SOUTHERN CALIFORNIA EDISON
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June 19, 2020

Caroline Thomas Jacobs
Director, Wildfire Safety Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

SUBJECT: 2020 Safety Certification Request

Dear Ms. Caroline Thomas Jacobs:

Pursuant to California Public Utilities Code Sections 8389(e) and (f), Southern California Edison Company (SCE) submits this 2020 Safety Certification request and supporting documentation. SCE's initial safety certification was granted on July 25, 2019 and, pursuant to Public Utilities Code, Section 8389(f)(4), will remain in effect until the Wildfire Safety Division acts on this request.

Below, SCE sets forth each of the requirements detailed in Public Utilities Code, Sections 8389(e) and (f), along with additional Wildfire Safety Division Guidance on Submission of 2020 Safety Certification Requests issued on May 6, 2020 (Guidance), and how SCE meets them, as applicable for this safety certification:

1. **Section 8389(e)(1) – The electrical corporation has an approved wildfire mitigation plan**

   In 2019, SCE submitted its first Wildfire Mitigation Plan in accordance with the requirements of Public Utilities Code Section 8386, enacted as part of California Senate Bill 901 and as implemented by the CPUC rulemaking R.18-10-007 on February 7. On May 30, 2019 the Commission found that SCE's WMP contained each of the required statutory elements and approved SCE's 2019 WMP in D.19-05-038.

   SCE submitted its second comprehensive Wildfire Mitigation Plan (WMP)[1] on February 7, 2020 covering the years 2020 through 2022 and building upon its 2019 WMP, including successes and lessons learned. In 2020 SCE is tracking 69 specific wildfire-related programs and activities included in its 2020-2022 WMP. As in SCE's 2019 WMP, the 2020-2022 plan includes infrastructure hardening, vegetation management, detailed inspections and remediations, and situational awareness. SCE's 2020-2022 WMP also emphasizes Public Safety Power Shutoff (PSPS) resilience and community engagement, particularly for under-represented groups and SCE's access and functional needs (AFN) customers. The 2020-

[1] SCE's 2020-2022 Wildfire Mitigation Plan is available on SCE's website: https://www.sce.com/safety/wild-fire-mitigation.

2022 plan increases the use of data, advanced risk analytics and innovative technologies to help SCE prioritize the activities with the greatest potential to mitigate fire risks and improve public safety.

After an extensive review process that included discovery, workshops, and comments, the CPUC approved SCE's 2020-2022 WMP on June 11, 2020.[2]

2. Section 8389(e)(2) - The electrical corporation is in good standing, which can be satisfied by the electrical corporation having agreed to implement the findings of its most recent safety culture assessment, if applicable

New guidance: To satisfy the requirements of Section 8389 (e)(2), if the electrical corporation has an approved safety culture assessment, the electrical corporation shall submit documentation to show that it is implementing the findings of the safety culture assessment. Absent a current safety culture assessment, the electrical corporation shall submit the following documentation:

SCE has not yet undergone a CPUC-led safety culture assessment. Pursuant to PUC Section 8389(d)(4), a CPUC-led safety culture assessment for SCE may not occur until early 2021. Notwithstanding this, safety is the first of SCE's core values and demonstrated through the company's commitment to creating and maintaining a safe environment for employees, contractors, and the public. SCE strongly holds that leadership sets the tone for the safety culture and work environment, and expectations for employees, therefore we hold our leaders to a high standard for building and maintaining a strong safety culture and support our leaders in meeting this standard through additional training, safety teams, coaching, and mentoring. SCE has a comprehensive set of safety policies, rules, programs, procedures and standards used to protect our employees, contractors, and the public. In order to learn and appropriately apply these policies, rules and programs, employees undergo extensive job-specific training as new employees, when they change job classifications, and on an ongoing basis when job duties change, policies or rules change, and as refreshers. SCE regularly and consistently analyzes its safety performance, performs benchmarking, and partners with labor groups (such as IBEW Local 47) to further improve our safety practices including modifying and enhancing safety procedures and safety-related communications with our employees and contractors. In addition, SCE requires that each company that we contract with has safety policies, rules, and programs that meet all regulatory requirements (as SCE programs do). All levels of leadership are involved in routine review of employee, contractor, and public

[2] CPUC WMP approval statement available at: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M340/K129/340129782.PDF

safety performance and provide guidance on corrective actions and continuous improvement initiatives.

