2025 Risk Assessment Mitigation Phase

(Chapter SDG&E-Risk-6)

Employee Safety

May 15, 2025

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Chapter SDGE-Risk-6: Employee Safety

I. INTRODUCTION

The purpose of this chapter is to present San Diego Gas & Electric Company's (SDG&E or the Company) risk control and mitigation plan for the Employee Safety Risk. This chapter contains information and analysis that meet the requirements of the California Public Utilities Commission's (Commission or CPUC) Risk-Based Decision-Making Framework (RDF),[1] including the requirements adopted in Decision (D.) 22-12-027 (Phase 2 Decision) and D.24-05-064 (Phase 3 Decision). The Employee Safety Risk is included in the 2025 RAMP Report based on a safety risk assessment, further informed by its reliability and financial consequence attributes, consistent with RDF guidance. This risk chapter describes the basis for selection of the Employee Safety Risk, the controls and/or mitigations put forth to reduce the likelihood or consequence of this risk, a discussion of alternative mitigations considered but not selected, and a graphic to show historical progress. This chapter presents cost and unit forecasts for the risk mitigating activities, but it does not request funding. Any funding requests for this risk will be made through the Company's Test Year (TY) 2028 General Rate Case (GRC) application. Finally, this chapter describes the methods applied to estimate the risk's monetized, pre-mitigated risk, the estimated risk-reduction benefits of each included control and mitigation, and the calculation of Cost-Benefit Ratios (CBRs) for each control and mitigation, consistent with the method and process prescribed in the RDF.

A. Risk Definition and Overview

1. Risk Definition

For the purposes of this RAMP Report, SDG&E's Employee Safety Risk is defined as the risk of an incident, involving one or more on-duty employees, that causes injury, illness or fatality to a company employee.

Certain controls and mitigations presented in this chapter are subject to compliance mandates beyond RDF requirements, such as those from the CPUC, Cal/OSHA, or PHMSA (including but not limited to subparts of Rule 49 Code of Federal Regulations) as well as

[1] As discussed in Volume 1, Chapter RAMP-1, the RDF Framework broadly refers to the recent modifications to the Commission's Rate Case Plan adopted in Rulemaking (R.) 13-11-006, Safety Model Assessment Proceeding A.15-05-002 et al. (cons.), and R.20-07-013 (the Risk OIR), including D.24-05-064, Appendix A.

industry leading best practices such as American Petroleum Institute Recommended Practice (API RP) 1173. A list of compliance requirements applicable to the Employee Safety Risk is provided in Attachment A. Certain mitigation programs have value beyond the estimated risk reduction calculated under the RDF, such as enhancing operations and promoting public trust in the communities SDG&E serves.

2. Risk Overview

Safety is a core value and is foundational to SDG&E's operations. SDG&E defines safety as the presence of controls for known hazards, actions to anticipate and guard against unknown hazards, and the commitment to continuously improve SDG&E's ability to recognize and mitigate hazards. Safety requires strong ongoing leadership commitment and active engagement from all employees. SDG&E focuses on safety through the lenses of employee safety, contractor safety, public safety, and infrastructure safety. SDG&E has an unwavering commitment to its employees to sustain its safety-first culture and maintain a safe work environment. Every employee has a role to play with respect to safety and is empowered and encouraged to stop work, raise safety concerns, and report near misses. Safety is not compromised for production, customer satisfaction, or any other goal, and no activity is so important that it should jeopardize safety. SDG&E's culture and commitment to continuous safety improvement, as supported by the controls and mitigations identified within this chapter, takes a proactive and preventative approach and are designed to manage its Employee Safety Risk.

B. Risk Scope

SDG&E's Employee Safety Risk analysis considers the risk of an incident involving one or more on-duty employees that causes minor[2] or serious injury/illness[3] or fatality to a company employee.

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[2] Minor injury or illness is one that does not meet the criteria for a serious injury as defined by Cal/OSHA.

[3] Cal/OSHA defines a serious injury or illness as "any injury or illness occurring in a place of employment or in connection with any employment that requires inpatient hospitalization for other than medical observation or diagnostic testing, or in which an employee suffers an amputation, the loss of an eye, or any serious degree of permanent disfigurement, but does not include any injury or illness or death caused by an accident on a public street or highway, unless the accident occurred in a construction zone."8 CCR § 330(h).

C. Data Sources Used to Quantify Risk Estimates[4]

SDG&E utilized internal data sources to determine an Employee Safety Risk Pre-Mitigation Risk Value and calculate risk reduction estimates for mitigation activities (which enable estimation of Post Mitigation Monetized Risk Values and Cost Benefit Ratios). Where internal data is deemed insufficient, supplemental industry or national data is used as appropriate and adjusted to account for the risk characteristics associated with the Company's specific operating locations and service territory. For example, certain types of incident events have not occurred within the SoCalGas and SDG&E service territories. Expanding the quantitative data sources to include industry data where such incidents have been recorded is appropriate to establish a baseline of risk and risk addressed by mitigative activities. Attachment B provides additional information regarding these data resources.

II. RISK ASSESSMENT

In accordance with Commission guidance, this section provides a qualitative description of the Employee Safety Risk, including its risk Bow Tie, which delineates potential Drivers/Triggers and Potential Consequences, followed by a description of the Tranches determined for this risk.

A. Risk Selection

The Employee Safety Risk was included as a risk in SDG&E's 2021 RAMP[5] and was included in the 2022, 2023, and 2024 Enterprise Risk Registries (ERR). SDG&E's ERR evaluation and selection process is summarized in Chapter RAMP-2, Enterprise Risk Management Framework and in Chapter RAMP-3 Risk Quantification Framework.

SDG&E selected this risk in accordance with the RDF Row 9.[6] Specifically, SDG&E assessed the top risks from the Company's 2024 ERR based on the Consequence of a Risk Event

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4 Copies and/or links to these data resources are provided in the workpapers served with this Report on May 15, 2025.

5 In the 2021 RAMP Report, Chapter SDG&E-Risk-8, this risk was called Incident Involving an Employee ("IIE"). The risk definition for Employee Safety Risk in this RAMP was changed from the IIE risk in the 2021 RAMP Report to remove limiting, causal language regard "non-adherence to Company policies, procedures, and programs, or by external factors". The elements of Employee Safety Risk have been expanded to be more comprehensive and to align with the Contractor Safety risk chapter.

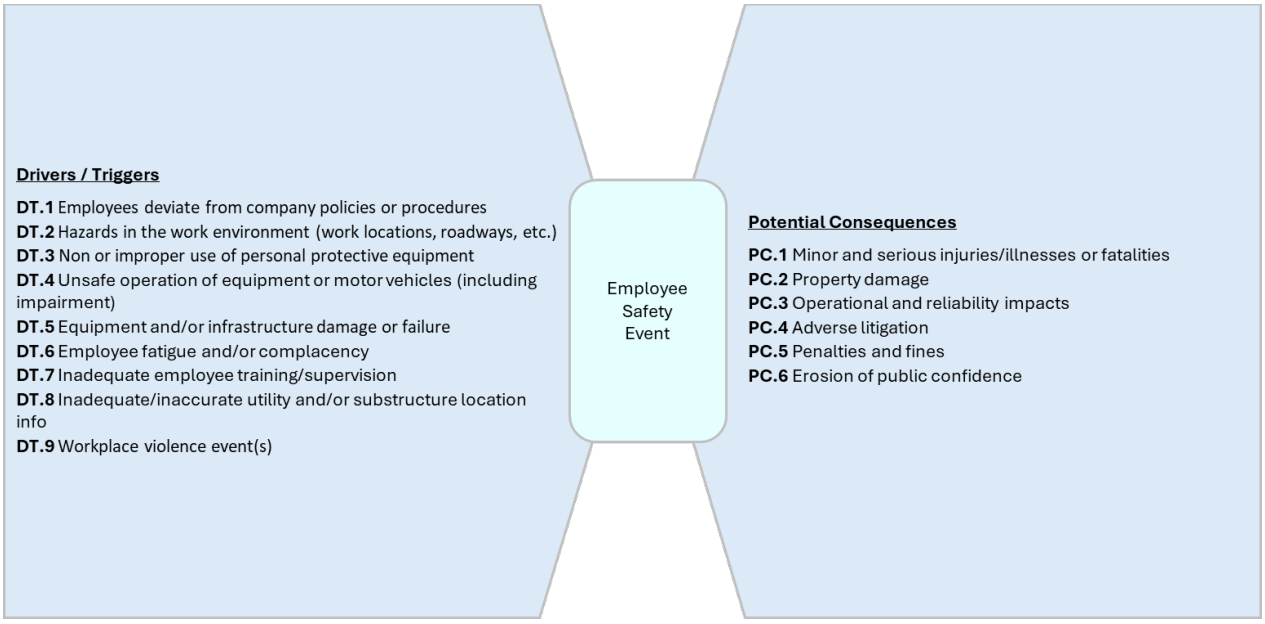
6 D.24-05-064, RDF Row 9 states that risks to be included in the RAMP Report, at minimum, are those identified in the Company's ERR comprising "the top 40% of ERR risks with a Safety Risk Value greater than zero dollars . . .".

(CoRE) Safety attribute. The Employee Safety Risk was among the risks presented in SDG&E's list of Preliminary 2025 RAMP Risks on December 17, 2024 at a pre-filing workshop. Employee Safety Risk was selected based on the qualification of its Safety risk attribute, as required under the RDF. At the pre-filing workshop, no party expressed opposition to inclusion of this risk in SDG&E's 2025 RAMP Report.

B. Risk Bow Tie

In accordance with Commission requirements, this section describes the risk Bow Tie, possible Drivers, Potential Consequences, and a mapping of the elements in the Bow Tie to the mitigation(s) that addresses it.[7] As illustrated in the Bow Tie shown below in Figure 1, the Risk Event (center of the Bow Tie) is the Employee Safety Risk that could cause a safety-related event, the left side of the Bow Tie illustrates possible Drivers/Triggers that could lead to the Employee Safety Risk, and the right side shows the Potential Consequences of the Employee Safety Risk. SDG&E applies this framework to identify and summarize the information provided in Figure 1. A mapping of each mitigation to the elements of the risk Bow Tie is provided in Attachment C.

Figure 1
Employee Safety: Risk Bow Tie



[7] D.24-05-064, RDF Row 15.

