

Application No.: A. 23-05-010
Exhibit No.: CUE-08

**SOUTHERN CALIFORNIA EDISON COMPANY RISK ASSESSMENT
MITIGATION PHASE, CONTRACTOR SAFETY, CHAPTER 10**



(U 338-E)

Southern California Edison Company
Risk Assessment Mitigation Phase

Contractor Safety

Chapter 10

Chapter 10: Contractor Safety

Table of Contents

Section		Page
I.	EXECUTIVE SUMMARY	1
A.	Risk Overview	1
B.	Summary of Results	3
II.	RISK ASSESSMENT	4
A.	Risk Definition and Scope	4
B.	Risk Bowtie	6
C.	Drivers	7
D.	Triggering Event	11
E.	Outcomes and Consequences	11
F.	Tranches	12
G.	Related Factors	13
III.	CONTROLS	13
A.	C1 – Pre-Qualification and On-Boarding	15
B.	C2 – Oversight, Performance Management and Culture Development	19
C.	C3 – Incident Management and Learning	24
IV.	MITIGATIONS	27
V.	FOUNDATIONAL ACTIVITIES	28
A.	F1 - Incident Management System (IMS)	28
VI.	PROPOSED PLAN	29
A.	Overview	30
B.	Execution Feasibility	32
C.	Affordability	32
D.	Other Considerations	32

Chapter 10: Contractor Safety

Table of Contents (Continued)

	Section	Page
VII.	ALTERNATIVE PLANS	32
	A. Alternative Plan #1	32
	B. Alternative Plan #2	34
VIII.	LESSONS LEARNED, DATA COLLECTION, & PERFORMANCE METRICS.....	36
	A. Lessons Learned.....	36
	B. Data Collection and Availability	39
	C. Performance Metrics.....	40
IX.	ADDRESSING PARTY FEEDBACK.....	41

I.

EXECUTIVE SUMMARY

A. Risk Overview

SCE contractors perform a variety of work, including certain high-hazard tasks that SCE does not regularly perform with its own employees. Some examples of the work performed by SCE contractors include Transmission and Distribution Line Construction, Vegetation Management, Hazard Tree Removal, Crane Operations, Traffic Control, Helicopter Operation, Drone Operations, Civil Operations (horizontal directional drilling and jack and bore), Substation Operation and Maintenance, Generation Maintenance, heavy civil equipment operation, Environmental Monitoring, Material Transport, and Corporate Real Estate.

In the four years since SCE filed its first RAMP, SCE has continued to use outside contractors as warranted. In this chapter, SCE discusses actions we take to support our contractors in managing safety risks that can result from the following:

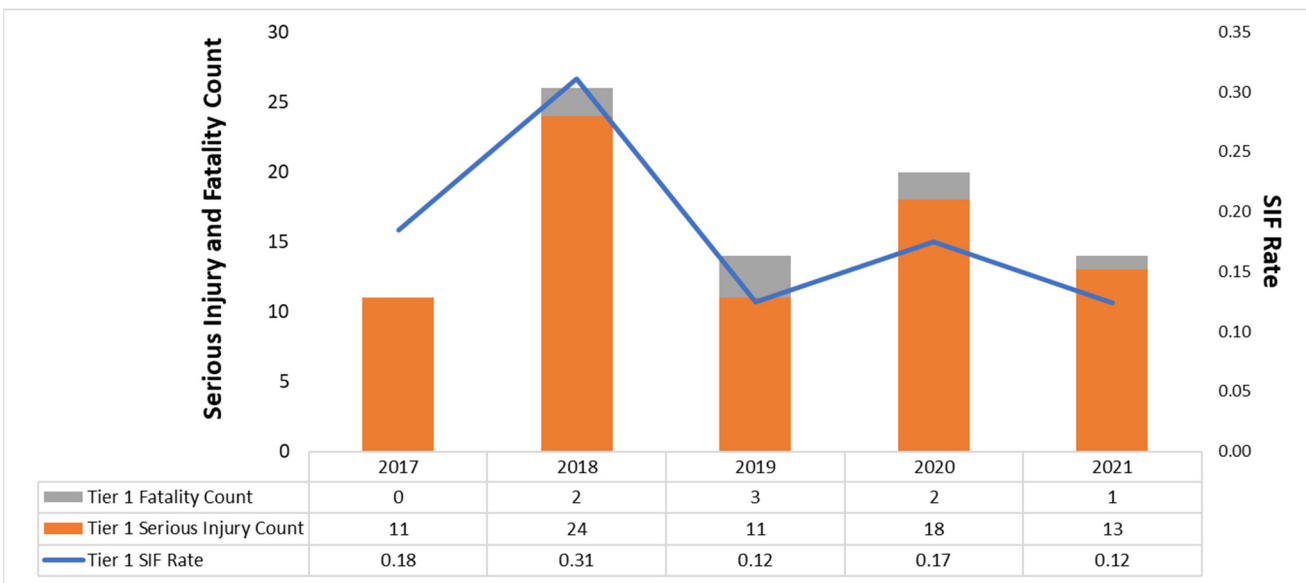
- Incorrectly executing work due to knowingly or unknowingly violating a procedure, policy, or rule;
- Failing to identify, correct, and/or account for hazardous conditions or work practices;
- Incorrectly operating a vehicle or equipment;
- Following incorrect processes or system designs;
- Ineffectively preparing (as between ground and air crews);
- Not being fit for duty, or being overly fatigued;
- Lacking necessary skills, training or qualifications.

This chapter analyzes incidents that occur in the field and in vehicles, including heavy equipment and aircraft. The chapter encompasses field incidents that involve electrical assets (e.g., working with energized equipment), and those that do not involve electrical assets (e.g., falling from a ladder).

SCE continues to utilize contractors and contractor hours for the highest-risk category (Safety Tier 1), and the hours have grown from 16.7 million hours in 2018 to 22.5 million hours in 2021. This steady increase in contractor workload represents an increased scope of risk for SCE and is

expected to continue in the foreseeable future. Figure I-1 below shows that despite the significant increase in contractor hours and the attendant increase in the count of Serious Injuries and Fatalities (SIF), the SIF *rate* has decreased since 2018.

Figure I-1
SCE Historical Contractor Safety Performance



Under independent contractor legal principles, SCE is generally not permitted to prescribe how contractors perform their tasks, and generally does not formally train them in how to do so. SCE instead has to hire contractors who can achieve certain results and do so in a legally compliant way. SCE sets standards to define the requirements for, and expectations of, our contractors. We also utilize various programs (described in this chapter) to monitor, track, and influence contractor’s safety performance. The stated goal of SCE’s Contractor Safety group is to eliminate serious injuries and fatalities from occurring in our contractor ranks.

SCE identified a number of controls to address this risk and threats.¹

- This chapter describes one compliance activity related to various regulatory and legal requirements that necessitate the need for SCE to maintain safety standards, programs, and policies for the welfare of our employees.

This chapter evaluates three controls:

- Pre-Qualification and On-Boarding (C1): This includes activities concerning pre-qualifying and on-boarding contractors.
- Oversight, Performance Management and Culture Development (C2): This includes activities regarding performance management of contractor safety.
- Incident Management and Learning (C3): This includes activities on contractor safety incident management.

The Proposed Plan continues existing programs (C1, C2, & C3), and adds certain carefully-selected enhancements to specific important areas.

- Alternative Plan #1 represents continuing all existing controls in 2025 – 2028 as well as adding enhancements to maximize mitigation efforts in C2 – Oversight, Performance Management and Culture Development Control.
- Alternative Plan #2 represents continuing all existing controls, but without enhancing any program efforts in critical Control areas. Moreover, Alternate Plan #2 does not include efforts to replace existing third-party observation consultants with SCE in-house resources.

In the spirit of continuous improvement, SCE will continue to evaluate contractor safety programs, procedures, and staffing strategies to achieve desired safety performance and help reduce injuries by holding our contractors accountable for managing the safety of their own workforce.

B. Summary of Results

Table I-1 below summarizes the pre- and post-mitigation risk quantification scores for Contractor Safety based on the Proposed Plan discussed below.

¹ C = Control. This is an activity performed prior to or during 2022 to address the risk, and which may continue through the RAMP period. Controls are modeled in this report and are addressed in Section III.

Table I-1
Summary of Pre- and Post- LoRE and CoRE Risk Scores²

	Pre-Mitigation Risk Quantification Scores (End of 2024)			Post-Mitigation Risk Quantification Scores (End of 2028)		
	LoRE	CoRE	Risk Score	LoRE	CoRE	Risk Score
Contractor Safety	13.05	0.17	2.17	10.38	0.17	1.72

II.

