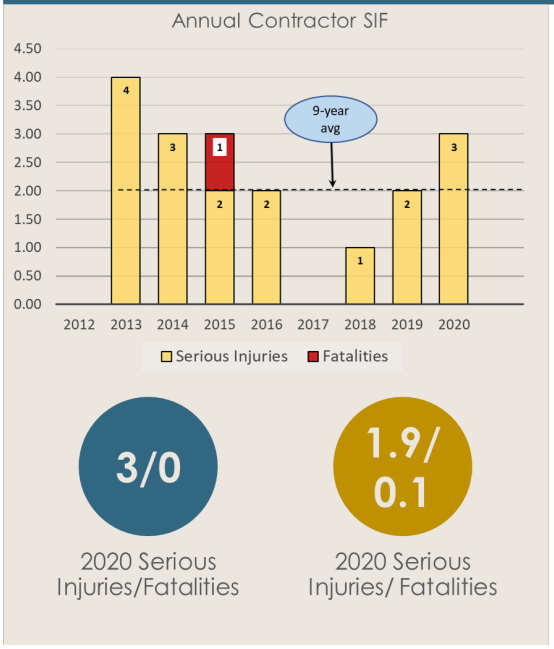
Metric 18 Summary: All Class 1 contractors are included in this metric. A Class 1 contractor is a contractor engaged to perform work that can reasonably be anticipated to expose the contractor's employees, subcontractors, SDG&E employees, or the general public to one or more hazards that have the potential to result in serious safety incident. SDG&E uses both the Contractor Safety Program Standard G8308, the internal standard for SDG&E, and the Class 1 Contractor Safety Manual for contractors in order to hold all business unit employees and Class 1 contractors to the same requirements and/or standards.

ISNetworld is the third-party administrator of the SDG&E contractor safety program, which verifies whether SDG&E's A 1 Contractors meet minimum OSHA requirements and SDG&E's standards.

Observations: This metric is not linked to executive compensation or individual or group performance goals and has no associated bias controls.

SDG&E Metric 20: Contractor Serious Injuries and Fatalities

Lagging Injuries



METRIC DEFINITION

of contractor work-related injuries or illnesses annually that result in a fatality, inpatient hospitalization for more than 24 hours (other than for observation purposes), a loss of any member of the body, or any serious degree of permanent disfigurement

Bias controls

- No bias controls listed

Links to compensation

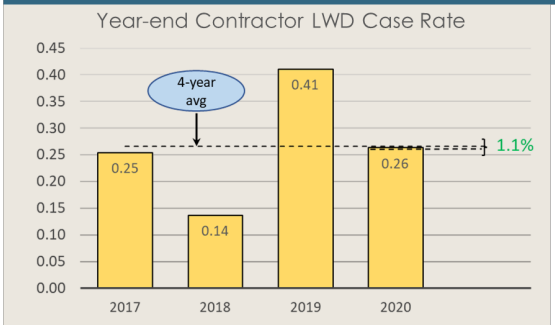
- Executive compensation: ✗
- Individual/group performance goals: ✗
- Executive positions identified: ✗

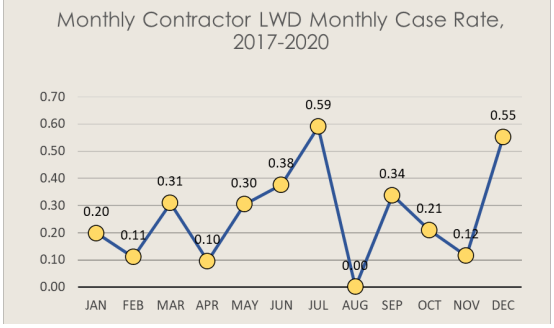
Metric 20 Summary: All Class 1 contractors are included in this metric. In addition to the programs and initiatives discussed above for SDG&E's Contractor OSHA Reportable Rate metric, SDG&E has implemented programs such as "Stop the Job" and "Near Miss Reporting" to reduce the risk of serious injuries and fatalities to its Class 1 contractors. The Stop the Job (STJ) Process is a protocol SDG&E has established for all contractors. It gives authority to everyone onsite to stop a job or task if an unsafe work condition or activity is identified.