C. Potential Risk Event Drivers/Triggers[8]

When performing a risk assessment for the Employee Safety Risk, SDG&E identifies possible causes, referred to as Drivers or Triggers, that reflect current and/or forecasted conditions and may include both external actions as well as characteristics inherent to the asset.[9] These Bow Tie Drivers/Triggers inform the Likelihood of a Risk Event (LoRE) component of the risk value. These include:

- **DT.1 – Employees deviate from policies or procedures:** SDG&E has many safety-related policies and procedures for employees to follow. Failure of someone to adhere to safety policies and procedures could result in a safety-related event.
- **DT.2 – Hazards in the work environment (work locations, roadways, etc.):** Unsafe work environments (*e.g.*, work locations, roadways and parking places, customer premises, confined spaces), unsafe gas equipment conditions, Polychlorinated Biphenyls (PCB), lead from paint, asbestos, and fumigation chemicals, for example, could each lead to a safety-related event.
- **DT.3 – Non or improper use of personal protective equipment:** Safety equipment serves to protect employees and contractors from avoidable injuries. Failure to wear personal protection and safety equipment can lead to a safety-related event.
- **DT.4 – Unsafe operation of equipment or motor vehicles (including impairment):** Failure to follow the law and/or other applicable safety practices while operating equipment or company vehicles could result in a safety-related event.
- **DT.5 – Equipment and/or infrastructure damage or failure:** Damage to gas or electric equipment or infrastructure and/or their failure could lead to a safety-related event.
- **DT.6 – Employee fatigue/complacency:** Employee fatigue or complacency

[8] An indication that a risk could occur. It does not reflect actual or threatened conditions.

[9] D.24-05-064, RDF Row 10-11.

could lead to a safety-related event

- **DT.7** – **Inadequate employee training/supervision:** Failure to provide adequate safety training could result in a safety-related event.
- **DT.8** – **Inadequate or inaccurate information on utility and/or substructure location information:** Having the correct and current information about the equipment or substructures being worked on is important to working safely. Incorrect or inadequate equipment/substructure information may lead to a safety-related event.
- **DT**. **9** – **Workplace violence event(s):** Threats of workplace violence (*e.g.*, active shooter threats, disgruntled employee threats) can lead to a safety-related event.

D. Potential Consequences of Risk Event (CoRE)

Potential Consequences are listed to the right side of the risk Bow Tie. SDG&E identifies the potential Consequences of the Employee Safety Risk by analyzing internal data sources, where available, industry data,[10] and subject matter expertise (SME).[11] These Potential Consequences inform the CoRE component of the risk value. If one or more of the Drivers/Triggers listed above were to result in a safety-related event, the Potential Consequences, in a plausible worst-case scenario, could include:

- PC.1 – Minor and serious injuries/illnesses[12] or fatalities
- PC.2 - Property damage
- PC.3 - Operational and reliability impacts
- PC.4 - Adverse litigation
- PC.5 - Penalties and fines
- PC.6 - Erosion of public confidence

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[10] Industry data includes data found in SDG&E's annual Safety Performance Metrics Report (SPMR) and Centers for Disease Control and Prevention (CDC), *Web-based Injury Statistics Query and Reporting System (WISQARS) Cost of Injury*, *available at:* https://wisqars.cdc.gov/cost/?y=2023&o=MORT&i=0&m=20810&g=00&s=0&u=TOTAL&u=AVG&t=COMBO&t=MED&t=VPSL&a=5Yr&g1=0&g2=199&a1=0&a2=199&r1=MECH&r2=INTENT&r3=NONE&r4=NONE.

[11] D.24-05-064, RDF Row 10.

[12] 8 CCR § 330(h).

These Potential Consequences were used by SDG&E in the scoring of the Employee Safety Risk during the development of its SDGE's 2024 ERR.

E. Evolution of Its Drivers and Consequences

As specified in the Phase 3 Decision, the following changes to the previous ERR and/or the 2021 RAMP include:[13]

1. Changes to Drivers/Triggers of the Risk Bow Tie

- DT.1 - Employees deviate from policies or procedures is revised to include 2021 RAMP bow tie driver, "*DT.12 - Inadequate use of job-site safety plans or analysis.*"
- DT.2 - Hazards in the work environment (work locations, roadways, etc.) is revised to include 2021 RAMP bow tie driver, "*DT.7 - Employee impairment due to environmental factors.*"
- DT.7 - Inadequate employee training/supervision is revised to include 2021 RAMP bow tie drivers, "*DT.9 - Lack of oversight of employees' work*" and "*DT.10 - New/transferred employee inexperience.*"
- DT.9 - Added threat of a "workplace violence event(s)" as a Driver/Trigger: SDG&E's ERR includes workplace violence as a separately identified risk. That risk is defined as an intentional incident which results in emotional or physical harm to employees or customers. Because the controls for workplace violence event are employee focused, this risk was reclassified for purposes of this RAMP as a Driver/Trigger limited in scope to Employee Safety Risk.

2. Changes to Potential Consequences of the Risk Bow Tie

- PC.1 - Added "minor injuries" and "illnesses" to serious injuries and fatalities consequence, which was not included in the 2021 RAMP Bow Tie for Employee Safety Risk. Minor injuries and illnesses are included as attributes that were used in determining the safety risk value which is required by D.24-05-064, RDF Row 9, and therefore were added to consequences for the 2025 RAMP Bow Tie.

[13] D.24-05-064, RDF Row 8.

F. Summary of Tranches

To determine groups of assets or systems with similar risk profiles, or Tranches, and on accordance with Row 14 of the RDF, SDG&E applied the Homogeneous Tranching Methodology (HTM) as outlined in Chapter RAMP - 3: Risk Quantification Framework. As a result, the following classes, LoRE-CoRE pairs, and resulting number of Tranches were determined:[14]

Table 1: Employee Safety Risk
Tranche Identification

Class	Number of LoRE-CoRE Pairs	Number of Resulting Tranches
Electric Operations	1	1
Gas Operations	1	1
Motor Vehicle Incidents	1	1
Office of the Customer	1	1
Admin / Miscellaneous	1	1
Workplace Violence	2	2
TOTAL	**7**	**7**

Attachment D illustrates the derivation of the Tranches, as shown in Table 1 above, in accordance with the HTM. The classes were identified by SDG&E as logical groups of events that can lead to Employee Safety Risk events. These classes also align risk treatments with risk profiles reflective of SDG&E's operations. More detailed Tranche information, including risk quantification by LoRE-CoRE pair, Tranche names, and mitigation associations (*i.e.*, cost mapping and risk reduction) to Tranches, is provided in workpapers.

III. PRE-MITIGATION RISK VALUE

In accordance with the RDF Row 19, the table below provides the pre-mitigation risk values for the Employee Safety Risk. Further details, including pre-mitigation risk values by Tranche, are provided in workpapers. Explanations of the risk quantification methodology and other higher-level assumptions are provided in Chapter RAMP-3 Risk Quantification Framework.

[14] SDG&E notes that Employee Safety Risk, as a human-safety risk, does not feature the natural segmentation characteristics that asset-based risks do, which limits the number of viable Tranches (essentially to one Tranche per class).

Table 2: Employee Safety Risk
Monetized Risk Values
(Direct, in 2024 $ millions)

LoRE	CoRE [Risk-Adjusted Attribute Values]			Total CoRE	Total Risk [LoRE x Total CoRE]
	Safety	Reliability	Financial		
118.58	$0.084	$0.00	$0.01	$0.094	$11.16

A. Risk Value Methodology

SDG&E's risk modeling for the Employee Safety Risk follows RDF guidance[15] for implementing a Cost Benefit Approach, as described below:

1. **Cost Benefit Approach Principle 1 – Attribute Hierarchy (RDF Row 2):** The Employee Safety Risk is quantified in a combined attribute hierarchy as shown in the table above, such that Safety, Reliability, and Financial are presented based on available, observable and measurable data.
2. **Cost Benefit Approach Principle 2 – Measured Observations (RDF Row 3):** SDG&E utilized internal incident data to represent natural units for employee injuries. These injuries were classified as either Minor, Serious, or Unsurvivable and assigned the corresponding FAA fractional VSL value (0.003, 0.253, and 1.0, respectively) as described in Volume 1, Chapter 3.
3. **Cost Benefit Approach Principle 3 – Comparison (RDF Row 4):** The Employee Safety Risk utilized proxy data as provided by various sources including, but not limited to, the Federal Bureau of Investigation (for workplace violence), Bureau of Labor Statistics (to determine a proration of SDG&E's employee base versus the national working population), the Center for Disease Control (to determine financial impacts associated with injuries), Indiana University of Pennsylvania (to determine impact of data analysis), and National Safety Council (to estimate costs associated with motor vehicle incidents). Please refer to Attachment B for specific details regarding these sources.
4. **Cost Benefit Approach Principle 4 – Risk Assessment (RDF Row 5):** Data distributions were not applicable for the proxy-driven risk events modeled for the

[15] D.24-05-064, RDF Rows 2-7.

Workplace Violence and Motor Vehicle Incident components of this risk. For those incidents, probabilities of future events were derived based on internal recorded data from past years or supplemented with national data where applicable (to estimate likelihood of a workplace violence incident).

5. **Cost Benefit Approach Principle 5 – Monetized Levels of Attributes (RDF Row 6):** In accordance with D.22-12-027 and D.24-05-064, RDF Row 6, SDG&E used a California-adjusted Department of Transportation monetized equivalent to calculate the Safety CoRE attribute at a monetized equivalent of $16.2 million per fatality, $49 thousand per minor injury, and $4.1 million per serious injury;[16] and the Financial CoRE attribute is valued at $1 per dollar.[17] Gas and Electric Reliability are quantified as $0 due to the lack of empirical and proxy data supporting these consequences occurring from employee safety incidents.

Further information regarding SDG&E's quantitative risk analyses, including raw data, calculations, and technical references are provided in workpapers.

6. **Cost Benefit Approach Principle 6 – Adjusted Attribute Level (RDF Row 7):**

Table 3: Employee Safety Risk
Risk Scaled vs Unscaled Value by CoRE Attributes
(Direct, in 2024 $ millions)

	Safety	Reliability	Financial	Total
Unscaled Risk Value	$9.73	$0	$1.17	$10.90
Scaled Risk Value	$9.99	$0	$1.17	$11.16

The values in the table above are the result of SDG&E applying the risk scaling methodology described in Chapter RAMP-3 to the CoRE attributes for the Employee Safety Risk. The Employee Safety Risk does not feature a significant risk aversion scaling impact because a relatively small proportion of the observed events rise to the level at which scaling is applicable, and the magnitudes of the consequences are not as high (*e.g.*, multiple-fatality event) as can occur with other risks.

[16] *See* D.22-12-027 at 35 ("We adopt Staff's recommendation to require a dollar valuation of the Safety Attribute in the Cost-Benefit Approach in the RDF using the DOT VSL as the standard value.").

[17] S*ee* Chapter RAMP-3: Risk Quantification Framework, Section II.

Further information regarding the risk scaling function, including the risk scaling factor and the loss threshold at which the risk scaling factor begins to apply is provided in Chapter RAMP-3.