RISK ASSESSMENT

A. Risk Definition and Scope

In SCE’s 2018 RAMP, SCE defined serious injuries and fatalities as either Life Threatening or Life Altering, based on internal severity assessment criteria. For SCE’s 2022 RAMP, our risk definition for contractor safety is incidents involving SCE’s contractors, potentially exposing contractor workers to hazards. This includes hazards arising from construction or maintenance activities, hazards arising from supporting activities, and vehicle incidents that result in a serious injury or fatality as defined using the Edison Electric Institute (EEI) SIF criteria.³

As shown below in Table II-2, the scope of risk does not include lower-level injuries such as sprains, strains, or Days Away Restricted or Transferred (DART) injuries. SCE considers SIFs to be the highest risk priority, and we focus our efforts on reducing SIFs. However, SCE does monitor and track monthly contractor DART incident counts as well.

The scope also excludes Potential SIFs (PSIFs) as defined by the EEI-SCL model.⁴ Although the actual outcome of a PSIF does not include actual serious injuries, SCE exerts a similar amount of effort

² Refer to Contractor Safety RAMP Risk Model (excel file).

³ WP Ch. 10 – Edison Electric Institute (EEI) Serious Injury and Fatality (SIF) Criteria.

⁴ WP Ch. 10 - EEI SIF Safety Classification Learning (SCL) Model: For purposes of this RAMP analysis, a SIF would include incidents categorized as: (a) High-Energy Serious Injury or Fatality (HSIF) - Incident with a release of high energy in the absence of a direct control where a serious injury is sustained; and (b) Low-Energy Serious Injury or Fatality (LSIF) - Incident with a release of low energy in the absence of a direct control where a serious injury is sustained.

to identify and eliminate the cause(s) of PSIFs as if an actual SIF did occur. SCE’s approach to addressing PSIFs is further discussed in Section VIII.A.

Table II-2
Scope of Contractor Safety Risk

In Scope	<ul style="list-style-type: none"> • Acts performed by either Safety Tier 1 or Safety Tier 1 HR contractor that led to a serious safety incident. A serious safety incident is defined as a serious injury and/or fatality as defined in the EEI SCL model (HSIF or LSIF).
Out of Scope	<ul style="list-style-type: none"> • Acts performed by an SCE contractor that led to potential serious injury as defined by the EEI SCL model (PSIF). • Lower-severity injuries such as sprains, strains, and/or DART injuries. • For purposes of this RAMP, “Contractor” excludes other types of Supplemental Workers such as Contingent Workers, Consultants, Professional services, and vendors who do not perform work on SCE property, e.g., offshore support services, material and food delivery, and pickup services that do not require the use of powered equipment.

The Exposure for Contractor Safety SIFs is defined as the amount of work per year performed by contractors, as each additional hour worked increases the risk of serious injury or fatality. For this RAMP application, SCE’s highest-risk category (Safety Tier 1) is further split into two tranches based on risk level: Safety Tier 1 *Higher Risk (HR)*⁵ and Safety Tier 1. The hours reported (exposure) for contractors in 2021 are shown in Table II-3 below. We also include additional details on the tranching approach below in Section II.F.

⁵ Safety Tier 1 HR contractors are those personnel that perform scopes of work that have historically experienced a higher volume and severity of incidents on SCE property. Safety Tier 1 contractors perform work activities that are high risk and, without implementation of appropriate safety measures, are potentially hazardous or life-threatening.

Table II-3
SCE Contractor Hours By Risk Tranche

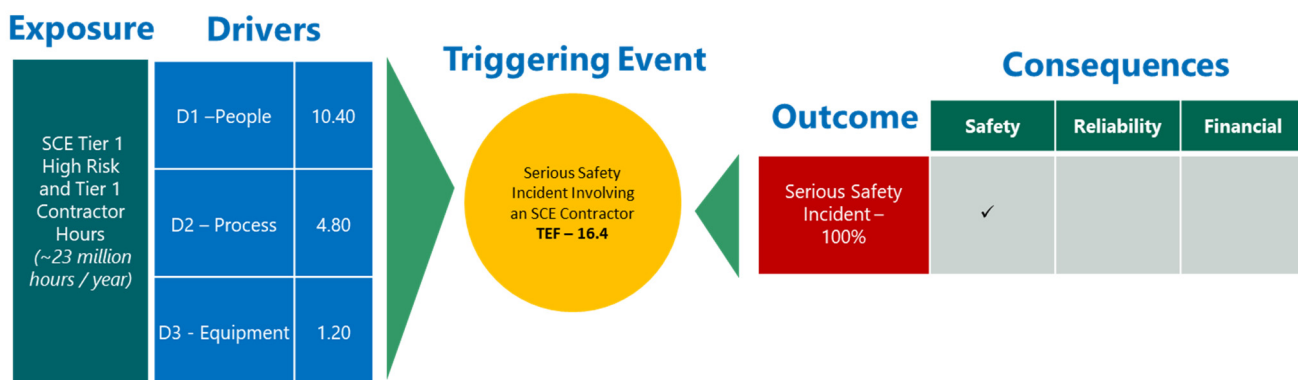
Contractor Risk Tranche	Million Hours/year	% of Total Tier 1 Contractor Hours
Tranche 1 - Tier 1- High Risk Contractors	16.1	71%
Tranche 2 - Tier 1 Contractors	6.5	29%
Total Contractor Tier 1 Hours	22.6	100%

B. Risk Bowtie

The 2018 RAMP combined employee and contractor safety in one RAMP chapter and bowtie analysis.⁶ The 2022 RAMP application has broken this down to a greater level of specificity. We have separate bow ties and chapters for employee and contractor safety. Figure II-2 below presents the risk bowtie developed for Contractor Safety. The exposure for this risk is the number of Tier 1 High Risk and Tier 1 contractor hours worked.

⁶ See SCE 2018 RAMP – Chapter 7, Employee, Contractor and Public Safety. In the 2022 RAMP, public safety risks are discussed throughout SCE’s RAMP report. Examples include the following: Chapter 5 - Contact with Energized Equipment; Chapter 6 - Underground Equipment Failure; Chapter 4 - Wildfire and PSPS; and Chapter 12 - Hydro Dam Failure.

**Figure II-2
Risk Bowtie for Contractor Safety^{7,8}**



C. Drivers

After a contractor submits a safety incident report, an SCE safety professional assigns a SIF severity for each incident. This data is stored in an internal database called EHSync. The historical safety incident data from EHSync was used to populate the bow tie, as shown in Figure II-2 and further discussed below. For the bowtie, SCE identified all EEI-SIFs reported from 2017 - 2021.⁹ Using SCE’s trend code data, as assigned by an SCE safety analyst, each incident was then evaluated for a primary cause (sub-driver). These sub-drivers were then grouped into three major categories, People, Process, and Equipment. These three categories are described as follows:

- People: Incidents caused by human behavior
- Process: Incidents caused by inadequate process or process application
- Equipment: Incidents caused by the failure of equipment

Table II-4 below shows the historical driver frequency.¹⁰

⁷ Some of these events may have a potential financial consequence; namely, the potential costs of workers compensation claims and/or third-party lawsuits arising from the outcome(s) the programs and activities are designed to minimize and/or prevent. SCE has not included those potential consequences in this RAMP. This is consistent with SCE’s past practice, appropriately maintains confidentiality, and protects attorney-client privileged information.

⁸ Please refer to WP. Ch. 10 - Baseline and Risk Inputs.

⁹ SCE began using EHSync to track contractor incidents in 2017, so we do not necessarily possess the same type and level of contractor SIF metrics for years prior to 2017.

¹⁰ Please refer to WP. Ch. 10 – Mitigation Effectiveness and Driver Frequency.

Table II-4
Historical RAMP Driver Frequency

RAMP Driver	Total (2017 - 2021)	Annualized Frequency	% of Driver Frequency
D1 - People	52	10.4	63%
D2 - Process	24	4.8	29%
D3 - Equipment	6	1.2	7%
Total	82	16.4	100%

1. D1 - People

The sub-drivers in this category represent incidents where the primary cause was determined to be human performance. Brief descriptions of each driver are shown below, and the historical frequencies are displayed in Table II-5.

- *Hazard Identification Failure:* Contractor worker fails to recognize the hazards inherent in the work. Had the contractor recognized the hazards more effectively, mitigations could have been implemented and the incident may not have occurred at all, or may have occurred but with less serious consequences.
- *Human Performance / Not following rules:* Contractor worker fails to follow established safety rules or procedures. Had the rules or procedures been followed, the incident may not have occurred, or may have resulted in less serious consequences.
- *Complacency / Overconfidence:* Contractor worker was performing seemingly routine or familiar tasks, resulting in a lack of focus on safety. Had the contractor been more focused on working safely rather than focusing on just getting the task done, the incident may not have occurred, or may have occurred but with less serious consequences.
- *Perceived Time Pressure:* Contractor worker felt perceived time pressure, causing them to rush the work, resulting in unsafe conditions. Had they not felt rushed to

perform the work, the incident may not have occurred, or may have occurred but resulted in less serious consequences.