SCE continues to increase management focus on safety oversight, accountability, and partnering with employees, contractors, and communities to improve worker and public safety. In 2019, SCE completed safety culture training for all of its employees and leaders: (1) "Switch", a cognitive behavioral training course designed to help employees and leaders take ownership of safety and strengthen safety leadership; and (2) "Engage" and "Connect" workshops that provide practical tools for leaders to support a strong safety culture and influence safe behaviors aligned with SCE's values. The core concepts of this training have been embedded in new employee orientation and new leader trainings. SCE continues to improve its safety culture via in-person meetings, trainings, corporate messaging, and the incorporation of feedback from all levels of the organization.

Absent a CPUC-led safety culture assessment, SCE provides below documentation on the six new requirements as specified in WSD's guidance issued on May 8, 2020.

a. Safety policies, including employee and contractor safety, gas pipeline and electrical safety

In the subsequent sections, SCE provides additional details on the employee, contractor and public safety policies and procedures. Given SCE is primarily an electric utility, most of our construction and maintenance safety procedures are associated with electrical safety.

Employee Safety Policies

SCE's Health and Safety Policy[3] specifies that employees must follow the programs, procedures, standards, and rules that apply to their jobs. This policy underscores the importance that SCE places on safety, outlines employees' responsibility to stop work when there is an imminent hazard, and to report safety hazards so that we may address hazards to reduce the risk of injury. The policy references SCE's Corporate Health and Safety Programs and Standards and SCE's Accident Prevention Manual which provide additional details on safety procedures and expectations. Employees learn in training (classroom, computer-based, and on the job) of the programs, procedures, standards, and rules that apply to their job and specific types of work that they may perform.

SCE's Corporate Health and Safety Programs and Standards address a wide range of safety topics associated with the various work performed at SCE and are used by employees in their day to day work to protect both the safety of employees and the public. These documents are available online (on SCE's internal Portal) and in hard copy to all employees and include

[3] Please see Appendix A

detailed direction and guidance for specific safety topics. Examples include the hot work program[4] which governs activities that can potentially initiate fires or explosions and outlines safe measures to prevent and control such hazards. Another example is our fall protection standard[5] which identifies requirements for having a site-specific fall protection plan, indicating when fall protection is needed, conducting fall hazard assessments, having a fall protection system, and having a rescue plan**.**

In the event of an injury, SCE's cause evaluation standard[6] is utilized as a framework for conducting a cause evaluation and developing corrective actions when an incident occurs that results in or had the potential to result in a fatality, serious injury, or an injury that requires Day Away, Restricted Duty, or Transfer (DART). SCE's robust cause evaluation program enables us to learn from incidents and implement corrective actions to prevent the risk of recurrence. In line with best practice, SCE uses multiple levels of cause evaluations in accordance with the severity of the incident. A Root Cause Evaluation is used when an incident results in a major safety incident such as a fatality. A team exhausts all the reasons for the cause and develops organizational and programmatic corrective actions that reaches across organizational units. An Apparent Cause Evaluation is used to address life threatening and life altering actual and potential incidents. A team identifies the apparent cause and associated corrective actions that address causes. A Standard Cause Evaluation is used to address minor injuries such as DART incidents. They are performed by local management and typically addresses the direct cause of an incident within a service center or department. Common Cause Evaluations are used to address an adverse trend for a collection common incidents or occurrences. Further, SCE has implemented Learning Teams to address repeat or complex incidents.