IV. 2024-2031 CONTROL & MITIGATION PLAN

This section identifies and describes the controls and mitigations comprising the portfolio of mitigations for the Employee Safety Risk and reflects changes expected to occur from the last year of recorded costs at the time of filing this RAMP Report (2024) through the 2028 GRC cycle (2031). For clarity, a current activity that is included in the plan may be referred to as either a control and/or a mitigation. Table 4 below shows which control activities are in place in 2024 and which are expected to be on-going, completed, or new during the 2025-2031 time periods. Because the TY 2024 GRC proceeding established rates through 2027,[18] information through 2027 is calculated as part of the baseline risk, in accordance with D.21-11-009.[19] For the TY 2028 GRC, SDG&E calculated CBRs beginning with TY 2028 and for each Post-Test Year (PTY) (2029, 2030, and 2031).[20]

Table 4: Employee Safety Risk
2024-2031 Control and Mitigation Plan Summary

ID	Control/Mitigation Description	2024 Control	2025-2031 Plan
C317	**Employee Safety Training & Field Safety Oversight Programs**	X	Ongoing
C323	Safety Culture Survey, Recognition & Awards	X	Ongoing
C319	Safety Management System Implementation and Management	X	Ongoing
C328	**Safety Compliance & Industrial Hygiene Program**	X	Ongoing
C326	**Workplace Violence Prevention Programs**	X	Ongoing
M303	Enhanced Risk Informed Employee Safety Training & Field Safety Oversight Programs		2025[21]
M305	Safety Management System Maturity &		2025

[18] *See* D.24-12-074.

[19] *See,* D.21-11-009 at 136 (Conclusion of Law (COL) 7) (providing a definition for "baselines" and "baseline risk").

[20] In the TY 2028 GRC, the last year of recorded costs, or base year, will be 2025. SoCalGas and SDG&E will forecast information for 2026 through 2031, in accordance with the Rate Case Plan.

[21] This is the planned in-service year for the mitigation.

ID	Control/Mitigation Description	2024 Control	2025-2031 Plan
	Improvement: Enhanced Safety Communication & Safety Data Analytics		
M311	Establish Incident Investigation and Cross-functional Event Learning Teams		2025

Bold *indicates this control/mitigation includes mandated programs/activities.*

A. Control Programs

In accordance with Commission guidance, this section "[d]escribe[s] the controls or mitigations currently in place"[22] (*i.e.,* activities in this section were in place as of December 31, 2024). Controls that will continue as part of the risk mitigation plan are identified in Table 4, above.

C317: Employee Safety Training & Field Safety Oversight Programs:

Employee safety oversight and training programs are crucial for maintaining a safe work environment and reducing Employee Safety Risk. This is particularly important in the gas and electric utility sectors due to the often-high-risk nature of the work. Implementing comprehensive safety programs can reduce safety-related events for employees, confirming they are trained, equipped, and informed on how to perform their tasks safely. It also enhances the safety of the communities SDG&E serves.

SDG&E's employee safety training and field safety oversight programs include Serious Injury and Fatality (SIF) Prevention, High Energy Control Assessments (HECA), Smith System® Defensive Driving Training, Close Quarter Maneuvering Drivers Training, and implementation of SDG&E's Emergency Action Plan and Injury and Illness Prevention Program. These programs provide the necessary training and awareness to systematically identify potential hazards in the workplace. By recognizing potential risks and hazards early, SDG&E can take proactive measures to mitigate them and reduce Employee Safety risk.

SIF Prevention – SDG&E's SIF Prevention Program focuses on identifying and mitigating risks that could lead to serious injuries or fatalities by applying the Edison Electric Institute Safety Classification and Learning (SCL) model to consistently classify safety incidents and near misses. This program increases the number of learning opportunities and allows

[22] D.18-12-014 at 33.

SDG&E to further assess incidents with the potential to cause serious injuries or fatalities (PSIF). PSIFs also offer an opportunity for shared learning, which is necessary to advance toward SIF elimination. This proactive approach helps prevent the most severe types of workplace accidents and reduces the likelihood of life-threatening incidents, helping employees return home safely each day.

High Energy Control Assessments (HECA) – SDG&E introduced Field Safety Engagements as a new measurable metric in 2024. Field Safety Engagements are jobsite observations that incorporate HECA and involve an assessment of activities where high energy hazards[23] are present to assess whether appropriate direct controls are present to reduce or eliminate exposure and mitigate the risk of an employee safety event. For example, a Field Safety Engagement performed of employees working in a roadside excavation could identify third-party vehicle traffic as a high energy hazard and assess whether controls, such as signage and cones, are adequate to prevent serious injury or fatality to SDG&E's workforce.

Field Safety Advisors - SDG&E's Field Safety Advisors are safety professionals that support operational teams and assist client groups with analyzing safety trends and developing solutions to reduce the risk of safety-related events. They provide a variety of safety training, participate in incident reviews and investigations, perform site safety assessments (including Field Safety Engagements) and recommend controls that affect the safety, health, and well-being of employees, contractors, and the public. Field Safety Advisors may also perform Safety Officer duties during emergency events.

Safe Driving Programs – SDG&E employees, on average, drive over 16 million miles a year. SDG&E's safe driving training programs aim to increase a driver's safety awareness to prevent and minimize the risk of motor vehicle incidents. With senior management's commitment and employee involvement, SDG&E is promoting a safety culture committed to safe driving. This commitment includes written policies and procedures, vehicle telematics data collection and analytics, review of motor vehicle incidents, a department of motor vehicles license pull program to confirm that all employees driving on behalf of SDG&E or on SDG&E property are properly licensed, safe drivers training, and development of training materials to

[23] High-energy hazards include gravity (*e.g.*, suspended load), mechanical (*e.g.*, heavy equipment), pressure (*e.g.*, explosion), electrical (*e.g.*, arc flash), and ground disturbance (*e.g.*, excavation or trench).

reinforce safe driving principles. SDG&E's vehicle telematics data, driving observation data, incident review, and employee feedback help drive continuous improvement of SDG&E's safe driving training programs.

Successful completion of the Smith System® Initial Defensive Driving training course is a requirement for all employees who drive company vehicles as a requirement of their job, or who drive more than 3,000 miles per year for work-related activities. The Smith System® Defensive Driving Program was founded on the principle that most crashes are preventable if the right driving habits are learned, practiced, and applied consistently. Smith System® combines classroom and behind-the-wheel instruction to increase an experienced driver's safety awareness and change poor driving habits. It teaches drivers defensive driving techniques to anticipate and avoid potential hazards on the road and reduces the risk of vehicle accidents, improving road safety for employees and the public. Identified employees are required to complete the Smith System® Refresher annually to maintain their training certification.

Close Quarter Maneuvering Drivers Training is an SDG&E course that was customized from the Smith System® Advanced Backing, Parking, and Close Quarters Maneuvering course. During this in-house training, advanced backing and close quarter maneuvering are learned during 30-minute classroom discussion and a 2.5-hour driving course using the vehicle driven for work. The driving course includes blind spot identification, and serpentine and diminishing cone courses. This training focuses on developing and/or improving skills and techniques to maneuver safely in challenging driving environments. Initial training is provided for identified operational employees who drive company vehicles as a requirement of their job and is subsequently conducted by request or as needed.

Collectively, these employee safety training and field safety oversight programs help foster a workplace environment where safety is a priority, encouraging employees to be vigilant and proactive about their own and others' safety. It also demonstrates SDG&E's commitment to employee safety, mental health, and well-being. These programs not only protect employees but also contribute to the overall success and sustainability of the Company.

C323: Safety Culture Survey, Recognition & Awards:

A strong culture of safety is crucial for proactive and preventative Employee Safety Risk mitigation and serves as the foundation for all of SDG&E's Employee Safety Risk controls and mitigations. SDG&E details its safety culture efforts, goals and objectives in Chapter RAMP-4.

SDG&E's efforts to assess, understand, sustain, and continuously improve its culture of safety include hosting an annual Start Strong Safety Event and an annual Safety Congress and award ceremony to recognize and reinforce the importance of safe behavior and a "safety first" mindset. SDG&E also conducts regular surveys of its workforce to identify strengths and opportunities for improvement.

Since 2010, SDG&E has utilized the National Safety Council (NSC) safety barometer survey to help measure and understand its safety culture. The NSC survey, issued to all employees, solicits employee perceptions across six fundamental safety performance categories: Management Commitment, Supervisor Engagement, Employee Involvement, Safety Support Activities, Safety Support Climate, and Organizational Climate. SDG&E's overall percentile score of 93.4 in 2022, its most recent NSC survey, indicates that SDG&E scored higher across the six fundamental safety performance categories than 93.4% of the companies in NSC's 1,500 company.[24] To continue to improve its safety programs and culture, SDG&E shares survey results with its employees and identifies focus areas for action planning. Since 2021, SDG&E has also participated in the Office of Energy Infrastructure Safety (OEIS) annual wildfire safety culture assessment. OEIS assessment reports are similarly used to drive action planning and safety improvements.

SDG&E recognizes the importance of fostering and sustaining a strong culture of safety. The Company's safety commitment is demonstrated through its actions, allocation of resources, and organizational governance. A mature safety culture, as defined in Investigation (I.) 15-08-019, includes:

- A clearly articulated set of principles and values with a clear expectation of full compliance.
- Effective communication, continuous education, and testing.
- Uniform compliance by every individual in the organization, with effective safety metrics, recognition, compensation, and accountability for deviating or performing at, above, or below the standard of compliance.

[24] For a broad measurement of the survey results, an overall percentage score was provided by NSC to provide an overall perception of SDG&E's safety culture. Average response scores were compared with 1,500 businesses in the NSC Database for each of the 50 NSC safety barometer questions across the six safety performance categories to develop an overall percentage score.

- Continuous reassessment of hazards and reevaluation of norms and practices.[25]

SDG&E's leadership actively builds trust through non-punitive measures, a commitment to reducing high-risk conditions, leveraging data to identify risks, and advancing as a learning organization. SDG&E continuously works to advance its safety culture and measure the effectiveness of the initiatives. Current activities include:

Annual Start Strong Event: Starting in January 2023, SDG&E hosts an annual "Start Strong" safety event for approximately 1,400 operational (field) employees. This event, in partnership with IBEW Local 465, emphasizes SDG&E's joint commitment to safety and sets clear expectations for the year. Key objectives include all employees understanding their role in safety and to foster psychological safety where all employees are empowered and feel comfortable speaking up, raising safety concerns, submitting near misses, and stopping the job whenever they are unsure how to safely perform a task.