- *Fatigue:*¹¹ Contractor worker was not sufficiently rested before performing the task. Had they not been fatigued when performing the work, the incident may not have occurred, or may have occurred but with less serious consequences.
- *Understanding and compliance of STOP WORK authority:*¹² Contractor worker fails to call for work to stop when an imminent hazard is identified. Had the worker called a prompt stop to work at the time, the incident may not have occurred, or may have occurred but with less serious consequences.

Table II-5
Historical Sub-drivers for People Driver Frequency

People RAMP Sub-drivers	Total (2017 - 2021)	Annualized Frequency	% of People Driver Frequency
Hazard Identification Failure	35	7	67%
Human Performance / Not following rules	13	2.6	25%
Complacency / Overconfidence	3	0.6	6%
Perceived Time Pressure	1	0.2	2%
Total	52	10.4	100%

2. D2 - Process

The sub-drivers in this category are for incidents where the primary cause was determined to be inadequate process. We provide brief descriptions of each driver below, and the historical frequencies are displayed in Table II-6.

- *Lack of standards/skill/training/qualified contractor workers:* – incident was primarily caused by a lack of identified standards or by the use of contractor workers

¹¹ This specific driver did not have any historical incidents associated with an actual SIF event; however, it has been identified as a driver for an event that resulted in a PSIF. For further discussion on PSIFs, please refer to Section VIII.A.2.

¹² This specific driver did not have any historical incidents associated with an actual SIF event; however, it has been identified as a driver for an event that resulted in a PSIF. For further discussion on PSIFs, please refer to Section VIII.A.2.

who were not sufficiently trained in those standards. Had the standards been in place or the workers sufficiently trained, the incident may not have occurred, or may have resulted in less serious consequences.

- *Ineffective preparation/communications between ground and air crews:* – contract crews failed to communicate effectively as between aircraft crews and those working on the ground. Had the crews communicated more effectively, the incident may not have occurred, or may have resulted in less serious consequences.
- *Ineffective Traffic Management:* – incident was determined to be primarily caused by insufficient or ineffective traffic management systems. Had the appropriate traffic management system been in place, the incident may not have occurred, or may have resulted in a less serious outcome.
- *Unfamiliar conditions (e.g., wildfire, out of state workers):* – contract worker was working in unfamiliar conditions. Had they been familiar with the conditions in which they were working, the incident may not have occurred, or may have resulted in less serious consequences.
- *Ratio of safety observers to workers:* – contractor workforce did not meet the required ratio of safety observers to contract workers, resulting in insufficient safety observation coverage. Had the ratio of safety observers to workers been sufficient to provide the required coverage, the incident may not have occurred, or may have resulted in less serious consequences.
- *Contractor Safety Culture:*¹³ – The contractor company’s safety culture was not at the required maturity level. Had the company safety culture been more mature, the incident may not have occurred, or may have resulted in less serious consequences.

¹³ This specific driver did not have any historical incidents associated with an actual SIF event. However, it has been identified as a driver for an event that resulted in a PSIF. For further discussion on PSIFs, please refer to Section VIII.A.2.

Table II-6
Historical Sub-drivers for Process Driver Frequency

Process RAMP Sub-drivers	Total (2017 - 2021)	Annualized Frequency	% of Process Driver Frequency
Lack of standards/skill/training/qualified workers	14	2.8	58%
Ineffective preparation/communications between ground and air crews	5	1	21%
Ineffective traffic management	2	0.4	8%
Unfamiliar conditions (e.g. wildfire, out of state workers)	2	0.4	8%
Ratio of safety observers to workers	1	0.2	4%
Total	24	4.8	100%

3. D3 - Equipment

The Equipment driver category is defined as a failure in equipment design that leads to an incident, or equipment design that creates an error trap for individuals and leads to an incident.

Table II-4 shows the annual frequency of this driver. SCE does not have any cause codes or sub-drivers for this specific driver category.

D. Triggering Event

The triggering event is defined as a serious safety incident involving an SCE contractor.

The triggering event frequency is composed of the estimated annual frequencies of D1 – D3, as shown in Table II-4 above.

E. Outcomes and Consequences

For purposes of this RAMP, SCE has identified one outcome: a serious safety incident.

SCE utilizes the Electric Energy institute (EEI) SIF criteria to capture incidents that results in a serious injury or fatality. SCE did not include any financial or reliability consequences associated with this outcome. SCE does not consider any potential reliability consequences related to SIF to be material.

The cost impacts of potential financial consequences (e.g., litigation) are not included in the bowtie or RSE calculations.

F. Tranches

Based on the level of risk associated with the work contractors perform, two tranches have been assigned: 1) Safety Tier 1 Higher Risk (HR) and 2) Safety Tier 1. Contractors in both groups perform work for SCE that is subject to serious injuries or fatalities if behaviors and/or work practices deviate from established safety protocols and best practices. Safety Tier 1 HR contractors are those performing work scopes that have historically experienced a higher volume and severity of incidents on SCE property.

Safety Tier 1 HR is comprised of the following work types:

- Vegetation Management
- Overhead Distribution
- Substation construction
- Transmission
- Underground Civil
- Air Operations
- Crane Operations
- Traffic Control
- Others as determined by the OU

Safety Tier 1 – A designation assigned to contracted work activities that are high risk and, without implementation of appropriate safety measures, are potentially hazardous or life-threatening.

Examples of Safety Tier 1 work types include the following:

- Generation
- Engineering Services
- Corporate Real Estate
- Inspection Services
- Telecomm

Table II-7 below summarizes the tranche level risk exposure for contractor safety.

Table II-7
Tranche Level Risk Exposure¹⁴

Tranche ID	Tranche Description	Exposure (Contractor Hours)	Percent Exposure	LoRE/ TEF	% of TEF
T1	Tier 1 Higher Risk	16,078,643	71%	14.6	89%
T2	Tier 1	6,486,554	29%	1.8	11%
Total		22,565,197	100%	16.4	100%

G. Related Factors

For purposes of this discussion, SCE defines related factors as factors that are not directly included in the risk modeling but can impact the driver frequency and/or the likelihood of certain outcomes. One key related factor for Contractor Safety is the type and amount of work that is performed by SCE contractors. The type of work that SCE will contract out and the extent/scope of that work will directly influence the risk exposure for both contractor and employee safety risks. For purposes of this RAMP analysis SCE has assumed a constant contractor workforce in terms of hours worked and work types as described above in Section II.F

III.

CONTROLS

SCE has programs and processes in place that help control the risk today. Three controls are modeled in this risk analysis and are shown below in Table III-8.

¹⁴ Please refer to WP. Ch. 10 – Baseline and Risk Inputs.

Table III-8
Inventory of Contractor Safety Controls¹⁵

ID	Control Name	Driver(s) Impacted	Outcome(s) Impacted	Consequence(s) Impacted	Included in 2018 RAMP? Control	Included in Proposed and/or Alternative Plans?
C1	Pre-Qualification and On-Boarding	D1, D2	-	-	Partially included in C2 - Contractor Safety Program	All
C2	Oversight, Performance Management and Culture Development	D1, D2, D3	-	-	No	All
C3	Incident Management and Learning	D1, D2	-	-	No	All

SCE’s Contractor Safety Management Program is focused on enhancing SCE’s safety oversight of contractors/subcontractors, reinforcing SCE’s expectations that the contractor’s leadership communicate SCE’s requirements to the contractor’s workforce while reasonably managing the safety risks associated with contracted work. SCE has multiple workstreams to address contractor safety. These workstreams are grouped into three major categories: (1) Pre-Qualification and On-Boarding; (2) Oversight, Performance Management and Culture Development; and (3) Incident Management and Learning. The program components are listed below in Table III-9 and include safety pre-qualification of all contractors/subcontractors that are conducting high-risk work, oversight of contractor work planning process, field monitoring, incident analyses, safety performance improvement processes for individual contractors, and efforts to influence the development of strong safety cultures amongst our contractors.

¹⁵ Please refer to WP. Ch. 10 – Baseline and Risk Inputs.