Observations: This metric is not linked to executive compensation or individual or group performance goals and has no associated bias controls.

SDG&E Metric 21: Contractor Lost Work Day Case Rate

Lagging | Injuries





METRIC DEFINITION

Rate = # of LWD cases / productive hours worked % 200,000; measures the # of Lost Workday (LWD) cases incurred for contractors per 200,000 hours worked, where a Lost Workday Case is a current year OSHA Recordable incident that has resulted in at least one lost workday

Bias controls

- No bias controls listed

Links to compensation

- Executive compensation: ✘
- Individual/group performance goals: ✘
- Executive positions identified: ✘

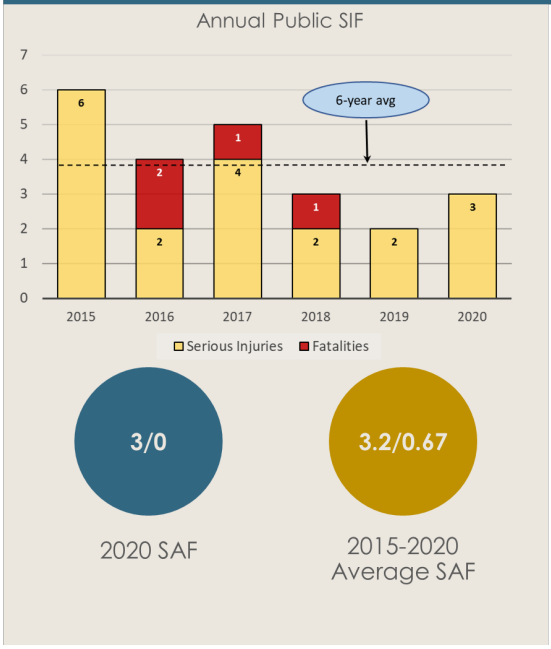
Metric 21 Summary: As stated above, SDG&E uses a third-party administrator, ISNetworld, to house and verify the established SDG&E prequalification requirements for Class 1 contractors. ISNetworld also gives SDG&E a place to communicate with contractors. In 2019, SDG&E's Contractor Safety Program increased the scope of contractors reporting into the ISN data management system. This resulted in many contractor businesses reporting for the first time, with increased oversight and scrutiny by SDG&E of their safety performance and quality of safety reporting. SDG&E saw increased contractor recordable rates in 2019 due to this expanded oversight and reporting.

Observations: SDG&E finds that reporting processes resulted in a significant measurement error, i.e. cases that were underreported in 2018 resulted in an almost three-fold increase of the LWD case rate in 2019. This is the second incident where a significant measurement error in the SPM metrics was reported

This metric is not linked to executive compensation or individual or group performance goals and has no associated bias controls.

SDG&E Metric 22: Public Serious Injuries and Fatalities

Lagging | Injuries



METRIC DEFINITION

of public work-related injuries or illnesses annually that result in a fatality, inpatient hospitalization for more than 24 hours (other than for observation purposes), a loss of any member of the body, or any serious degree of permanent disfigurement

Bias controls

- Annual Incentive Compensation Plan results are audited by Sempra Energy's Audit Services

Links to compensation

- Executive compensation: ✓
- Individual/group performance goals: ✓
- Executive positions identified: ✓

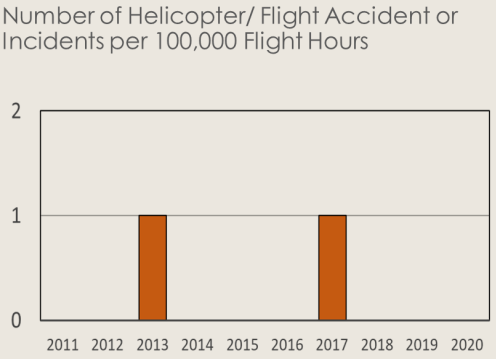
Metric 22 Summary: SDG&E conducts public awareness efforts to enhance the safety of its customers and the general public. These efforts are designed to engage with the Company's customers and the public to inform them about SDG&E's shared safety responsibilities. Communication with the public promotes safety through a wide array of topics including, but not limited to, safety around Company facilities, messaging related to the Public Safety Power Shut Off (PSPS) program, information about gas line locations and downed power lines, and working or being near electrified equipment or facilities.