Annual Safety Congress and Safety Leadership Award Ceremony: SDG&E currently has approximately 60 Safety Committees (34 office-based, 27 field-based committees) that represent their respective work location or department. Safety Committees meet regularly to discuss safety topics and identify actionable items to promote safety across their teams. Since 2002, SDG&E has held an annual Safety Congress, which provides a platform for the Safety Committee members and other safety leaders to collaborate and share insights through networking and workshops. Each year at the Safety Congress, SDG&E recognizes outstanding safety leaders with the prestigious Gary Tehan Safety Leadership Award (individual award), Grant Valentine Team Safety Award, and the new Office Safety Leadership Awards, honoring individuals and teams who exemplify SDG&E's safety vision.

Safety awards and recognition play a crucial role in fostering a strong safety culture for several reasons:

1. **Motivation and Engagement:** Recognizing employees for their safety efforts motivates them to continue prioritizing safety in their daily tasks. It also engages employees by making them feel valued and appreciated for their contributions to a safer work environment.

[25] I.15-08-019, Order Instituting Investigation on the Commission's Own Motion to Determine Whether Pacific Gas and Electric Company and PG&E Corporation's Organizational Culture and Governance Prioritize Safety (September 2, 2025) at 5.

2. **Positive Reinforcement:** Safety awards serve as positive reinforcement, encouraging employees to adopt and maintain safe behaviors. This reinforcement helps to establish and sustain a culture where safety is a core value.
3. **Encouraging Best Practices:** By highlighting and rewarding exemplary safety practices, awards and recognition programs encourage other employees to follow suit. This dissemination of best practices leads to overall improvements in safety performance across the organization.
4. **Building a Safety-First Mindset:** Regular recognition of safety achievements helps to embed a safety-first mindset within the organization. Employees become more aware of the importance of safety and are more likely to prioritize it in their decision-making processes.
5. **Boosting Morale:** Recognition programs boost employee morale by acknowledging their hard work and dedication to safety. High morale contributes to a more positive and productive work environment.
6. **Demonstrating Organizational Commitment:** When an organization consistently recognizes and rewards safety achievements, it demonstrates a genuine commitment to safety. This commitment builds trust and confidence among employees, stakeholders, and the community.

Overall, safety awards and recognition are vital for promoting a proactive safety culture and ensuring safety remains a value in SDG&E's work.

C319: Safety Management System Implementation & Management:

An effective Safety Management System (SMS) provides a structured approach to identifying, assessing, and mitigating Employee Safety Risk. This systematic process helps proactively address potential hazards to prevent injury or incident. SDG&E is continuing its company-wide implementation and management of its SMS, comprised of a business framework, integrated operating model, governance structure and processes that apply the elements of API RP 1173.[26] SDG&E's SMS further aligns and integrates safety management,

[26] While API RP 1173 was developed for natural gas pipeline operators, SDG&E adapted this recommended practice for broader electric and gas utility application. Accordingly, absent an electric industry-equivalent, SDG&E applies this adapted version of API RP 1173 to both its gas and electric operations.

risk management, asset management, and emergency management across all operations for continued safety improvement and "connects the dots" to collectively manage safety risk. SDG&E began operating within an SMS in 2020. The SMS builds asset, risk, and safety management into all aspects of work from initial engineering and design, employee training, installation, operation, and maintenance of its utility infrastructure, to the safe and reliable delivery of electric and gas service to customers. SDG&E's SMS is comprised of company-wide processes for effective risk-based decision-making in daily operations. It aligns operational safety for gas and electric services with API RP 1173 standards, incorporating elements from ISO 31000 for risk management, ISO 55000 for asset management, and the Incident Command System for emergency management, along with OSHA's traditional safety principles. This comprehensive approach fosters a proactive safety program to continually enhance SDG&E's safety performance and safety culture to protect the safety of employees, contractors, and the communities SDG&E serves.

Within the SMS, SDG&E's safety focus expands beyond employee and contractor occupational safety principles to include heightened focus on public safety, asset safety, system safety, environmental safety, cyber safety, and psychological safety for continuous, sustainable improvement of SDG&E's safety performance and safety culture. SDG&E's SMS governance structure leverages a cross-functional team including leaders from gas operations, electric operations, employee safety, contractor safety, customer safety, public safety, asset management, risk management, and emergency management.

An effective SMS requires extensive, ongoing employee awareness and engagement efforts. SDG&E continually enhances and delivers SMS awareness and training. Creation of an employee communication, engagement and training program is necessary to achieve full understanding and cultural adoption of SMS with its broader safety focus on all safety pillars: People Safety, Risk Identification & Management, Asset Safety, Gas & Electric Operations, and Emergency Preparedness/Incident Response.

Stakeholder engagement and feedback are also essential elements of an effective SMS and are integrated into the SMS's continuous improvement framework. SDG&E's SMS undergoes regular review to measure its effectiveness and identify opportunities for improvement. Continued implementation, management and improvement of SDG&E's SMS offers numerous benefits for employee safety and risk reduction. Key benefits include:

- **Proactive Risk Management**: SDG&E's SMS helps systematically identify potential risks and hazards to allow for early intervention before incidents occur. By establishing safety protocols, the SMS reduces the frequency and severity of workplace incidents, leading to a safer environment.
- **Enhanced Communication and Collaboration**: SDG&E's SMS framework breaks down silos with increased two-way communication, cross-functional collaboration and information sharing.
- **Fostering a Culture of Safety**: Encouraging open communication about safety concerns helps build a culture where employees feel valued and empowered to report potential risks and hazards.
- **Continuous Improvement**: Regular assessments of safety performance and safety culture help identify areas for improvement, fostering a culture of continuous learning.
- **Safer Work Environment**: SDG&E's commitment to safety promotes safe work practices leading to improved safety performance.

By integrating safety, risk, and asset management, SDG&E is creating a holistic approach that protects employees, contractors, and the public by leveraging enhanced data collection and analysis, increased collaboration and information sharing, two-way communication, focus on building trust, psychological safety and safety culture, and implementation of safety processes that follow the Plan-Do-Check-Act cycle.

C328: Safety Compliance & Industrial Hygiene Program:

SDG&E's Safety Compliance and Industrial Hygiene Program plays a crucial role in employee safety. This program is comprised of oversight and management activities related to safety and industrial hygiene compliance, along with continuously improving to meet new and evolving regulations. The main components of SDG&E's Safety Compliance and Industrial Hygiene Program include:

Occupational Health & Safety Training: SDG&E provides comprehensive safety, health, emergency, and regulatory training. Regular training and education keep employees updated on best practices and new regulations. Believing in proactive measures, SDG&E develops and provides extensive in-person and online safety and health training via a Learning Management System (LMS). Accessible anytime, from any location, the LMS tracks completion

of online courses to confirm compliance. Safety training courses cover a range of occupational hazards and their controls, including confined spaces, arc flash, hot work, hazardous energy, operating cranes, workplace violence, and Personal Protective Equipment. Industrial hygiene training courses include respiratory protection, hearing conservation, protection from wildfire smoke, infectious materials, radio frequency, heat illness, hazard communication, asbestos, silica, and lead and metals.

Employee Safety Handbook & Standards: SDG&E's Employee Safety Handbook & Standards is a collection of information, instructions, standards, and procedures intended to provide guidance on safe work practices. These safety standards and procedures establish the framework and guidance for employee safety performance. Within the Handbook is SDG&E's Injury and Illness Prevention Program (IIPP), a comprehensive, written plan for preventing workplace injuries and illnesses and includes the following elements:

- Management commitment/assignment of responsibility;
- Safety communication system with employees;
- Compliance system for safe work practices;
- Scheduled inspections/evaluation system;
- Accident and illness investigation;
- Procedures for correcting unsafe or unhealthy conditions;
- Safety and health training instruction; and
- Recordkeeping and documentation.

Cal/OSHA regulatory requirements are incorporated in several stand-alone safety standards which are reviewed and updated at least every five years or when regulatory or procedural changes are implemented, whichever comes first.

Industrial Hygiene Program: SDG&E has a robust Industrial Hygiene Program in compliance with Cal/OSHA regulations. Industrial Hygienists are responsible for monitoring changes in employee safety and health regulations, developing internal safety procedures to confirm compliance with the applicable regulations, and managing Company-wide implementation of key industrial hygiene programs, such as Hazard Communication, Hearing Conservation, Respiratory Protection, Wildfire Smoke Protection, Radiofrequency Protection, Ventilation, Indoor and Outdoor Heat Illness Prevention, Silica Dust Control, and Asbestos and Lead Exposure Management.

A Comprehensive Environmental & Safety Compliance Management Program: SDG&E uses an Environmental & Safety Compliance Management Program (ESCMP) to address compliance requirements, awareness, goals, monitoring, and verification related to all applicable environmental, health and safety laws, rules and regulations, training, and Company standards, in accordance with the internationally accepted environmental management system standard, ISO 14001.[27] With ESCMP, SDG&E implements annual facility environmental and safety self-assessments and inspections, tracks corrective actions identified in these activities to closure, provides environmental and safety trainings to employees, tracks documentation of safety incidents and completion of incident-related corrective actions, and monitors completion of mandatory safety meetings. The objectives are to identify, correct, and remediate workplace hazards, confirm employee accomplishment of compliance training, and develop lessons learned to share with employees, with the ultimate goal to reduce injuries and illnesses.

Program Enhancements: SDG&E regularly reviews and assesses the effectiveness of its programs and identifies opportunities for continuous improvement. SDG&E plans to enhance its Safety Compliance & Industrial Hygiene Program to further develop and improve its safety programs including: Fall Protection, Arc Hazard Management, and Excavation and Trenching. These programs contain elements that necessitate detailed engineering analysis to continually assess the effectiveness of existing controls and enable them to stay current with advancing technologies to maintain employee safety. SDG&E also plans to implement new and existing programs, such as centralized PPE review and approval processes across business units, and enhancements to audits of high-energy activities. SDG&E also plans to enhance the program by improving tracking, logistics, and overall management of SDG&E's occupational health and safety programs including prescription protective eyewear, respiratory protection, and hearing conservation. These program enhancements would provide several important risk reduction benefits including:

- **Reduction in Workplace Injuries/Illnesses:** Comprehensive safety and training programs equip employees to recognize hazards and implement safe practices, mitigating the risk of accidents and injuries/illnesses.
- **Enhanced Emergency Response:** Preparing employees to respond effectively to

[27] *See* Industrial Organization for Standardization (ISO), *Environmental management systems – Requirements with guidance for use* (2015), *available at:* https://www.iso.org/standard/60857.html.

emergencies, such as gas leaks or electrical failures can mitigate the impact of such incidents.

- **Compliance with New and Emerging Regulations:** Regular training provides employees with the knowledge and awareness to comply with safety regulations, enhancing overall operational safety.
- **Enhanced Safety Culture:** Ongoing training fosters a culture of safety within the organization, encouraging employees to prioritize safety and look out for one another, which can further reduce risk.

In summary, SDGE's Safety Compliance & Industrial Hygiene Program helps identify and mitigate hazards to reduce the incidence of workplace injuries and occupational illnesses. These programs protect employees and enhance overall morale and safety culture.