Table III-9
SCE Contractor Safety Program By Control

Pre-Qualification and On-Boarding	<ul style="list-style-type: none"> • 3rd party (ISN Qualification), • Conditional Contractor Plans, • RFP Development, • Contractor Orientation (CHOC HASP), • Badging and Training Qualification
Oversight, Performance Management and Culture Development	<ul style="list-style-type: none"> • SCE Field Observations, • 3rd party field observations, • COA implementation, • CSQAR, • Work Type CSQAR (COA development), • Scorecards, • Performance Dashboards and Monthly reporting, • Compliance Management, • Control Stages, • Safety Culture Training, • Communications, • Safety Forums, • Contractor Safety Advocate, • California Peer Utility Benchmarking Forums
Incident Management and Learning	<ul style="list-style-type: none"> • Incident Evaluations, • Management Review Committees, • Common Cause Evaluations, • Corrective Action Plan Management, • Incident Review Teams, • Incident Communications

A. C1 – Pre-Qualification and On-Boarding

The programs identified in C1 Pre-Qualification and On-Boarding, are in place to minimize the potential for SIFs to occur before the work begins. The programs of C1 are described below:

Third Party (ISN¹⁶ Qualification) – SCE utilizes ISN as an independent third-party consultant to evaluate our Safety Tier 1 HR and Safety Tier 1 contractor workforce, in terms of their historical safety performance and programs as related to the type of work they do for SCE or on SCE property. This information provides SCE with a benchmark against North American Industry Classification

¹⁶ ISNetworld (ISN): SCE’s third-party administrator (TPA) which conducts safety qualification of all Safety Tier 1 contractors, collects monthly safety data submissions by contractors, and maintains a repository for contractor safety documentation.

System (NAICS) codes. It also establishes a framework for the contractor's overall safety performance as it relates to industry averages. SCE has established benchmarks for OSHA, DART, and SIF rates and counts. This helps give SCE visibility regarding objective criteria that reflect on a contractor's ability to work safely. SCE has established a scoring metric based on the contractor's safety processes, documentation, and performance. ISNetworkworld continuously applies this scoring metric to each contractor, resulting in a letter grade. A contractor must be able to achieve a qualifying grade (A, B, or C with a Conditional Contractor Plan) to perform Safety Tier 1 HR or Safety Tier 1 work on SCE property.

Conditional Contractor Plans – Contractors that receive an ISN C grade are required to submit a plan that, to SCE's satisfaction, demonstrates the contractor is taking adequate steps to mitigate the incidents and contributing factors that had caused them to receive a C grade. The plan is reviewed by SCE SMEs and OU (Operating Units) representatives to make sure that the appropriate mitigations and efforts are in place. The plan requires final approval from OU and Safety Directors. SCE then monitors the plan by requiring the contractor to submit quarterly reports that describe their performance relative to their commitments.

Request for Proposal (RFP) Development – SCE develops RFPs to solicit contract support to fulfill operational needs. For Safety Tier 1 HR and Safety Tier 1 work, safety provisions are incorporated into RFPs, requiring that contractors take the following steps: 1) have an active ISN account and receive a qualifying grade; 2) review and execute SCEs Hazard Assessment and Safety Plans (HASP)¹⁷ and Contractor Handbook Orientation Checklist (CHOC)¹⁸ as part of their submittal; 3) provide a safety organizational chart and individual resumes that identify the span of control and the

¹⁷ Hazard Assessment and Safety Plan (HASP): A document for Edison Representatives to collaborate with contractor leadership to document hazard awareness and mitigation plans before any Safety Tier 1 work begins. The assessment identifies potential health and safety issues and hazard mitigation associated with the project/work scope, and the project/work locations known to SCE at the time the RFP is issued, and the Contractor's plans to mitigate those hazards.

¹⁸ CHOC is a document that is used during the orientation process for the SCE Representative and the contractor to review the safety requirements in the HS Handbook for contractors and to document the contractor's understanding and acknowledgement of these requirements.

employee safety qualifications that will be dedicated to the scope of work; and 4) describe their Safety Observation Program and demonstrate to SCE that the program can document observations, provide trending data, and possesses the capability to support corrective actions.

SCE evaluates contractor submittals to ensure the contractors properly understand the scope and complexity of the work under consideration, and that the contractors have an effective plan that meets SCE's safety expectations. The results are ranked, scored and taken into consideration along with other important aspects of the contractor's bid (such as cost, quality control measures, and schedule).

Contractor Orientation (CHOC HASP) – Prior to the start of work, SCE requires an orientation meeting between the Contractor Representatives, SCE Representatives, and Contract Management agents to review the HASP and CHOC. Review of the CHOC requires a page-turn and review of SCE's Handbook for Contractors to confirm that all involved parties know and understand SCE's expectations for operating safely. Details such as employee orientation, qualification of employees, employee and subcontractor oversight, safety professional requirements, incident management requirements, and expectations for stop work responsibility are discussed in detail. Review of the HASP requires discussion centering around existing and known hazards associated with the work, SCE's expectations for addressing Critical Observable Actions (COAs),¹⁹ and a thorough examination of the contractor's mitigation plan.

Badging and Training Qualification – SCE has implemented the badging and training qualification program with our Vegetation Management organization. This program mandates that contractors validate that they have provided proper orientation to their workers and confirm that their employees are qualified to perform specific high-risk tasks. For example, a contractor must document the date they qualified a worker to operate a chainsaw, before that worker is allowed to perform chainsaw operations. Other examples of critical tasks include working near high-voltage lines and equipment, operating equipment, climbing trees, and conducting traffic control operations.

¹⁹ COAs are discussed below.

SCE monitors the contractors' training records, providing real-time feedback to contractors to support and ensure the contractor has qualified their employees to perform critical tasks. Beginning in 2022, SCE is expanding the program to include more of our higher-risk contractor workforce, with a focus on confirming that the contractor has provided essential orientation and familiarization with respect to the contractor's own programs, SCE's orientation requirements, leader safety culture training, and COAs.

1. Drivers Impacted

C1 will impact drivers D1- People and D2 – Please refer to the discussion below.

D1 People: The frequency of this driver group will be reduced with a tracking system that enables contractors to report their progress for the training and orientation of contractor workers. Contractors are also required to provide monthly updates on key safety metrics. This includes the number of hours worked, number of crews, number and top findings of safety observations, and ratio of safety observers to workers.

D2 – Process: This frequency of this driver group will be reduced by ensuring SCE identifies known hazards to contractors during the RFP process, and confirmed by contractor orientation checklists before work begins. Contractors must provide sufficient mitigations for the identified hazards. As discussed earlier in this chapter, contractors that have had prior safety performance issues will be required to demonstrate their plan to improve their performance with a written Conditional Contractor plan that must be approved by SCE before any work begins. Contractors are required to provide documentation and mitigation measures to manage risks and confirm program expectations are met (such as the appropriate number of safety observers and development of safety culture programs).

D3 Equipment – Control C1 focuses on pre-qualification of contractors and is not expected to impact incidents driven by equipment failure.

2. Outcomes and Consequences Impacted

This control does not impact any outcomes or consequences.

B. C2 – Oversight, Performance Management and Culture Development

The programs identified in C2 Oversight, Performance Management and Culture Development, are in place to minimize SIFs while work is occurring. The components of C2 are described below.

SCE Field Observations are conducted on our contractor workforce to confirm that SCE can observe the right behaviors and performance that align with our values. SCE looks for opportunities to recognize good performance and to identify opportunities for improvement, whereby we have discussions with the crews and leadership to ensure safe performance. SCE tracks and observes trends on the number of observations conducted, whether they meet expectations, exceed expectations, or have opportunities for improvement. SCE maintains data and performance metrics to help us assess if we are trending in the right direction.

Third-party field observations bear certain similarities to SCE field observations. SCE contracts with third-party safety consultants to augment the observations carried out by SCE’s workforce. We make appropriate use of these consultants particularly during times of increased workload, such as wildfire mitigation and capital project work.

COA implementation - For select Safety Tier 1 HR Contractors, SCE and our contractors partner together to identify COAs in an effort to reduce serious injuries and fatalities. COAs are defined as those observable mitigation measures that protect against primary hazards that can lead to serious injuries and fatalities. COAs have been identified for the following work scopes:

1. Vegetation Management – Compliance Tree Trimming
2. Overhead Distribution
3. Substation Construction
4. Transmission Bulk Power
5. Underground Civil
6. Distribution / Sub-Transmission Air Operations

CSQAR (Contractor Safety Quality Assurance Review) - Selected contractors are required to work with SCE to perform CSQARs. These are detailed onsite assessments concerning how a Contractor:

- Implements the SCE HS Handbook for Contractors
- Manages their program, and checks and confirms field implementation
- Leverages its leadership team to drive safety culture

The CSQAR process includes a desktop review, field observations, and SCE/contractor leadership engagement. Any observed unmitigated hazards are addressed immediately and escalated as necessary. Safety concerns or issues identified are documented and communicated to the contractor and the SCE representative, and an action plan for compliance and mitigation is established by the contractor.

Lessons learned and best practices may be shared broadly to encourage continuous growth and development in the industry.