Further, the Accident Prevention Manual[7] (APM) includes rules that our employees must comply with as it relates to safety. The APM includes general rules regarding working on SCE premises, safety rules specific for working on overhead electrical facilities, underground electrical facilities, substation facilities, hydro facilities, switching and clearance rules, first aid rules, office safety and fire rules. The APM also contains safety rules for gas operations on Santa Catalina Island. The APM is available online on our internal Portal and in hard copy for workers who primarily work out in the field. The APM is provided to new employees with updates provided to existing employees and is heavily covered in technical training. These items are all components of our safety management system. Employees are expected to be familiar with the rules relevant to their line of work and facility and apply them consistently. Supervisors are also expected to enforce compliance with the safety rules

[4] Please see Appendix B.1
[5] Please see Appendix B.2
[6] Please see Appendix B.3
[7] Please see Appendix C

for employees working under their jurisdiction. SCE has partnered with IBEW Local 47 on a craft-driven safety program in which represented employees coach and mentor their peers on safety opportunities. Further, SCE has a progressive discipline policy for violations of company policy.

In addition to core safety policies, programs, standards, and rules, SCE implements new policies as circumstances require. For example, in response to the COVID-19 pandemic, COVID-19 Temporary Workplace Wellness and Physical Distancing Policy[8] was created to protect our employees and the public during this global pandemic. It includes detailed direction and guidance on facial coverings, physical distancing, and hygiene while working in the field and in the office. Further, due to the COVID-19 risk, SCE directed all employees who could perform their work at home to telework to limit exposure.

Contractor Safety Policies

SCE requires its contractors to follow rigorous standards as it relates to safety of their workers and the public. The Contractor Safety Management Standard[9] and accompanying Environmental Health and Safety Handbook for Contractors[10] detail SCE's safety requirements for contractors along with responsibilities for both contractors and SCE employees engaged in contractor management functions. The Contractor Safety Management Standard states that, "at its sole discretion, SCE can immediately suspend or terminate a contract and/or suspend or discontinue work of a contractor/subcontractor due to poor or noncompliance safety performance and/or failure to adhere to SCE's governing policies, procedures, and regulations." Further, after a contractor has a significant event or fails to meet safety requirements, they receive a lower "grade." SCE uses a grading system administered by a third-party administrator (currently ISNetworld) to identify contractor standing within our organization. An "A" or "B" grade means the contractor is qualified and exceeds or meets requirements, a "C" grade results in conditional status in which the contractor must submit have a SCE-approved conditional contractor plan to correct deficiencies, and a "F" grade results in unqualified status where the contractor does not meet safety requirements and cannot perform Tier 1 work (i.e. work that, without implementing appropriate safety measures, are potentially hazardous or life-threatening).

Requirements for contractors include (1) SCE's safety qualification of Safety Tier 1 Contractors, (2) contractor orientation, (3) field monitoring, (4) incident reporting and (5) cause evaluation, training, recordkeeping, and oversight. All Safety Tier 1 Contractors undergo review and safety qualification by ISNetworld as well as a safety observation program. Further, SCE field safety advisors and other SCE representatives perform safety

[8] Please see Appendix D
[9] Please see Appendix E
[10] Please see Appendix F

observations on contractors to oversee their adherence to safety policies, standards, rules, and procedures.

Additionally, the Supplier Code of Conduct[11], governs contractor conduct and includes requirements such as complying with laws, rules, and regulations. It includes a section on Health, Safety and Environment that requires that contractors "be committed to the health and safety of their employees, Edison employees, Edison customers, and the public."