C326: Workplace Violence Prevention:

SDG&E defines workplace violence as any act of violence or threat of violence occurring in the workplace that is likely to result in injury, psychological trauma, or stress. To prevent such incidents, SDG&E has a comprehensive workplace violence prevention program focusing on physical security through measures like surveillance systems, physical barriers, and controlled access to facilities. Regular inspections and annual training sessions are conducted to address unsafe conditions and practices, aiming to enhance protective measures at Company facilities. Physical Security measures include:

- **Surveillance Systems**: These include hardware and software designed to deter, delay, detect, assess, communicate, and respond to potential threats. Technologies used include Closed Circuit Television (CCTV) systems, video analytics, perimeter intrusion detection systems, and bi-directional speakers. CCTV systems consist of cameras, recorders, control equipment, and displays for real-time monitoring and forensic investigations.
- **Access Control Systems**: These systems limit or detect access to facilities and are integrated across all security layers. They separate common areas from higher security areas or critical assets, using electronic control systems (like proximity card readers or electronic keys) and mechanical locks/keys.
- **Physical Barriers:** Structures such as berms, fences, walls, gates, vehicle anti-ramming measures (bollards, engineered planters, benches, landscaping boulders),

window barriers, ravines, drainage ditches, specified entry/exit points, and security doors are used to deter and delay adversaries.

- **Inspections:** Proactive facility inspections were conducted when the program was first established and continue after a workplace violence incident. To address deficiencies found during inspections, engineering and work practice controls are implemented to minimize employee exposure to workplace violence hazards.
- **Training:** All Company employees receive annual training on workplace violence risks and prevention measures.

SDG&E's workplace violence prevention program offers several key benefits for employee safety and overall workplace well-being, including:

- **Reduced Risk of Injury or Death**: The most critical benefit is the reduction in the risk of physical harm to employees. By identifying and mitigating potential threats, the program helps prevent potential workplace violence incidents.
- **Improved Employee Morale and Productivity**: A safe work environment fosters a sense of security among employees, which can lead to higher morale and increased productivity.

Overall, a workplace violence prevention program is a proactive approach to creating a safer, more supportive work environment.

B. Changes from 2024 Controls

SDG&E plans to continue each of the existing controls discussed above, and reflected in Table 4, through the 2025-2031 period without any significant changes. For C328, SDG&E plans to deploy enhancements to improve fall protection, arc flash, and excavation programs and to implement new and existing programs, such as a sustainable PPE review and approval process.

C. Mitigation Programs

SDG&E intends to implement the following mitigation programs during the 2025 – 2031 period. These mitigation programs are intended to enhance and strengthen SDG&E's current employee safety programs by focusing on high energy hazards, serious injuries and fatalities to continually advance SDG&E's safety culture and mature as a learning organization.

M303: Enhanced, Risk Informed, Employee Safety Training & Field Safety Oversight Programs:

SDG&E plans to expand its current employee safety training and field safety oversight programs (described above at C317) to advance HECA and high energy hazard awareness across the organization. This risk-informed focus includes deployment of cross-functional HECA employee training, increased communication and resources around high energy hazards, and utilization of risk management and data analytics technology platform(s) with ongoing software licensing costs for improved Employee Safety Risk identification and mitigation.

SDG&E continually reviews, measures, and assesses the effectiveness of its safety programs and takes a proactive and preventative approach to Employee Safety Risk. In 2024, SDG&E introduced HECA and set a targeted goal to perform a limited number of assessments to gain knowledge and understanding of the process. SDG&E plans to expand its current field safety oversight program to further implement and expand HECA across the organization, including deployment of training and awareness programs.

Expanding the current field safety oversight program to mature HECA and high energy hazard awareness is crucial for several reasons:

- **Enhanced Safety Performance**: HECA is a method of measuring performance by assessing the extent to which front-line employees are protected against potentially life-altering hazards. By identifying high energy hazards and providing corresponding direct controls, SDG&E can further mitigate the risk of serious injuries or fatalities
- **Consistent Measurement**: HECA provides a standardized method for measuring safety performance within and across companies. This consistency contributes to safety metrics that are reliable and comparable, which is important for making informed decisions and improving safety protocols.
- **Improved Risk Management**: Utilizing a risk management and data analytics technology platform allows for better identification, assessment, and mitigation of high energy hazards. This technology can provide real-time data and insights, enabling proactive measures to help prevent accidents and enhance overall safety.
- **Cross-Functional Training**: Deploying cross-functional HECA employee training to field employees promotes awareness of high energy hazards and the

necessary controls. This comprehensive training will foster a culture of safety so that all field employees are equipped to handle potential risks.

Additionally, SDG&E plans to expand its field safety oversight program by leveraging data analytic software as tools. Together, HECA and enhanced data analytic capabilities will allow SDG&E to make more data-driven and risk-prioritized decision-making. By leveraging data analytics, SDG&E can track safety performance, identify trends, and make data-driven decisions to improve safety measures. This approach not only enhances safety with proactive and preventative measures but also optimizes resource allocation and operational efficiency.

M305: Safety Management System Maturity and Improvement: Enhanced Safety Communications & Safety Data Analytics:

As stated above, in C319, SDG&E began operating within a Safety Management System starting in 2020. SDG&E plans to advance the maturity of its SMS with enhanced two-way safety communication and enhanced safety data analytics capabilities. This mitigation would improve proactive and predictive Employee Safety Risk mitigation. SDG&E's SMS incorporates risk-based decision-making by focusing on high risk, high consequence events and incorporates SIF potential assessments and HECAs. These efforts are aligned and integrated with M303 and will incorporate data analysis from HECAs to proactively mitigate risk of high energy hazards. Specifics on SDG&E's enhanced SMS safety communications and data analytics are discussed below.

Enhanced Safety Communications: SDG&E's SMS provides the framework for systematically managing safety-related activities, and effective communication informs stakeholders about their roles and responsibilities within this framework, promoting a comprehensive and cohesive approach to safety. This mitigation increases the frequency of two-way safety communications, enhances the content (*e.g.*, greater use of video messaging), and leverages technology advancements for greater effectiveness. SDG&E plans to grow this function and serve as a centralized resource for safety communications. This would provide consistency in communications and processes. Effective two-way safety communications are a critical element of an effective SMS. Benefits include:

- **Enhanced Hazard Identification & Reporting**: When communication flows both ways, employees and contractors feel empowered to report hazards and near-misses. This helps in identifying potential risks early, allowing for timely

interventions.

- **Improved Safety Culture**: Open communication fosters a culture of trust and transparency. Employees and contractors are more likely to engage in safety practices and feel responsible for their own and their colleagues' safety.
- **Informed Decision-Making**: Leadership can make risk-informed decisions when they have accurate and comprehensive information from all levels of the organization. This includes feedback from frontline workers who are often the first to notice potential safety issues.
- **Increased Compliance**: Clear and consistent communication allows everyone to understand safety policies and procedures. This reduces the likelihood of non-compliance and the associated risks.
- **Continuous Improvement**: Feedback loops allow for continuous improvement of safety protocols. Employees can provide insights on protocol effectiveness, leading to more effective safety measures.
- **Emergency Preparedness**: In the event of an emergency, effective communication provides that information is quickly and accurately disseminated, enabling a coordinated and efficient response.
- **Employee Morale and Engagement**: When employees feel heard and valued, their morale and engagement levels increase. This can lead to higher productivity and a more positive work environment.

Enhanced Safety Data Analytics: Safety data analytics play a crucial role within the API RP 1173 framework and SDG&E's Safety Management System. SDG&E plans to enhance its SMS safety data analytic capabilities by leveraging risk management software. This new software (either developed in-house or procurement of third-party software) would be a centralized resource to improve employee safety. For instance, in 2024 SDG&E began conducting Field Safety Engagements to gather jobsite observations of high energy hazards to assess whether adequate controls are in place. A new risk management software tool would allow SDG&E to assess the outputs of these observations (*i.e.*, data trends and analysis) for earlier potential risk identification and proactive, preventative action. Advancing the maturity of SDG&E's SMS through improved safety data analytics offers several employee safety benefits, including:

- **Data-Driven Insights**: Enhanced analytics can identify trends and patterns in safety incidents, allowing organizations to proactively address potential risks before they escalate.
- **Ongoing Learning**: Regular analysis of safety data allows organizations to learn from past incidents and near misses, fostering a culture of continuous improvement.
- **Adaptability**: Enhanced analytics enable organizations to quickly adapt to new safety challenges and regulatory changes, ensuring ongoing compliance and safety.
- **Reduction in Incidents and Injuries**: By identifying potential risks earlier and implementing targeted interventions, organizations can reduce the number of workplace incidents and injuries.

By integrating these enhancements, SDG&E can create a more resilient and responsive SMS that protects employees and enhances overall operational effectiveness.

M311: Establish Event Learning Teams:

To continually advance as a learning organization, SDG&E plans to establish Event Learning Teams, which will be internal cross-functional teams leveraging existing subject matter experts (SMEs) to assess internal and external safety-related events, including SIF and SIF-potential incidents. These Event Learning Teams will support incident investigation and determine the root cause(s) and other contributing factors, as well as benchmark against internal practices and procedures, and identify opportunities to apply lessons learned for continued safety improvement. This mitigation will improve response to systemic issues and reduce the risk of re-occurrence of similar incidents in the future.

SDG&E aims to form these Event Learning Teams with current employees, providing them with the necessary training, tools, and resources to investigate safety-related events. Additionally, SDG&E plans to leverage and incorporate third-party TapRoot® training, tools, and resources to training Event Learning Teams appropriately.[28]

[28] TapRoot® incident investigation training is a structured program designed to teach individuals and teams how to effectively analyze and address the root causes of workplace incidents. The training focuses on using the TapRoot® System, which is a systematic approach to identifying and solving problems to prevent future occurrences.

Benefits of establishing Event Learning Teams include:

- **Enhanced Risk Identification and Mitigation:** By investigating and evaluating safety-related events, these teams can identify lessons learned and proactively identify related potential risks and hazards, implementing preventative measures to prevent or reduce future incidents and injuries. This is part of SDG&E's comprehensive Safety Management System focused on continuous safety improvement.
- **Improved Safety Culture:** By demonstrating leadership's commitment to safety, building trust, fostering a learning environment, and promoting psychological safety, these Teams will enhance the overall safety culture. This encourages employees to report safety concerns and near misses.
- **Comprehensive Incident Analysis:** Conducting thorough assessments of internal and external safety-related events to determine root causes and contributing factors and benchmarking against internal practices and procedures allows for continuous safety improvement.
- **Resource Allocation and Training:** Providing the necessary training, technology, and resources enables teams to be well-equipped to conduct safety assessments and implement effective safety measures.