When we select the contractors that will undergo review, we give priority to contractors conducting higher-risk work, having longer worker shifts and schedules, or experiencing recent safety performance issues (e.g., conditional contractors).

Scorecards - SCE Supply Management executes and manages contractor score cards to assess safety, quality, and general performance. From a safety perspective, the score cards are used to drive meaningful discussion on a contractor's monthly performance, and drive alignment with key performance indicators. These indicators include EEI SIF counts and rates, number of documented safety observations, and safety support span of control, and are aligned with SCE's HS Handbook for Contractors and overall SCE safety objectives. Performance is managed on a month-to-month basis. Action plans are developed by the contractor as needed to maintain alignment on performance.

Core Performance Dashboards and Monthly Reporting - SCE monitors and tracks leading and lagging indicators. We publish them in monthly reports to inform decisions and drive areas of focus. The dashboards contain information such as observation counts and findings, and injury and incident trends which show broad SCE contractor performance as well as items that provide focus on safety performance for contractors performing work for specific OUs.

Contractor Control Stages - SCE has a system to progressively manage undesired behavior or performance. Steps can include corrective action plans and control stages. Control stages can include

work restrictions, crew count restrictions, reduction in work, and ultimately termination, if the conditions identified in SCE's formal notification are not met.

Safety Leader Culture Training - All Safety Tier 1 HR contractors who have worked or plan to work at least 25,000 hours/year for SCE must implement a Leader Safety Culture Training course. This course must be applied to all of the contractor's leaders (including management, foremen, and supervisors) that oversee contractor employees who are conducting Safety Tier 1 work for SCE. New leaders are required to be trained within six months of being placed in a leader role. Topics that can be included in the training include:

- a. The role of a leader in building and sustaining a strong safety culture;
 - i. Leveraging leader influence
 - ii. Internal leadership frame and impact on team dynamics
- b. Personal safety ownership — Understand personal motivation for investing in safe work practices (what are we staying safe for rather than from), how to develop an attitude and mindset to take control of personal safety, and the importance of connecting personal safety values with the personal “why” to foster leadership;
- c. Techniques to assess and manage risk — establish a connection between personal behavior and existing tools/work practices (e.g., Human Performance);
- d. Techniques to improve communication with peers and colleagues;
- e. The importance of speaking up;
- f. Understanding the sphere of influence and control;
- g. Learning over blame — How to evaluate incidents with a focus on learning (not blame) and how to implement programmatic and systematic improvements to reduce the risk of the same event recurring; and
- h. Leadership tools to align attitudes, behaviors, and results, including safety observations, recognition, modeling, and coaching.

Contractor Communications - SCE sends out weekly and ad-hoc communications to raise awareness around incidents and lessons learned, and to communicate manufacturer recalls, leader

messaging, general safety messages, etc. The expected outcome of this messaging is to expand contractor knowledge of trends and recent events, and to provide contractors with insights to help prevent similar incidents.

Contractor Safety Forums - SCE Operating Units that are actively working with Safety Tier 1 Contractors must ensure that Contractor Safety Forums are held at least once per year. These forums are attended by SCE personnel and active SCE Tier 1 Contractors, and documentation (e.g., attendance sheets, agendas) of each forum is required to be maintained. The purpose of the forums is to discuss relevant safety issues and maintain open lines of communication to ensure mutually safe work efforts. The SCE Operating Units (OUs) must organize the forums, with OU Directors or Principal Managers facilitating the discussion. At a minimum, the forums must cover the following topics:

- a. Best practices and industry challenges;
- b. Safety expectations and requirements for the contractor, including reinforcing roles and responsibilities pertaining to SCE standards; and
- c. Lessons learned from relevant incidents.

The Contractor Safety Advocate - is a designated member from each OU responsible for sharing and communicating contractor safety information to their management and OUs. CSA Monthly meetings provide Contractor Safety Advocates (CSAs) with a deeper understanding of the safety requirements listed in the HS Handbook and Standard, as well as any ongoing safety changes. CSAs also provide best practices and oversight tools, to help foster safety ownership and engagement.

California Utility Forum is a bi-monthly meeting that SCE facilitates with other California utilities (including PG&E, SDG&E, SoCalGas, LADWP and SMUD). This serves as a benchmarking program. It allows us to share contractor safety-related experiences, program updates, and best practices.

1. **Drivers Impacted**

C2 will impact all drivers as described below.

D1 People – C2 will reduce the frequency of this driver group by increasing SCE field observations. The Proposed Plan will carefully and steadily replace previous third-party observers with in-house resources. The third-party observer resources were only working in high fire risk areas.

The Proposed Plan will increasingly rely on in-house resources, so that we can expand the geographic span of observations to cover all SCE areas, and not restrict this safety activity to high fire risk areas only.

Observers will stop work if the observer identifies an unsafe situation or behavior. This prevents the immediate hazard from resulting in a safety incident and provides valuable coaching and teaching opportunities. The CSQAR process and contractor scorecards give selected contractors feedback on their most recent safety performance. The process and scorecards also provide valuable information that assists SCE in selecting contractors for future work. The work product also serves as a basis for taking control actions in stages, up to and including terminating the work relationship if a contractor is not performing safely. Through the combined efforts of contractor safety forums, SCE contractor safety advocates, and SCE safety communications, contractors are consistently made aware of recent safety incident trends, and items such as extreme weather notices (which can affect wildfire conditions).

D2 Process – C2 will reduce the frequency of this driver group with in-field verification of contractor safety performance and orientation requirements, as well as verification of traffic management operations, contractor crew tailboards, and field communications. Critical observable actions focus on crucial steps that must be in place to keep workers safe and to support managing unfamiliar conditions and communications, and addressing traffic management gaps.

Additionally, elements of evolving safety culture are captured in observations, and feedback is collected during observations. This can inform decisions on overall contract management and help support continuous improvement and ongoing collaboration in eliminating serious injuries and fatalities. Contractor communications are developed each week, in order to share leading and lagging indicator information such as trending observation opportunities and incidents. The goal is to enhance learning opportunities so that risk drivers such as traffic control or unfamiliar conditions are specifically targeted for being addressed.

D3 Equipment – C3 will reduce the frequency of this driver group by maintaining contractor awareness of recent incidents involving equipment, as well as equipment manufacturer

recalls. The efforts here span multiple SCE communication streams, including Wired for Safety, Weekly Incident Communications, and Safety Alerts.

2. **Outcomes and Consequences Impacted**

This control does not impact any outcomes or consequences.

C. **C3 – Incident Management and Learning**

The programs identified in C3 Incident Management and Learning, are designed to draw learning from incidents that have occurred and develop and communicate appropriate mitigation steps to minimize future reoccurrences. The components of C3 Incident Management and Learning are described below:

Incident Evaluations - SCE requires that contractors notify the designated Edison Representative regarding all safety incidents that occur while the contractor works for SCE. (This includes relatively low-level incidents such as sprains and strains.) The variety of Safety Incidents that must be reported encompasses the following: First-Aid incidents, injuries above First Aid status, Close Calls, safety violations, vehicle accidents, property damage, equipment failure, crew-caused circuit interruptions (CCCI), unplanned outages, primary/secondary electrical flashes, switching incidents, wiring/conductor incidents, grounding incidents, hazardous material releases, customer complaint/negative contacts, and fires.

For High Energy or Fatality (HSIF), or Low Energy Serious Injury incidents (LSIF) including fatalities, contractors must conduct a thorough cause evaluation to identify both direct and organizational causes that led to the incident. The contractor must identify robust corrective actions. Prime contractors are responsible for ensuring that that their subcontractors complete cause evaluations.

Contractor Management Review Committees - Edison Safety convenes a Contractor Management Review Committee (MRC) to review the cause evaluation reports associated with Actual LT/LA incidents, select Potential LT/LA incidents, and HSIF, LSIF, and PSIF incidents. The review aims to make sure that the cause evaluations adequately identify, analyze, and resolve physical and behavioral conditions that led to the incident. These include organizational and programmatic issues that caused or contributed to an incident. The MRC also reviews associated corrective actions taken to

improve the Contractor's safety and reliability performance. The MRC can include employees from Edison Safety, Supply Management, and the specific SCE Operating Unit that works with the contractor. A contractor representative may be requested to attend.

Contractors must address all feedback from the Contractor MRC, and prime contractors are responsible for ensuring their subcontractors address all contractor MRC feedback for subcontractor incidents. The SCE representative or delegate is responsible for engaging the contractor, sharing information related to the specific incidents under review, and ensuring contractor action items are completed.