Safety Policies that Protect the Public

SCE's safety policies for employees and contractors include many rules, programs, procedures, and standards designed to protect public safety. Some of these policies are associated with how electrical work is conducted. For example, SCE's APM includes a rule on Work Restrictions During Fire Weather Conditions[12]. This rule identifies SCE's procedures to restrict or delay field work during fire conditions to reduce the risk of SCE personnel causing an ignition during the normal course of their work when the weather and fuel conditions are more susceptible to ignitions. Similarly, both employees and contractors are required to adhere to our Pedestrian Traffic Control[13] requirements to protect members of the public who may be near a worksite while on foot.

Further, several SCE programs are designed to mitigate public safety risks. Examples include, but are not limited to, Distribution Inspection and Maintenance Program, Transmission Inspection and Maintenance Program, Utility Vegetation Management Program, Public Safety Power Shutoff Program, and Wildfire Mitigation Plan[14] that help ensure construction, maintenance, operations, placement, clearance, etc. of SCE facilities to help keep the public safe.

In addition to the policies and programs that our employees and contractors use to protect public safety, we invest in advertising and communications (television, billboard, radio, mailers, etc.) to increase public awareness of safety hazards and inform the public of how to stay safe (e.g. do not release mylar balloons) and report events (e.g. wire down) related to our equipment. SCE offers workshops for schools and first responders and has implemented specific outreach to third party contractors (e.g. tree trimmers, gardeners, and construction workers) to educate them on the specific risks of working near SCE equipment.

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[11] Please see Appendix G
[12] Please see Appendix H
[13] Please see Appendix I
[14] SCE's 2020-2022 Wildfire Mitigation Plan is available at https://www.sce.com/tl/node/1981

b. Number of reported ignitions to date in 2020 pursuant to CPUC Decision 14-02-015

Between January 1, 2020 and May 31, 2020, SCE has had 23 CPUC reportable ignitions of which nine were in the HFRA. Please note that this data is preliminary and subject to further validation. This data only includes fires that have gone through a preliminary review and were determined to meet the CPUC reporting requirements. Of the 23 reportable fires, one met the Electric Safety Incident Report threshold and appropriate notifications have been made to the CPUC.[15]

c. Number of fatalities and/or structures damaged and/or destroyed by wildfires alleged to have been ignited by utility infrastructure and/or equipment

As the Guidance did not provide a time period with respect to this item, SCE is interpreting it consistent with the time period set forth in subsection d., i.e., "since issuance of the previous safety certification." The table below summarizes the number of fatalities and structures damaged and destroyed by wildfires allegedly ignited by utility infrastructure and/or equipment to date since the issuance of the previous safety certification.[16]

Number of fatalities and/or structures damaged and/or destroyed by wildfires ignited by utility infrastructure and/or equipment*

Fatalities due to utility-ignited wildfire	1
Structures damaged by utility-ignited wildfire	90
Structures destroyed by utility-ignited wildfire**	26

* This data was compiled from a variety of sources, including CAL FIRE's website and responsible fire agency reports. Data reported as of May 31, 2020.

d. Worker and contractor fatalities and incidents since issuance of the previous safety certification

As detailed above, safety is paramount at SCE. Any fatality or serious injury of an SCE employee or contract worker is treated with the utmost importance and priority at SCE. In the event of a fatal or serious injury, SCE implements a rigorous cause evaluation process to

[15] 2020 YTD "CPUC reportable" ignitions have not been reported to the CPUC yet but will be in SCE's annual filing to the CPUC on April 1, 2021 per CPUC Decision 14-02-015. Please refer to Table 2 in SCE's 2020-2022 WMP for data on reported ignitions between 2015 and 2019.