Overall, the establishment of internal cross-functional Event Learning Teams, supported by training, technology, and resources, is a strategic approach to enhancing safety and mitigating risks while fostering a culture of continuous improvement.

D. Climate Change Adaptation

Pursuant to Commission decisions[29] in the Climate Adaptation OIR (R.18-04-019), SDG&E performed a Climate Adaptation Vulnerability Assessment (CAVA) focused on years 2030, 2050, and 2070, with the aim of identifying asset and operational vulnerabilities to climate hazards across the SDG&E system. SDG&E recognizes the need to address climate vulnerabilities to promote safety and reliability of its services and mitigate the increasing climate-related hazards through innovative and community-centric approaches. Some of the climate hazards that will have short- and long-term ramifications in the San Diego region include

[29] D.19-10-054; D.20-08-046.

extreme temperatures, wildfire, inland flooding, coastal flooding and erosion, and landslides. Climate change is recognized as a factor that can drive, trigger, or exacerbate multiple RAMP risks. Implementing climate change adaptation measures and integrating climate vulnerability considerations into RAMP controls and mitigations can enhance system infrastructure longevity and reduce the severity of long-term negative climate impacts. The controls and mitigations described in further detail in this chapter, as shown below, align with the goal of increasing SDG&E's physical and operational resilience to the increasing frequency and intensity of climate hazards. Additional information on the CAVA and a complete list of climate-relevant controls and mitigations included in RAMP are provided in Chapter RAMP-5: Climate Change Adaptation.

Table 5: Employee Safety Risk
Controls and Mitigations that Align with Increasing
Resilience to Climate Hazards

Relevant ID	Relevant Control/Mitigation	Potential Climate Hazard(s)
C317	Employee Safety Training & Field Safety Oversight Programs	Extreme Temperatures
C328	Safety Compliance & Industrial Hygiene Program	Extreme Temperatures, Wildfires
M303	Enhanced, Risk Informed, Employee Safety Training & Field Safety Oversight Programs	Extreme Temperatures

E. Foundational Programs

Foundational Programs are "[i]nitiatives that support or enable two or more Mitigation programs or two or more Risks but do not directly reduce the Consequences or reduce the Likelihood of safety Risk Events."[30] There are no Foundational Programs applicable for the Employee Safety Risk and the mitigation activities that are supported.

F. Estimates of Costs, Units, and Cost-Benefit Ratios (CBRs)

The tables in this section provide a quantitative summary of the risk control and mitigation plan for the Employee Safety Risk including the associated costs, units, and CBRs. Additional information by Tranche is provided in workpapers. The costs shown are estimated using assumptions provided by SMEs and available data. In compliance with the Phase 3

[30] D.24-05-064, RDF at A-4.

Decision,[31] for each enterprise risk, SDG&E uses actual results and industry data and when that is not available, supplements the data with SME input. Additional details regarding the data and expertise relied upon in developing these estimates is provided in Attachment B.

Table 6: Employee Safety Risk Control and Mitigation Plan – Recorded and Forecast Costs Summary (Direct, in 2024 $ thousands)

Control/Mitigation		Adjusted Recorded		Forecast Costs			
ID	**Name**	**2024 Capital**	**2024 O&M**	**2028 O&M**	**2025-2028 Capital**	**PTY Capital**	**PTY O&M**
C317	**Employee Safety Training & Field Safety Oversight Programs**	0	1,108	1,138	0	0	3,414
C319	Safety Management System (SMS) Implementation & Management	0	605	605	0	0	1,815
C323	Safety Culture Survey Recognition & Awards	0	841	819	0	0	2,457
C326	**Workplace Violence Prevention Programs**	702	0	0	10,200	7,650	0
C328	**Safety Compliance & Industrial Hygiene Program**	0	940	1,230	0	0	3,690
M303	Enhanced Risk Informed Employee Safety Training & Field Safety Oversight Programs	0	0	420	0	0	1,260
M305	Safety Mgmt System Maturity & Improvement: Enhanced Safety Communication & Safety Data Analytics	0	0	348	0	0	1,044

[31] D.24-05-064, RDF Row 10.

Control/Mitigation		Adjusted Recorded		Forecast Costs			
ID	**Name**	**2024 Capital**	**2024 O&M**	**2028 O&M**	**2025-2028 Capital**	**PTY Capital**	**PTY O&M**
M311	Establish Incident Investigation & Cross-functional Event Learning Teams	0	21	21	0	0	63
Total		**702**	**3,515**	**4,581**	**10,200**	**7,650**	**13,743**

Bold *indicates this control/mitigation includes mandated programs/activities.*

Table 7: Employee Safety Risk
Control & Mitigation Plan – Units Summary

Control/Mitigation		Recorded Units			Forecast Units			
ID	**Name**	**Unit of Measure**	**2024 Capital**	**2024 O&M**	**2028 O&M**	**2025-2028 Capital**	**PTY Capital**	**PTY O&M**
C317	**Employee Safety Training & Field Safety Oversight Programs**	FTEs	0	7	7	0	0	21
C319	Safety Management System (SMS) Implementation & Management	FTEs	0	3	3	0	0	9
C323	Safety Culture Survey Recognition & Awards	FTEs	0	2	2	0	0	6
C326	**Workplace Violence Prevention Programs**	Projects	6	0	0	52	39	0
C328	**Safety Compliance & Industrial Hygiene Program**	FTEs	0	4	3	0	0	9
M303	Enhanced Risk Informed Employee Safety Training & Field Safety Oversight Programs	FTEs	0	0	3	0	0	9
M305	Safety Mgmt System Maturity & Improvement: Enhanced Safety Communication &	FTEs	0	0	2	0	0	6

Control/Mitigation		Recorded Units			Forecast Units			
ID	**Name**	**Unit of Measure**	**2024 Capital**	**2024 O&M**	**2028 O&M**	**2025-2028 Capital**	**PTY Capital**	**PTY O&M**
	Safety Data Analytics							
M311	Establish Incident Investigation & Cross-functional Event Learning Teams	Employees Trained	0	15	15	0	0	45

Bold *indicates this control/mitigation includes mandated programs/activities.*

In the table below, CBRs are presented in summary at the mitigation or control level for the TY 2028 GRC cycle. CBRs are calculated based on scaled, expected values, unless otherwise noted, and are calculated for each of the three required discount rates[32] in each year of the GRC cycle and for the Post-Test Years in aggregate (2029-2031). Costs and CBRs for each year of the GRC cycle and the aggregated years are provided in workpapers.

Table 8: Employee Safety Risk
Cost Benefit Ratio Results Summary (2028-2031)
(Direct, in 2024 $ millions)

ID	Control/Mitigation Name	Capital (2028 – 2031)	O&M (2028 – 2031)	CBR (Societal)	CBR (Hybrid)	CBR (WACC)
C317	**Employee Safety Training & Field Safety Oversight Programs**	$0	$4.6	1.65	1.76	1.65
C323	Safety Culture Survey Recognition & Awards	$0	$3.3	0.43	0.46	0.44
C319	Safety Management System Implementation and Management	$0	$2.4	1.05	1.13	1.06
C328	**Safety Compliance & Industrial Hygiene Program**	$0	$4.9	0.92	0.99	0.93
C326	**Workplace Violence Prevention Programs**	$10.2	$0	0.23	0.24	0.23
M303	Enhanced Risk Informed	$0	$1.7	1.97	2.10	1.98

[32] *See* Chapter RAMP-3 for definitions of discount rates, as ordered in the Phase 3 Decision.

ID	Control/Mitigation Name	Capital (2028 – 2031)	O&M (2028 – 2031)	CBR (Societal)	CBR (Hybrid)	CBR (WACC)
	Employee Safety Training & Field Safety Oversight Programs					
M305	Safety Management System Maturity & Improvement: Enhanced Safety Communication & Safety Data Analytics	$0	$1.4	2.65	2.82	2.65
M311	Establish Incident Investigation and Cross-functional Event Learning Teams	$0	$0.08	1.06	1.13	1.07
A391	Incident Investigation & Event Learning Dedicated Support Team	$0	$3.3	0.03	0.03	0.03
A392	Employee Safety Enhanced Safety Validation Program	$0	$2.1	0.06	0.06	0.06

Bold *indicates this control/mitigation includes mandated programs/activities.*

Tranche-level CBRs by year and in aggregate for each mitigation are provided in workpapers.

V. ALTERNATIVE MITIGATIONS

Pursuant to D.14-12-025, D.16-08-018, and D.18-12-014,[33] SDG&E considered two alternatives to the risk mitigation plan for Employee Safety Risk. Typically, analysis of alternatives occurs when implementing activities to obtain the best result or product for the cost. The alternatives analysis for this plan considers changes in risk reduction, cost, reasonableness, current conditions, modifications to the plan and constraints, such as budget and resources.

[33] *See, e.g.,* D.18-12-014 at 33-35.

Table 9: Employee Safety Risk
Alternative Mitigation Plan Forecast Costs Summary
(Direct, in 2024 $ thousands)

Alternative Mitigation		Forecast Costs			
ID	**Name**	**2025-2028 Capital**	**PTY Capital**	**2025-2028 O&M**	**PTY O&M**
A391	Incident Investigation & Event Learning Dedicated Support Team	0	0	3,268	2,452
A392	Enhanced Safety Validation Program	0	0	2,108	1,581
Total		**0**	**0**	**5,376**	**4,033**

Table 10: Employee Safety Risk
Alternative Mitigation Cost Benefit Ratio Summary
(Direct, in 2024 $ millions)

ID	Alternative Mitigation Name	Capital TY 2028	O&M TY 2028	CBR (Societal)	CBR (Hybrid)	CBR (WACC)
A391	Incident Investigation & Event Learning Dedicated Support Team	$0	$0.80	0.03	0.03	0.03
A392	Enhanced Safety Validation Program	$0	$0.53	0.06	0.06	0.06

A. Alternative 391: Incident Investigation & Event Learning Dedicated Support Team Mitigation

This is an alternative approach to SDG&E's planned mitigation, M311. As discussed above in M311, SDG&E believes establishing Event Learning Teams will provide added safety risk mitigation and further advance its culture of continuous learning and improvement. SDG&E assessed an alternative approach to M311 that includes having a dedicated team to perform incident investigations, assess internal and external safety-related events to determine the root cause and other contributing factors, benchmark against internal practices and procedures, and identify opportunities to apply lessons learned for continued safety improvement. Employee safety benefits of establishing Event Learning Teams include those listed in M311 above.

In consideration of identifying solutions to advance its culture of learning and continuous improvement, SDG&E evaluated the creation of a dedicated support team in lieu of leveraging existing cross-functional subject matter experts as planned in M311. Having a fully dedicated Event Learning Team would provide similar risk reduction benefits as leveraging existing SMEs.