Common Cause Evaluations - SCE is beginning to develop Common Cause Evaluations (CCE) for contractor incident. CCEs are designed to collectively evaluate a set of data or occurrences (i.e., patterns or commonalities within a series of incidents) for commonly shared issues that typically indicate an adverse trend or failure of a program or process. Outcomes from CCEs include an operating experience communication. This communication describes the types of incidents analyzed, learnings, and actions items to prevent future occurrences. This is a program implemented for SCE employees and we are starting to implement it for specific types of contractor incidents.

Corrective Action Plan Management - SCE is developing systems and resources to assemble corrective commitments made by contractors that are developed in response to incidents, conditional contractor plans, and CSQARs. The intended outcome of corrective action tracking is to increase awareness of contractors' commitments, and to support accountability and longevity of effective implementation. SCE will also be able to broadly communicate final lessons learned and preventive measures from incidents.

Incident Review Teams - Following a Serious Injury or Fatality — e.g., Actual Life Threatening/Life Altering (LT/LA) or High Energy or Fatality (HSIF) or Low Energy Serious Injury or Fatality Incident (LSIF) — the OU must gather an Incident Review Team with leadership from the OU, Supply Management, and Edison Safety to initially undertake the following actions:

- a. Review the incident;

- b. Review the contractor's response to the incident (e.g., cause evaluation, corrective actions, immediate actions taken, etc.) and the contractor's general safety performance; and
- c. Determine appropriate actions, including immediately assigning Conditional Contractor Status, assigning a Control Stage, conducting a CSQAR, Stand Down, or potentially off-boarding the contractor.

After the initial IRT meeting, the team shall review the overall response to the incident and:

- a. Verify that the cause evaluation conducted through the 60-day report thoroughly evaluates potential contributors to the incident;
- b. Verify that the cause evaluation identifies the appropriate causes;
- c. Verify that the proposed corrective actions will address the identified causes; and
- d. Verify that the contractor has an oversight plan in place to confirm the effectiveness of the corrective actions.

The OU must hold initial and follow-up meetings with SCE OU leadership, Supply Management, and Edison Safety leadership to review the incident and associated incident cause evaluations. This team must also determine next steps/actions, including:

- a. Initial Incident Review Call: Within 24 hours of a contractor fatality or two business days of incident classified as an Actual LT/LA incident, HSIF, or LSIF (and selected Potential LT/LA incidents or selected PSIF), the OU must hold an Initial Incident Review call;
- b. 5-Day Follow-up Report Call: Within five business days of receipt of the 5-day follow-up report, the OU must hold a call to review the 5-day report;
- c. 60-Day Follow-up Report Call: Within five business days of receipt of the 60-day follow-up report, the OU must hold a call to review the 60-day report; and
- d. Incident Status Check: At approximately six months from the incident, the OU must reconvene the Incident Review Team to assess the status of the contractor and determine if any additional actions are needed to ensure the contractor has taken adequate steps to improve their safety performance

1. Drivers Impacted

C3 will impact all drivers as described below.

D1 People – C3 seeks to identify gaps (post-incident) such as hazard identification failure, stop work responsibility failures, human performance failure, and other incident causes. C3 will reduce this driver group by involving contractors in the SCE MRC process for reviewing and approving 60-day reports following actual or potential serious incidents. This will provide contractors with the benefit of SCE’s cause analysis expertise, and help contractors identify causes and put in place the appropriate corrective actions.

D2 Process- C3 will reduce the frequency of this driver group by involving contractors in the review of their incidents, reviewing and approving the contractor’s corrective action plans and sharing learnings from other contractor incidents. Performing common cause evaluations will provide an additional level of process assessment, thereby supporting contractors in identifying gaps in their processes and enabling them to develop appropriate mitigation solutions.

D3 Equipment – C3 will reduce the frequency of this driver group by supporting contractors in evaluating both actual and potentially serious incidents involving equipment failure, and sharing those learnings with other contractors.

2. Outcomes and Consequences Impacted

This control does not impact any outcomes or consequences.

IV.

MITIGATIONS

In the normal course of business, and as part of developing this RAMP report, SCE continually identifies more effective ways to mitigate this risk. These approaches are modifications or enhancements to the controls listed above in Section III, and we did not feel that these should be considered separate mitigations. A more detailed discussion on the expansion of the controls is in Section VI.

V.

FOUNDATIONAL ACTIVITIES

SCE is in the process of implementing an incident management system (IMS) that will support Contractor and Employee safety controls and mitigations.

A. F1 - Incident Management System (IMS)

1. Overview

An incident management system (IMS) is a software solution that supports the entire incident management lifecycle. It allows all incidents to be reported, evaluations to be managed, and corrective action plans to be monitored. The application offers comprehensive web and mobile data collection features, and advanced reporting and data analysis capabilities. Incidents can be recorded with multiple impacts (human, environment, media, etc.) to reflect a wide range of incident categories and subsequent management by different teams. Incident forms as well as their workflows and notifications can all be configured to fit business processes at a local and global level.

An IMS includes the following capabilities:

- Employee and contractor incident management
- Corrective and preventive actions
- Inspection management
- Observations
- Mobility

2. Rationale for Inclusion as Foundational

SCE believes that an IMS is a foundational tool that supports the programs detailed within the Safety Management System (SMS).²⁰ Data collected and reported by the IMS will aid in understanding where the SMS is performing well and where improvements can be made. The IMS system will provide better tracking and approval mechanisms for documenting and analyzing contractor safety incidents and close calls. IMS will also support SCE's cause evaluation and corrective action

²⁰ For more detail on the SMS, please see Chapter 9 - Employee Safety.

process, facility inspections related to hazard identification, and safety observations. The IMS is a critical tool in culture monitoring, as increased reporting and robust trend code capabilities will allow development of “Culture Trend Codes.” The use of these codes allows for a “real-time” view of culture change as incidents are reported and hazards mitigated.

3. RSE Cost Allocation Treatment

Currently SCE plans to select a vendor in 2022. This will be followed by designing and building the system. In 2023, SCE plans to roll out and stabilize the IMS. In 2023 and beyond, there may be annual licensing fees and potential system enhancements; however, those costs will not be known until SCE selects the final vendor or until future system enhancements are identified.

SCE estimates that the annual spend for IMS in 2022 and 2023 is approximately \$2.4 million dollars. Since these costs are incurred prior to SCE’s next rate case cycle (2025 – 2028), these can be considered sunk costs and are not allocated to any controls and mitigations for purposes of RSE calculations. To the extent that SCE is able to identify any of the annual licensing or potential future system enhancements, SCE plans to include those items in RSE calculations for any controls or mitigations that they support in the Test Year 2025 GRC.

VI.

PROPOSED PLAN

SCE has developed a Proposed Plan to mitigate this risk, as shown in Table VI-10 below. The pre-and post-risk scores by tranche are displayed in Table VI-11.

Table VI-10
Proposed Plan (Total Costs in Millions and 2025 Risk Spend Efficiencies)²¹

ID / Tranche ID	Control / Mitigation Name	O&M 2025	Capital Total (2025 - 2028)	2025 Risk Spend Efficiency
C1 - T1	Pre-Qualification and On-Boarding	\$0.43	-	4,017
C1 - T2	Pre-Qualification and On-Boarding	\$0.43	-	302
C2 - T1	Oversight, Performance Management and Culture Development	\$2.21	-	1,651
C2 - T2	Oversight, Performance Management and Culture Development	\$0.95	-	351
C3 - T1	Incident Management and Learning	\$0.35	-	9,218
C3 - T2	Incident Management and Learning	\$0.15	-	1,918
Total		\$4.54	\$0.00	-

Table VI-11
Pre- and Post- LoRE, CoRE and Risk Scores²²

	Pre-Mitigation Risk Quantification Scores (End of 2024)			Post-Mitigation Risk Quantification Scores (End of 2028)		
	LoRE	CoRE	Risk Score	LoRE	CoRE	Risk Score
Contractor Safety	13.05	0.17	2.17	10.38	0.17	1.72
T1 - Tier 1 Higher Risk	11.61	0.17	1.99	9.22	0.17	1.58
T2 - Tier 1	1.45	0.13	0.18	1.16	0.13	0.14

A. Overview

The Proposed Plan represents continuation of all existing controls in 2025 – 2028, as well as other program enhancements to maximize mitigation efforts in three critical areas: Pre-Qualification, Performance, and Learning.

²¹ Please refer to Contractor Safety RAMP Risk Model (excel file) and WP. Ch. 10 – Contractor Safety RAMP Financials.

²² Please refer to Contractor Safety RAMP Risk Model (excel file).