[16] By providing this information, SCE is not admitting that: 1) SCE's facilities caused any of these wildfires; 2) the number of fatalities and structures destroyed and damaged is the actual number of fatalities and structures destroyed and damaged; 3) SCE has any responsibility for any damage, loss, fatality, or injury caused by these wildfires. Further, the information being provided is preliminary and subject to change. In many instances the causes of wildfires are still under investigation and even where a report has been issued on the cause, SCE may dispute the conclusions of such report.

learn the causes of the event, share the learnings, identify corrective actions, and implement corrective actions that reduce the likelihood of recurrence. In the event of a contract worker fatality or serious injury, cause evaluations are completed by both SCE and the contractor. In some cases, SCE has suspended or terminated a contract and/or suspended or discontinued work of a contractor/subcontractor due to poor or noncompliance safety performance and/or failure to adhere to SCE's governing policies, procedures, and regulations. In addition, within 24 hours of a significant safety event, a call is held with leaders across our service area who supervise employees performing the type of work involved in the event so that they can alert their employees to the incident and identify ways to mitigate the risk. Safety stand downs are also often held within a week of fatal and serious injuries to promote local awareness, learning, and dialogue about the event. Once cause evaluations are complete, causes and corrective actions are communicated. In addition to internal SCE communication channels, SCE uses SCE field safety advisors and other designated employees, our third-party administrator, and newsletters to communicate hazards and lessons learned to our contract workforce. The emphasis, anytime a fatality or serious injury occurs, is always on making employees and contractors aware of the injury and preventing the same or similar event from happening again.

The data for employee and contractor fatalities and incidents since issuance of the previous safety certification is summarized in the table below.

Employee Fatalities	None
Contractor Fatalities	Three contract workers were fatally injured since the issuance of the previous safety certification. On 7/26/2019, a contract worker succumbed to injuries after making electrical contact while performing compliance tree trimming on 7/22/2019 On 1/22/2020, a contract worker succumbed to injuries after being struck by a vehicle while performing traffic control. On 4/15/2020, a contract worker succumbed to injuries after bundled steel material fell on him.
Employee Serious Injuries[17]	Five SCE employees were involved in serious injuries since the issuance of the previous safety certification. On 8/8/2019, an employee received multiple fractures (knee/ankle and back) when he lost his balance while working off the rear of a truck and jumped to the ground. On 8/10/2019, an employee fractured multiple vertebrae as a result of his vehicle rolling over while driving in a right of way. On 3/12/2020, an employee injured his toe when the jackleg of a pole dolly fell to the ground while he was hooking it up.

[17] SCE interprets the term "incidents" as used in the WSD Guidance to mean serious injuries, as defined in section 6302 of the California Labor Code.

	On 3/24/2020, two employees suffered electrical burns while installing a new switch and a flash occurred. On 4/23/2020, an employee suffered a fractured skull and jaw and a laceration to the head when he fell 25 feet while working on a streetlight when the door of the bucket truck came open.
Contractor Serious Injuries	Ten contract workers were involved in serious injuries since the issuance of the previous safety certification. On 8/29/2019, a contract worker suffered multiple bee stings and developed an allergic reaction while trimming a tree from a bucket truck. On 8/29/2019, a contract worker suffered a partial finger amputation when he lost control of a wooden timber causing his finger to get smashed between the timber and a backhoe outrigger. On 10/8/2019, a contract worker suffered burn injuries after making electrical contact with a 12kV line. On 2/15/2020, a contract worker suffered multiple fractures when he was struck by a third-party vehicle while performing traffic control activities when he stepped into an active traffic lane. On 2/20/2020, a contract worker suffered multiple fractures after falling approximately 25 feet through a roof structure (a skylight that looked similar to the surrounding roof material) into the building below. The worker was walking on a commercial building roof to get access to a pole. On 3/27/2020, a contract worker fell while descending a tree. On 4/14/2020, a contract worker injured his hand after cutting into the tub bucket pressurized hydraulic line while using a reciprocal saw. The pressurized fluid was injected into the worker's finger and palm. On 4/17/2020, a contract worker suffered a fractured vertebra as a result of falling about 12 feet while descending a palm tree. On 4/29/2020, a contract worker was performing vegetation inspections, while walking downhill the worker twisted foot and suffered a hairline stress fracture in her foot. On 5/14/2020, a contract worker suffered multiple injuries after falling approximately 60 feet during hazard tree project work.