This alternative approach envisions additional employee resources dedicated solely to performing assessments of internal and external safety-related events, leveraging TapRoot® training[34] and software tools. The benefits of establishing a fully dedicated Event Learning Team are similar to those described for M311. A fully dedicated team, as opposed to the cross-functional team planned for M311, could perform more in-depth and/or additional incident investigations, resulting in additional Event Learnings each year. Having this fully dedicated team would increase the subject matter expertise of those employees working full-time on incident investigations.

SDG&E does not currently plan to implement this approach as M311 provides a better cost-benefit analysis. After reviewing effectiveness of implementation of the mitigation activity planned in M311, SDG&E may reassess its approach and plan a fully dedicated support team in the future, if warranted.

B. Alternative 392: Enhanced Safety Validation Program Mitigation

This is an alternative to SDG&E's current Safety Compliance & Industrial Hygiene Program, described above in C328. SDG&E's current C328 promotes compliance with all necessary regulatory and safety requirements. To verify compliance, SDG&E leverages its Environmental, Health and Safety Management Program (ESCMP). ESCMP is utilized to inspect, educate, train, and monitor the effectiveness of environmental, health and safety activities in accordance with the internationally accepted standard, ISO 14001. ESCMP addresses compliance requirements, awareness, goals, monitoring and verification related to all applicable environmental, health and safety laws, rules and regulations, and company standards. SDG&E has an annual ESCMP Certification process, which involves submitting information into the database used to collect and record employee and facility compliance. In January of each year, ESCMP information is submitted into an online system for year-end approval and certification for the prior calendar year. ESCMP has been refined and improved and matured over the years and is still in place at SDG&E.

As previously stated, SDG&E's current ESCMP applies to environmental, health and

[34] TapRoot® incident investigation training is a structured program designed to teach individuals and teams how to effectively analyze and address the root causes of workplace incidents. The training focuses on using the TapRoot® System, which is a systematic approach to identifying and solving problems to prevent future occurrences.

safety laws, rules and regulations, and company standards. This alternative mitigation would include expanded and revised assessment, training, and verification processes beyond the current compliance and regulatory requirements covered by ESCMP to include additional safety best practices. As SDG&E has matured beyond a "compliance-driven" culture, further expanding ESCMP beyond compliance-driven requirements could support continued safety culture maturity. Increased Employee Safety Risk reduction benefits from this alternative mitigation could include improved ability to proactively identify and mitigate hazards, further reducing risk of employee injury or illness. Overall, going beyond the current ESCMP processes could reduce Employee Safety Risk by improving identification and mitigation of risk.

This approach would require additional employee resources. While SDG&E believes there may be added risk reduction benefit in implementing this approach, it is not currently planned due to affordability concerns. SDG&E may reassess its approach and plan a fully dedicated support team in the future, if warranted.

VI. HISTORICAL GRAPHIC

As directed by the Commission in the Phase 2 Decision, this section illustrates the accomplishments in safety work and the progress in mitigating safety risks over the two immediately preceding RAMP cycles. A bar chart graphic is employed to depict historical progress. This graphic uses a key metric that aligns with Company safety goals to illustrate trends in historical progress and identify the remaining tasks necessary to continue mitigating risks.

Figure 2

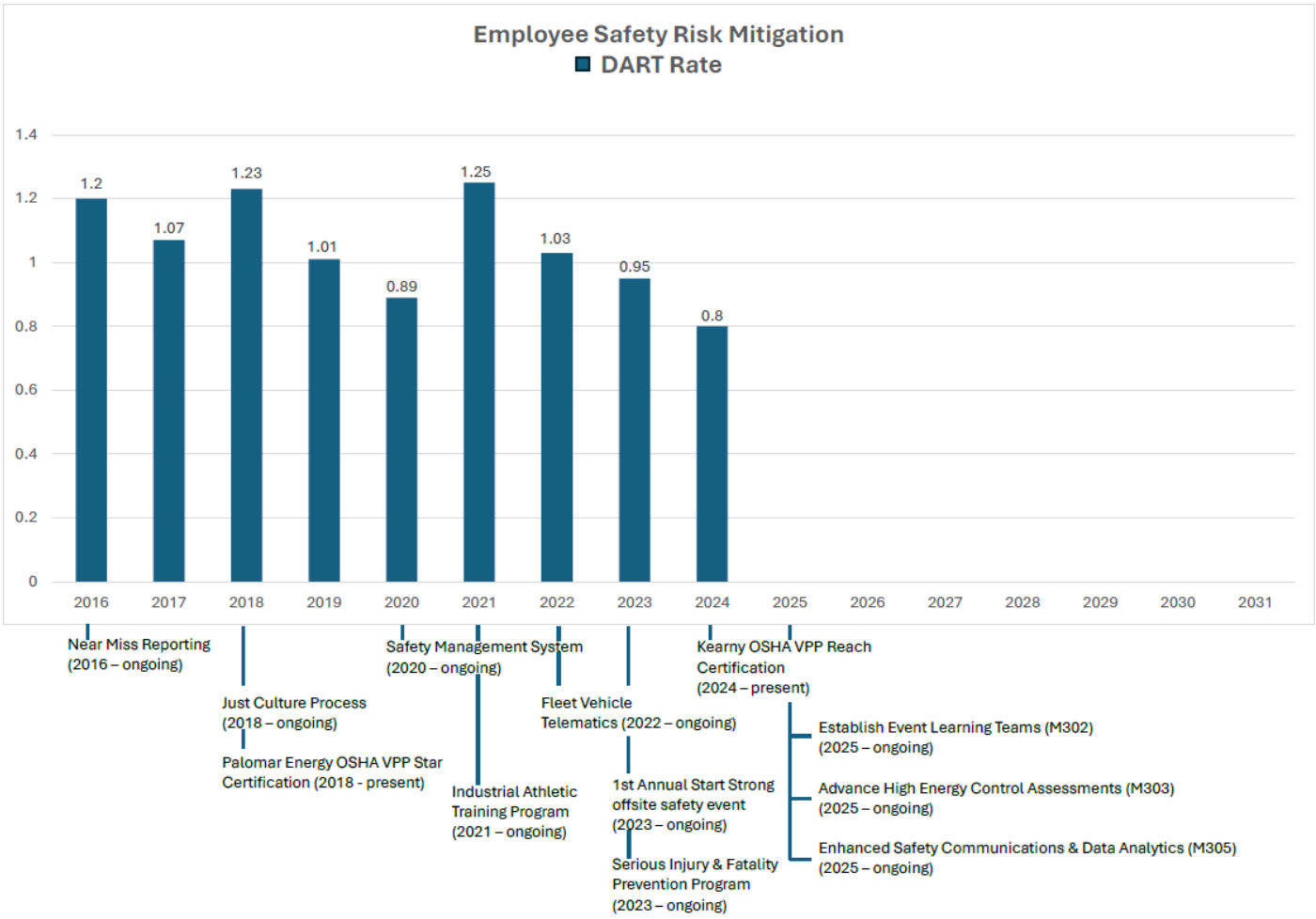


Figure 2 above shows the historical safety work activities completed using the Employee Days Away, Restricted and Transfer (DART) Rate[35] from 2016-2024. DART Rate is calculated based on the number of OSHA-recordable injuries resulting in Days Away from work and/or Days on Restricted Duty or Job Transfer, and hours worked. (DART Rate = DART Cases times 200,000 divided by employee hours worked.)

The safety work that remains to be done is described above in Section IV. 2024-2031 Control and Mitigation Plan.

[35] Employee DART Rate is Metric No. 14 in SDG&E's 2024 Safety Performance Metrics Report, filed on April 1, 2025.

ATTACHMENTS

ATTACHMENT A

CONTROLS AND MITIGATIONS WITH REQUIRED COMPLIANCE DRIVERS

The table below indicates the compliance Drivers that underpin identified controls and mitigations.

ID	Control/Mitigation Name	Compliance Driver(s)
C317	Employee Safety Training & Field Safety Oversight Programs	Cal/OSHA Title 8
C328	Safety Compliance & Industrial Hygiene Program	Cal/OSHA Title 8
C326	Workplace Violence Prevention	Cal/OSHA Workplace Violence Prevention Act, California Labor Code
M311	Establish Incident Investigation and Cross-functional Event Learning Teams	Cal/OSHA Title 8

ATTACHMENT B

EMPLOYEE SAFETY - REFERENCE MATERIAL FOR QUANTITATIVE ANALYSES

The Phase 3 Decision at RDF Row 10 and Row 29 directs each utility to identify Potential Consequences of a Risk Event using available and appropriate data.[36] Appropriate data may include Company specific data or industry data supplemented by the judgment of subject matter experts. Provided below is a listing of the inputs utilized as part of this assessment and the description of the data.

Risk Data	**Source Type**	**Source Information**
Mandatory Safety Training	External Data	Agency: Harvard Business Review Link: https://hbr.org/2024/09/safety-should-be-a-performance-driver Description: Mandatory safety training reduces worker injury rates by 15% to 18% fewer incidents (of any type) than you would have without this program.
TRC Rate Safety Management System (SMS)	External Data	Agency: Indiana University of Pennsylvania Link: https://www.sciencedirect.com/science/article/pii/S0001457513002972 Description: Safety Management System has an effectiveness of 9%.
Injury and Illness Prevention Program	External Data	Agency: OSHA Link: https://www.osha.gov/sites/default/files/OSHAwhite-paper-january2012sm.pdf Description: OSHA estimates that implementation of injury and illness prevention programs will reduce injuries by 15 percent to 35 percent for employers who do not now have safety and health programs.
Business Case for Safety and Health	External Data	Agency: OSHA Link: https://www.osha.gov/businesscase/benefits Description: Found that OSHA inspections with penalties of Pennsylvania manufacturing facilities reduced injuries by an average of 19-24% annually.

[36] D.24-05-064, RDF Row 10 and Row 29.

Risk Data	Source Type	Source Information
Workplace Violence Prevention Programs	External Data	Agency: Bureau of Justice Statistics Link: https://bjs.ojp.gov/content/pub/pdf/wv09.pdf Description: National Crime Victimization Survey, 2002-2011, an estimated ~51.5% of national workplace violence incidents are caused by individuals that are stranger or unknown to the victim.
Financial Consequences	External Data	Agency: Centers for Disease Control and Prevention Link: https://wisqars.cdc.gov/cost/?y=2022&o=TAR&i=0&m=3000&g=00&s=0&u=TOTAL&u=AVG&t=COMBO&t=MED&t=LIFE&t=WORK&a=5Yr&g1=0&g2=199&a1=0&a2=199&r1=MECH&r2=INTENT&r3=NONE&r4=NONE&c1=NONE&c2=NONE Description: Centers for Disease Control and Prevention estimated the cost of the injury as per the cause.
Enhanced, Risk Informed Employee Safety Training & Field Safety Oversight Programs	Internal SME Data	Description: Reduces SIFs by 0.5 per year.
Safety Culture Survey, Recognition & Awards	Internal OSHA rate	Description: Comparison between 2016 to 2024 OSHA rate.
Enhanced Safety Communications & Safety Data Analytics	Internal SME data	Description Reduces SIFs by 0.5 per year.
Establish Incident Investigation and Cross-functional Event Learning Teams	Internal LTI rate	Description: Comparison between 2016 to 2024 LTI rate.