- **Pre-Qualification** programs will be enhanced as follows:
 - **RFP Development** – focus on more projects where rapid deployment introduces higher safety risks.
 - **Orientation** - provide more comprehensive contractor orientation support to ensure orientations are planned and performed appropriately, reducing downstream safety risks.
 - **Training Qualification** – this program currently only covers the Vegetation Management category of work. Expand to include other high-risk work types, such as Distribution, Transmission and Underground Civil.
- **Performance** programs will be enhanced as follows:
 - **Field Observations** - enhance span of controls allowing SCE field observers to be more effective in their roles and reduce the need for third-party support.²³
 - **COAs** – Critical Observable Actions have been developed for five key types of work; Vegetation Management, Underground Civil, Overhead Distribution, Bulk Power Transmission, and Air Operations. Expand program to include additional work types, such as Crane Operations and Traffic Management. We also plan to refresh COAs that were developed several years ago, including Vegetation Management.
 - **CSQARs** – Enhance this program to review more contractors in the Safety Tier 1 HR category on an annual basis.
- **Learning** programs will be enhanced as follows:
 - **MRCs** - This program will be expanded to support the communication of final contractor cause evaluations and corrective actions to all contractors in SCE’s workforce and maximize the learning from those incidents.
 - **CCEs** - common cause evaluations are currently shared for selected SCE employee incidents. This program will enhance CCEs to include contractor incidents.

²³ The use of third-party oversight resources initially occurred for wildfire mitigation-related activities in 2019.

- **Corrective Action Plans** – this program will build systems to buttress the sustainability of corrective actions by making corrective action data readily available for field validation.

B. Execution Feasibility

SCE believes that the Proposed Plan is feasible and will continue existing efforts while building on those existing controls. The enhancements will enable key SIF elimination programs to have a greater impact on our contractors by focusing on validating compliance and strengthening our ability to hold responsible parties accountable. In addition, replacing third-party observation consultants with new hire in-house resources will reduce costs and provide a greater depth and span of control. We will then be able to include all SCE work sites for this capability, and not restrict it to wildfire mitigation activities in high fire risk areas.

C. Affordability

The combination of existing and enhanced activities in the Proposed Plan represents a puts-and-takes balance that should reduce safety risks at prudent cost when fully implemented in 2025.

D. Other Considerations

In developing the Proposed Plan, SCE looked at areas where program enhancements could have the largest impact on reducing SIF, and for these specific key controls, what could be done to achieve the maximum possible impact on SIF reduction. As a result of this analysis, SCE plans to hire additional in-house resources to expand on the key initiatives already in place, to achieve the maximum potential of key objectives, as evaluated by SCE SMEs.

VII.

ALTERNATIVE PLANS

A. Alternative Plan #1

SCE developed Alternative Plan #1 as shown in Table VII-12 below. The pre- and post-risk scores by tranche are displayed in Table VII-13.

Table VII-12
Alternative Plan #1 (Total Costs in Millions and 2025 Risk Spend Efficiencies)²⁴

ID / Tranche ID	Control / Mitigation Name	O&M 2025	Capital Total (2025 - 2028)	2025 Risk Spend Efficiency
C1 - T1	Pre-Qualification and On-Boarding	\$0.26	-	2,305
C1 - T2	Pre-Qualification and On-Boarding	\$0.26	-	173
C2 - T1	Oversight, Performance Management and Culture Development	\$2.21	-	1,767
C2 - T2	Oversight, Performance Management and Culture Development	\$0.95	-	363
C3 - T1	Incident Management and Learning	\$0.23	-	3,846
C3 - T2	Incident Management and Learning	\$0.10	-	817
Total		\$4.01	\$0.00	-

Table VII-13
Pre- and Post- LoRE, CoRE and Risk Score for Alternative Plan #1²⁵

	Pre-Mitigation Risk Quantification Scores (End of 2024)			Post-Mitigation Risk Quantification Scores (End of 2028)		
	LoRE	CoRE	Risk Score	LoRE	CoRE	Risk Score
Contractor Safety	14.10	0.17	2.34	12.56	0.17	2.09
T1 - Tier 1 Higher Risk	12.54	0.17	2.15	11.17	0.17	1.91
T2 - Tier 1	1.56	0.13	0.19	1.39	0.13	0.17

Alternative Plan #1 represents continuation of all existing controls in 2025 – 2028 as well as enhancements to maximize mitigation efforts in C2 – Oversight, Performance Management and Culture Development Control.

²⁴ Please refer to Contractor Safety RAMP Risk Model (excel file) and WP. Ch. 10 – Contractor Safety RAMP Financials.

²⁵ Please refer to Contractor Safety RAMP Risk Model (excel file).

- **Performance** programs will be enhanced as follows:
 - **COAs** – Critical Observable Actions have been developed for five key work types; Vegetation Management, Underground Civil, Overhead Distribution, Bulk Power Transmission, and Air Operations. Expand program to include additional work types, such as Crane Operations and Traffic Management. We also plan to refresh COAs that were developed several years ago, including Vegetation Management.
 - **CSQARs** – Enhance this program to review more contractors in the Safety Tier 1 HR category on an annual basis.

1. Execution Feasibility

SCE believes that Alternative Plan #1 is feasible, since this plan requires less labor compared to the Proposed Plan. SCE will continue the existing efforts and build on only one control, rather than build on the three controls described in the Proposed Plan. SCE already has the previously-defined processes and procedures in place to implement the additional performance mitigations.

2. Affordability

Although Alternative Plan #1 provides additional savings over the Proposed Plan, we ultimately did not select this plan because SCE respectfully believes that, looking at all relevant factors, Alternative Plan #1 does not provide a reasonable level of funding and activities to adequately address Contractor safety risk.

3. Other Considerations

SCE did not identify any other considerations for Alternative Plan #1.

B. Alternative Plan #2

SCE developed Alternative Plan #2 as shown in Table VII-14 below. The pre- and post- risk scores by Tranche are displayed in Table VII-15.

Table VII-14
Alternative Plan #2 (Total Costs in Millions and 2025 Risk Spend Efficiencies)²⁶

ID / Tranche ID	Control / Mitigation Name	O&M 2025	Capital Total (2025 - 2028)	2025 Risk Spend Efficiency
C1 - T1	Pre-Qualification and On-Boarding	\$0.26	-	4,867
C1 - T2	Pre-Qualification and On-Boarding	\$0.26	-	366
C2 - T1	Oversight, Performance Management and Culture Development	\$1.12	-	697
C2 - T2	Oversight, Performance Management and Culture Development	\$0.48	-	147
C3 - T1	Incident Management and Learning	\$0.23	-	3,628
C3 - T2	Incident Management and Learning	\$0.10	-	766
Total		\$2.45	\$0.00	-

Table VII-15
Pre- and Post- LoRE, CoRE and Risk Score for Alternative Plan #2²⁷

	Pre-Mitigation Risk Quantification Scores (End of 2024)			Post-Mitigation Risk Quantification Scores (End of 2028)		
	LoRE	CoRE	Risk Score	LoRE	CoRE	Risk Score
Contractor Safety	14.87	0.16	2.35	14.37	0.15	2.11
T1 - Tier 1 Higher Risk	13.23	0.16	2.15	12.78	0.15	1.91
T2 - Tier 1	1.64	0.13	0.21	1.59	0.13	0.20

²⁶ Please refer to Contractor Safety RAMP Risk Model (excel file) and WP. Ch. 10 – Contractor Safety RAMP Financials.

²⁷ Please refer to Contractor Safety RAMP Risk Model (excel file).

1. Overview

Alternative Plan #2 represents continuation of all existing controls without enhancing any program efforts in critical Control areas. Alternative Plan #2 does not include additional SCE staff to replace existing third-party observation consultants.

2. Execution Feasibility

SCE believes that executing Alternative Plan #2 is feasible, since the Plan does not require any additional labor. The third-party contract for observing wildfire mitigation activities is scheduled to expire in 2024. It would not be renewed.

3. Affordability

Alternate Plan #2 costs approximately \$2 million less per year than the Proposed Plan. Although Alternative Plan #2 provides savings over the Proposed Plan, at best it might maintain the status quo for risk reduction. In our view, this would not adequately address Contractor safety risk of SIFs. The Proposed Plan, at reasonable cost, would offer enhancements to our safety risk mitigation efforts and capabilities. Also, by replacing third-party observation consultants with in-house resources, we expect to see some cost avoidances.

4. Other Considerations

SCE did not identify any other considerations for Alternative Plan #2.

VIII.

LESSONS LEARNED, DATA COLLECTION, & PERFORMANCE METRICS

A. Lessons Learned

Below SCE describes several lessons learned from both our previous RAMP and from feedback on other IOU RAMP reports.

1. **SCE Further Tranched Contractor Safety Based on Risk Exposure**

When the Commission's Safety Policy Division (SPD) provided its Regulatory Review of Sempra's 2021 RAMP report, SPD noted with concern that Sempra only had one tranche for all of contractor safety.²⁸ In other words, Sempra had one risk tranche for all contractors.