e. CPUC investigations and court actions, if any, related to safety violations of the electrical corporation, including ongoing and closed investigations

As the Guidance did not provide a time period with respect to this item, SCE is interpreting it consistent with the time period set forth in subsection d., i.e., "since issuance of the previous safety certification." During this timeframe, SCE has not been the subject of any CPUC formal enforcement investigations nor has any formal enforcement investigation been closed during that time period. SCE also has not received any CPUC citations related to safety violations during that same period. However, the 29 Palms citation, issued in 2018, remains on appeal. Further details on this citation is provided below.

Twentynine Palms Citation[18]

- **Description**: $8 million Amended Citation to SCE for August 1, 2015 Incident in Twentynine Palms (original $300,000 Citation to SCE for August 1, 2015 Incident in Twentynine Palms). Incident involved three injuries to members of the public that allegedly resulted from a cross arm that failed during a weather event causing a low hanging powerline.
- **Citation number:** D.16-09-055 E.18-02-001 amended
- **Citation Date:** Original February 12, 2018 and amended October 3, 2018
- **Status**: Appealed, decision pending

Claims Litigation

SCE provides an overview of claims litigation involving safety matters that were filed since the issuance of the previous safety certification by category and type of injury/damage.

Safety Claims Litigation Matters[19]

Category	Type of Injury/Damage	Total
Electrical Contact	Third Party Injury	5
Outage	Third Party Prop Damage/Third Party Fatality	2
Personal Injury	Trip and Fall	13
SCE Facility Failure	Third Party Injury/Prop Damage/Third Party Fatality	4
T&D Design/Equipment/Operations Failure	Third Party Property Damage (e.g. structure/property fire)	19
Wildland Fire	Third Party Injury/Third Party Prop Damage/Third Party Fatality	11
	Total incidents	**54**

[18] Citation available at: https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Safety/Electric_Safety_and_Reliability/Facility_Safety/Citations/Citation%20D.16-09-055%20E.18-02-001%20Redacted.pdf
Amended citation available at: https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Safety/Electric_Safety_and_Reliability/Facility_Safety/Citations/E20150801-01%20Citation%20AMENDED.pdf

[19] The table comprises of complaints that were filed since the issuance of the previous safety certification (through June 18, 2020). By reporting this information, SCE is not making any representations as to the veracity of the allegations contained in these complaints.

Major Legal Proceedings Pending Prior to Issuance of Previous Safety Certification

SCE's most recent quarterly filing describes legal proceedings related to the Thomas and Koenigstein Fires, the Montecito Mudslides, and the Woolsey Fire where SCE is named as a defendant. SCE provides a brief summary below.[20]

Thomas Fire and Koenigstein Fire Litigation

In December 2017, wind-driven wildfires impacted portions of SCE's service territory, causing loss of life, substantial damage to both residential and business properties, and service outages for SCE customers. As of April 27, 2020, SCE was aware of at least 330 lawsuits, representing approximately 5,000 plaintiffs, related to the Thomas and Koenigstein Fires naming SCE as a defendant. At least four of the lawsuits were filed as purported class actions. The lawsuits allege, among other things, negligence, inverse condemnation, trespass, private nuisance, and violations of the public utilities and health and safety codes

Montecito Mudslides Litigation

In January 2018, torrential rains in Santa Barbara County produced mudslides and flooding in Montecito and surrounding areas. Eighty-one of the 330 lawsuits mentioned under "Thomas Fire and Koenigstein Fire Litigation" above allege that SCE has responsibility for the Thomas and/or Koenigstein Fires and that the Thomas and/or Koenigstein Fires proximately caused the Montecito Mudslides, resulting in the plaintiffs' claimed damages.