ATTACHMENT C

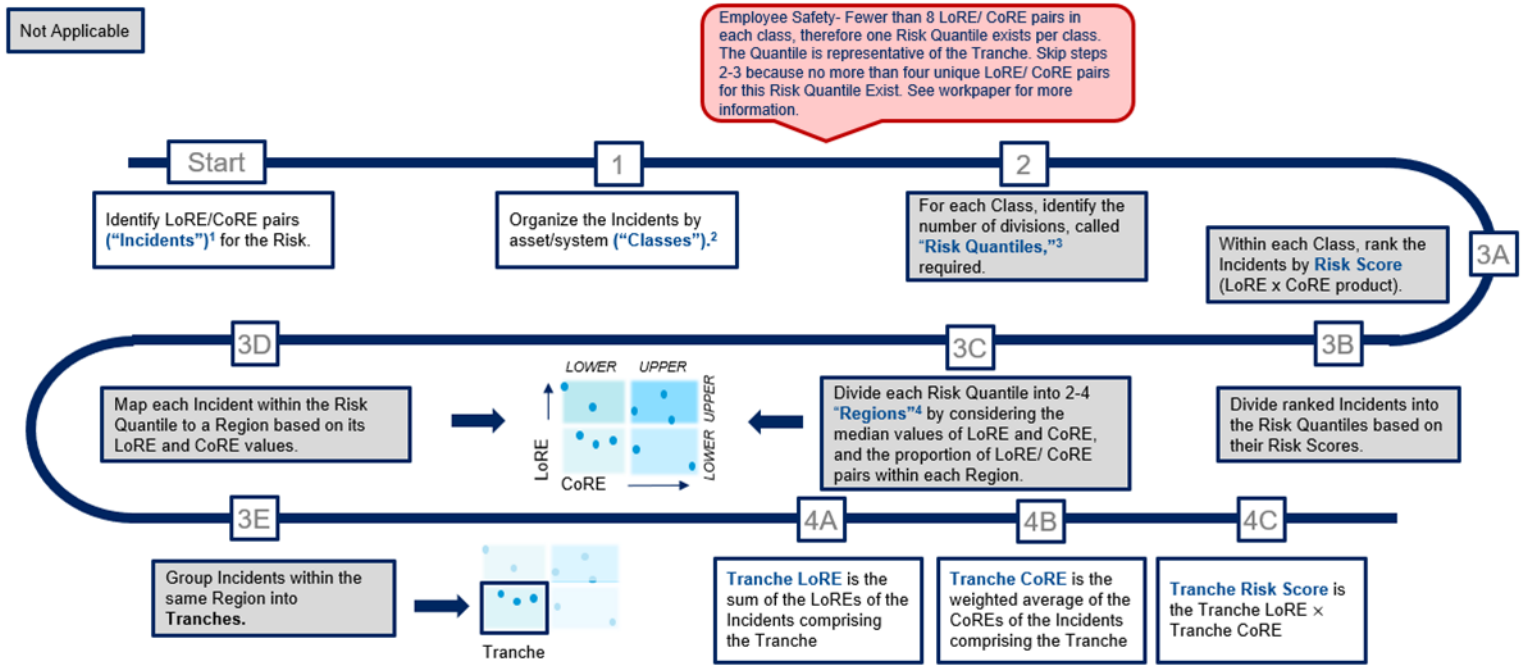
EMPLOYEE SAFETY - SUMMARY OF ELEMENTS OF BOW TIE

SUMMARY OF ELEMENTS OF BOW TIE			
ID	**Control/Mitigation Name**	**Drivers Addressed**	**Consequences Addressed**
C317	Employee Safety Training & Field Safety Oversight Programs	DT.1 - DT.9	PC.1, PC.2, and PC.3
C323	Safety Culture Survey, Recognition & Awards	DT.1 - DT.9	PC.1, PC.2, and PC.3
C319	Safety Management System Implementation & Management	DT.1 - DT.9	PC.1, PC.2, and PC.3
C328	Safety Compliance & Industrial Hygiene Program	DT.1, DT.2, DT.3, DT.6, DT.7, and DT.9	PC.1, PC.2, and PC.3
CTBD	Workplace Violence Prevention	DT.1, DT.2, and DT.9	PC.1, and PC.2
M303	Enhanced Risk Informed Employee Safety Training & Field Safety Oversight Programs	DT.1, DT.2, DT.3, DT.4, DT.5, DT.6, DT.7, and DT.9	PC.1, PC.2, and PC.3
M305	Safety Management System Maturity & Improvement: Enhanced Safety Communication & Safety Data Analytics	DT.1 - DT.9	PC.1, PC.2, and PC.3
M311	Establish Incident Investigation and Cross-functional Event Learning Teams	DT.1 - DT.9	PC.1, PC.2, and PC.3

ATTACHMENT D

APPLICATION OF TRANCHING METHODOLOGY

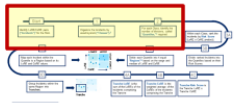
A sample walkthrough of the Homogeneous Tranching Methodology (HTM) as outlined in Volume 1, Chapter RAMP-3: Risk Quantification Framework is provided.



NOTES

[1]*For example, **Incidents (or "Risk Incidents")** for Employee refer to safety incidents.*
[2]*For example, **Classes (or "Asset Classes")** for Employee Safety include Electric Ops, Gas Ops, Motor Vehicle Incidents, Office of Customer, Workplace Violence, Admin/Miscellaneous .*
[3]***Quantiles** are divisions of equal numbers of incidents (quartiles have 4 divisions, quintiles have 5, etc.) The number of incidents dictates the number of quantiles needed.*
[4]*The four **Regions** are: 1. Lower LoRE-Lower CoRE (LL-LC), 2. Lower LoRE-Upper CoRE (LL-UC), 3. Upper LoRE-Lower CoRE (UL-LC), and 4. Upper LoRE-Upper CoRE (UL-UC).*

Not Applicable



Start → 1 → 2

Identify LoRE/CoRE pairs ("Incidents")[1] for the Risk.

Organize the Incidents by asset/system ("Classes").[2]

For each Class, identify the number of divisions, called "Risk Quantiles,"[3] required.

Class	LORE / CORE PAIRS	TOTAL # PAIRS
Electric Ops	Electric Ops	1
Gas Ops	Gas Ops	1
Motor Vehicle Incidents	Motor Vehicle Incident	1
Office of Customer	Office of Customer	1
Admin/ Miscellaneous	Admin/Miscellaneous	1
Workplace Violence	Active Shooter Event	2
	In Person Event	

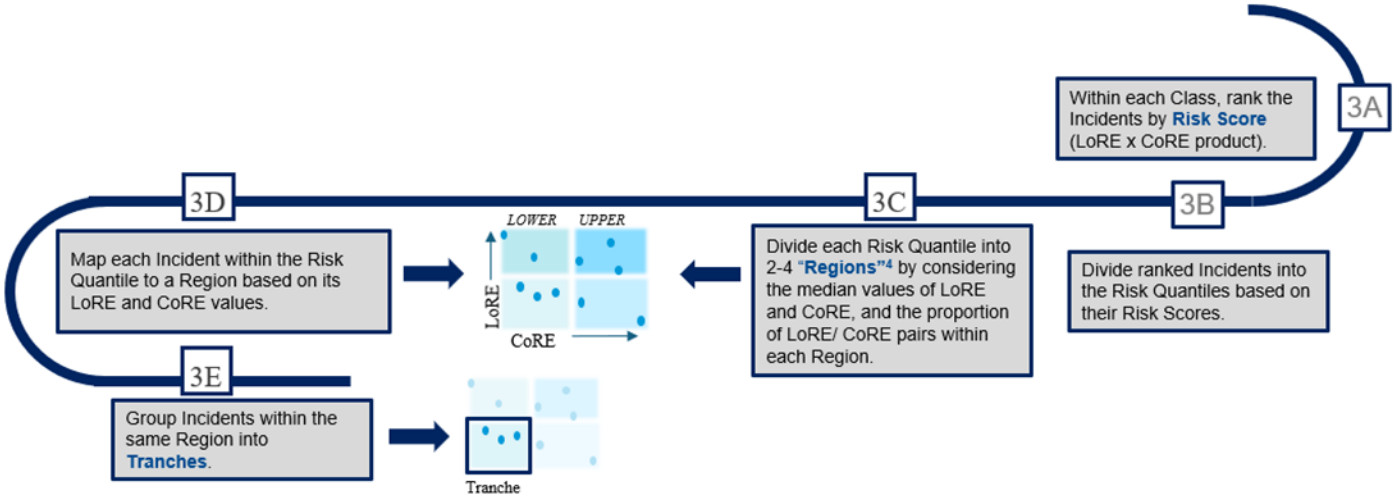
→ 1

$\min\left(\frac{N}{8}-1,9\right) < K \leq \min\left(\frac{N}{8},10\right)$ → 1

→ 1

Skip step 2-3
Continue to Step 4

Not Applicable



Not Applicable

4A

Tranche LoRE is the sum of the LoREs of the Incidents comprising the Tranche

4B

Tranche CoRE is the weighted average of the CoREs of the Incidents comprising the Tranche

4C

Tranche Risk Score is the Tranche LoRE x Tranche CoRE

					4A	4B	4C
Class	**Risk Quantile**	**Incident (LoRE/CoRE) Pair**	**Risk Quantile Region**	**Tranche**	**Tranche LoRE**	**Tranche CoRE**	**Tranche Risk Score**
Electric Ops	1	Electric Ops	None	Electric Ops	39.00	$0.11M	$4.46M
Gas Ops	1	Gas Ops	None	Gas Ops	14.89	$0.06M	$0.84M
Motor Vehicle Incident	1	Motor Vehicle Incident	None	Motor Vehicle Incident	41.89	$0.06M	$2.45M
Office of Customer	1	Office of Customer	None	Office of Customer	13.56	$0.09M	$1.23M
Admin/Miscellaneous	1	Admin/Miscellaneous	None	Admin/Miscellaneous	8.33	$0.11M	$0.93M
Workplace Violence	1	In Person Event	UL / LC	WPV-1	0.91	$0.87M	$0.79M
		Active Shooter Event	LL / UC	WPV-2	0.003	$140.62M	$0.42M