As discussed in Section II.F above, SCE has followed the SPD guidance. Rather than having one single risk tranche for all contractors, SCE tranched out our contractor workforce based on the risk profile of the work they perform. Accordingly, we have two risk tranches for contractors.

SCE will continue to evaluate which contractor job types fall into Tier 1 or Tier 1 HR. For example: following a contractor fatality in April 2020 that involved the unloading of material from a flatbed truck, SCE reclassified all work involving the loading/unloading of trucks and trailers using power equipment. SCE reclassified this work as Safety Tier 1, rather than the previous Tier 2 classification.

2. **The Inclusion of Potential Serious Injuries and Fatalities into the MAVF Framework Proved Challenging**

SCE is committed to reducing safety incidents throughout its workplaces. This includes actual SIFs, PSIFs, and less serious injuries. As described above, SCE has multiple controls and mitigations to help provide a safe workplace while preventing SIFs in accordance with applicable laws, regulations, and best business practices. In order to capture the safety risk to our employees and contractors, SCE attempted to integrate the PSIF into the MAVF for this RAMP. However, SCE experienced two major challenges trying to incorporate PSIF incidents into the MAVF as described below.

First, SCE did not find a useful and rigorous methodology to incorporate PSIF incidents into the consequences of the risk bowtie. While SCE does have the same level of detail on potential incidents (driver, sub-driver, tranche, etc.) as actual incidents for certain bow-tie elements (driver, sub-driver, tranche), it was unclear what consequence scoring those incidents should be given in the MAVF.

²⁸ See Safety Policy Division Staff Evaluation Report on SDG&E's and SoCalGas' Risk Assessment and Mitigation Phase (RAMP) Application Reports, p. 102.

Second, the inclusion of these PSIF incidents may be inconsistent with how other risks are evaluated. For instance, it is near-impossible for SCE to include potential serious injuries or fatalities to the public if we are unaware that they occurred. To take a practical example, if a member of the public almost gets electrocuted while breaking into our facility to steal copper wire, but no electrocution event or incident actually occurs, SCE may not even have awareness of the “almost” aspect of the situation. This is a limitation that would presumably apply to other utilities as well who may be in a similar situation.

Moreover, inclusion of the PSIFs at this time may lead to intervenors or other stakeholders asserting that the scores are “inflated” because potential incidents rather than actual ones are driving the risk score up. Parties may strenuously disagree as to what constitutes a possible incident and what does not. In other words, parties may have differing views on what was enough of a “close call” that inclusion of the item (and corresponding increase in the risk score) would be warranted. Thus, if SCE for example included PSIFs for employee and contractor incidents, it may lead to stakeholders feeling that the risk scoring for the Employee and Contractor Safety risks appears to be overstated compared to other RAMP risks.

SCE will continue to investigate methodologies for appropriately incorporating PSIFs into the MAVF. If further exploration leads to a workable and accurate approach for weighting a potential SIF as compared to an actual SIF, SCE would seek to include that additional layering in our Test Year 2025 GRC Application. SCE is also open to discussions with parties in the Risk OIR proceeding concerning appropriate on methodologies or approaches for specifically incorporating PSIFs into the MAVF framework. SCE takes every safety incident seriously, whether it is relatively minor (such as a slip or fall resulting in a DART-level incident) or serious (such as a switching incident with a flash, resulting in 3rd degree burns suffered). Further, SCE treats PSIF incidents in the same manner as actual SIF incidents.

In many cases, a PSIF could have resulted in an actual SIF to a contractor. Put another way, while the consequence of actual SIF and PSIF incidents may have been different, the circumstances are often very similar, such that an actual SIF could have occurred. SCE requires the

same level of reporting (including 5- and 60-day follow up reports and MRC review of cause evaluations) for all serious incidents, whether an actual injury occurred or not. Cause evaluations are performed on actual and potential SIFs to identify and implement corrective actions to reduce the risk of future, similar incidents. In its efforts to address risk drivers of contractor safety incidents, SCE treats PSIF incidents with equal attention and similar resources as actual SIF incidents.

Finally, an important consideration here is that the exclusion of PSIFs in the MAVF may mean that the full benefits of the proposed controls and mitigations may be understated. The benefits that a control or mitigation may have in reducing PSIFs are not visible.

3. Determining Mitigation Effectiveness Values Still Proves Challenging

SCE's overall contractor safety program consists of an assembly of mitigation programs intended to target critical areas across the entire life cycle of a work contract. Results of individual mitigation measures are not easily measurable on their own, as they are symbiotic and are reliant on each other to be successful. Leading and lagging indicators serve as the basis for evaluating and assessing contractor performance. The relatively small number of SIF incidents per year (13 in 2021) makes statistical trending difficult in the short term. However, we believe the combined program mitigations should result in a demonstrable reduction in contractor SIFs over a period of several years.

B. Data Collection and Availability

SCE continues to improve upon the collection of information related to contractor safety incidents. Since the 2018 RAMP, SCE has improved the trending of safety-related incident causes, activities, human performance, SIF Exposure, energy sources and controls for safety data analysis. All SCE contractors are required to report all safety incidents to SCE within one business day, using SCE's reporting form. These incident reports are reviewed for completeness by the SCE representative responsible for that contractor's scope of work. Edison Safety then establishes a severity rating for each incident, using the EEI SCL model. Despite our efforts since the 2018 RAMP, some of the data analysis performed for this chapter still required manually transposing and interpreting of data across several datasets. SCE continues to enhance our predictive modeling and cause evaluation efforts, along with data collection systems, to better target our safety analyses and risk mitigation approaches.

C. Performance Metrics

SCE tracks a significant amount of data related to contractor safety incidents. Table VIII-16 below summarizes some key performance metrics; however, this is not an exhaustive list. The table also indicates whether any of these metrics are included in SCE’s annual Safety Performance Metrics (SPM) report²⁹ and if there is any relationship to the RAMP bowtie in Figure II-2 and risk analysis. SCE attempted to include a combination of leading and lagging indicators.

***Table VIII-16
List of Contractor Safety Performance Metrics***

Metric	Leading / Lagging Indicator	Included in SPM Report	Metric Directly Included in Risk Bowtie	Description
Contractor SIFs - Actual (Count and Rate)	Lagging	Yes	Yes	Count and Rate of incidents that resulted in a serious injury or fatality to an SCE contractor as defined by the Edison Electric Institute (EEI) SIF criteria. This includes HSIF and LSIF incidents, per the EEI Safety Classification and Learning (SCL) Model. This directly informs the triggering event frequency of the risk bowtie.
Contractor Hours worked	-	Indirectly	Yes	The number of Tier 1 contractor hours worked informs the risk exposure and is used in calculating SIF rates.
Contractor Potential SIFs - Actual (Count and Rate)	Leading / Lagging	Yes	No	Count and Rate of incidents that resulted in a potential serious injury or fatality to an SCE contractor as defined by the EEI Safety Classification and Learning (SCL) Model. Currently these incidents are not included in the bowtie.
Contractor DART Rate / Count	Leading / Lagging	Yes	No	DART injuries are determined based on number of Occupational Safety and Health Administration (OSHA)-recordable injuries resulting in Days Away from work and/or Days on Restricted Duty or Job Transfer. DART rate is calculated using actual work hours and is standardized by using a factor of 200,000, which represents the average number of hours worked by 100 full-time workers in one year. This is currently not included in the risk analysis but is a good indicator of overall injuries and injury rate.
# of Safety Observations	Leading	No	No	Count and Rate of incidents that resulted in a potential serious injury or fatality to an SCE contractor as defined by the EEI Safety Classification and Learning (SCL) Model. Currently these incidents are not included in the bowtie.

²⁹ This is based on the updated list of SPMs from D.21-11-009, Appendix. B.

IX.

ADDRESSING PARTY FEEDBACK

In reviewing SCE's 2018 RAMP report, Cal Advocates suggested that SCE evaluate and present potential consequences for actions without adverse outcomes, since events without adverse outcomes may represent near-miss events.³⁰ In response to Cal Advocates' recommendation, SCE had noted that we will consider this recommendation when developing our next RAMP report.³¹ As discussed above in Section VIII.A.2, while SCE necessarily focused the bowtie and risk analysis on actual serious injuries and fatalities, SCE does agree that the inclusion of potential serious injuries and fatalities could be beneficial in more fully capturing the risk to our employees as well as the full benefit resulting from our controls and mitigations. We look forward to further discussion with stakeholders on what might serve as appropriate methodologies in future filings.

³⁰ See I.18-11-016. -Comments of The Public Advocates Office on November 2018 Submission of Southern California Edison Company's Risk Assessment and Mitigation Phase, p. 4.

³¹ See A.19-08-013, Exhibit SCE-11, Supplemental Testimony on Risk-Informed Strategy and Business Plan, p. 17.