This metric is linked to SDG&E's 2020 Executive and non-executive ICPs through "proxy" metrics. 59% of SDG&E's 2020 Executive ICPs and 34% of SDG&E's non-executive ICPs are comprised of "public and employee safety operations" performance goals. SDG&E's 2020 Executive and nonexecutive ICPs include the following system and customer safety performance goals:

- o Fire Hardening: Wood-to-Steel Pole Replacements
- o Overhead System Hardening
- o Underground System Hardening
- o Wildfire Safety Communications
- o Distribution System Integrity – Miles Vintage Replacement
- o Damage Prevention (Damages per USA Ticket Rate)
- o Mobile Home Park Retrofit Program (Spaces with To-the-Meter Installed)
- o P1 Gas Response Time (Minutes)
- o PSES Line 1600 – Projected Advanced to Late State Design
- o System Average Interruption Duration Index (SADI)
- o Substation Breaker Replacement (units)
- o Tee Replacement Program (locations)

SDG&E Metric 23: Helicopter/Flight Accident or Incident

Lagging Vehicles



METRIC DEFINITION

of accidents or incidents (as defined in 49 CFR Section 830.5 "Immediate Notification") per 100,000 flight hours, defined by Federal Aviation Regulations (FARs), reportable to FAA per 49-CFR-830.

Bias controls

- No bias controls listed

Executive compensation

- Executive compensation: ✗
- Individual/group performance goals: ✗
- Executive positions identified: ✗

Metric 23 Summary: SDG&E's Aviation Services Department (ASD) supports electric transmission, electric distribution, and gas operations with manned and unmanned aircraft. Manned operations are primarily flown with rotary-wing aircraft and include scheduled powerline patrols, fault patrols, infrared camera patrols, vegetation management surveys, external load work, Light Detection and Ranging (LiDAR) data collections, and aerial assessments.

From 2013 through 2020, SDG&E has flown a total of 17,321 hours.

This metric is not linked to executive compensation or individual or group performance goals and has no associated bias controls.

Conclusion & Recommendations

SDG&E's second SPM Report substantially complies with the requirements in D.19-04-020.

SDG&E responded to SPD's comments and recommendations from last year's evaluation adding supplemental data and providing additional context to their reported metrics.

As mentioned in section III, SDG&E defines ICP safety metrics that stand in as a "proxy" for the CPUC SPM metric for Executive Compensation purposes. SDG&E comments that they use "a mixture of leading and lagging measures and span all lines of business – employee, customer, public, and system safety – in order to prevent bias." This seems like a significant benefit of using composite metrics.

As discussed above, however, these composite proxy metrics create challenges in assessing the effectiveness of CPUC-adopted SPMs to incentivize responses and actions by SDG&E to improve safety. In particular, tradeoffs in composite metrics - when one metric improves and a companion metric worsens - may obscure the need to take actions to improve the safety performance in a particular area. Establishing a relationship between CPUC SPM metrics and SDG&E proxy metrics can be challenging. For example, in Metric 14, SDG&E uses a Lost Time Incident Rate metric as a proxy for SIFs. SDG&E should explain the relationship between lost time incident rate and SIFs, and the equivalency of lost time to SIFs.

SDG&E has noted that audits have revealed that some metrics were underreported or reported inaccurately, (e.g. Metrics 3 and 21). SDG&E should continue efforts to ensure the accuracy of reported information and continue to report these findings to the Commission.