Woolsey Fire Litigation

In November 2018, wind-driven wildfires impacted portions of SCE's service territory and caused substantial damage to both residential and business properties and service outages for SCE customers. The largest of these fires, known as the Woolsey Fire, originated in Ventura County and burned acreage located in both Ventura and Los Angeles Counties. As of April 27, 2020, SCE was aware of at least 226 lawsuits, representing approximately 4,400 plaintiffs, related to the Woolsey Fire naming SCE as a defendant. At least two of the lawsuits were filed as purported class actions. The lawsuits allege, among other things, negligence, inverse condemnation, personal injury, wrongful death, trespass, private nuisance, and violations of the public utilities and health and safety codes.

f. Responses to any Wildfire Safety Division requests for remedies as a result of compliance findings from evaluation of the 2019 and 2020 Wildfire Mitigation Plans for remedies

SCE has not received any Wildfire Safety Division compliance findings from evaluation of its 2019 and 2020-2022 Wildfire Mitigation Plans to date.

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[20] For further information, see SCE's quarterly report here: https://edison.gcs-web.com/static-files/decc205b-3828-436e-86a6-eb924f8a191b

3. Section 8389(e)(3) The electrical corporation has established a safety committee of its board of directors composed of members with relevant safety experience

<u>New guidance:</u> To satisfy the requirements of Section 8389(e)(3), the electrical corporation must submit the names and curriculum vitae of the safety committee, highlighting safety expertise.

The SCE Board of Directors believes the safety of employees, contractors and the public is essential to SCE's values and success. As part of its oversight function, the Board engages directly with SCE management on safety topics, including both worker and public safety as well as wildfire mitigation. The Board also established a Safety and Operations Committee in 2013, which maintains joint responsibility with the full Board for safety oversight at SCE. The Safety and Operations Committee meets the requirements of the "Safety Committee" in Section 8389(e)(3) and links oversight of safety to the SCE's operational practices. The Safety and Operations Committee is responsible for oversight of the Company's safety performance, culture, goals, risks and significant safety-related incidents involving employees, contractors or members of the public. These duties are outlined in the Safety and Operations Committee's charter, which is available on SCE's website at https://library.sce.com/content/dam/sce-doclib/documents/aboutus/SCE_SOCharter.pdf.

The Safety and Operations Committee receives regular safety reports from SCE management that include performance metrics, information on serious incidents, and actions to improve employee, contractor and public safety. The Chair of the Safety and Operations Committee then reports to the Board at its next meeting. Specific focus has been given to oversight of the development and implementation of SCE's Grid Safety and Resiliency Program and its Wildfire Mitigation Plans. Other significant focus areas in the past two years have included worker and public safety, SCE's safety culture, safe decommissioning of San Onofre Nuclear Generating Station, the safety and security of SCE's grid assets including cyber-security, safety metrics and benchmarking, and response plans in the event of earthquakes or other natural disasters.

The Safety and Operations Committee is composed of six members of SCE's Board of Directors with relevant safety experience, each of whom meets the independence requirements of the New York Stock Exchange. The Chair of the Safety and Operations Committee is Timothy O'Toole, who has extensive safety experience and has been recognized as a safety leader both in the United States and internationally. He is currently a member of the Board of Directors of the National Safety Council, a non-profit chartered by the United States Congress whose mission is to eliminate preventable deaths at work, in homes and communities and on the road through leadership, research, education and advocacy. Mr. O'Toole has decades of direct management in the rail and bus transportation industry where worker and public safety is a paramount concern. He previously served as

managing director of the London Underground where he led the response to the 2005 terrorist bombing attacks and for which he was awarded a Commander of the Most Excellent Order of the British Empire (CBE).

The other Safety Committee members possess diverse experience in areas important to safety and security including worker safety, public safety, safety culture, cyber-security, risk management, and environmental protection. Additional information with respect to the relevant safety experience of each member of the Safety and Operations Committee is provided in Appendix J in this letter.

4. **Section 8389(e)(4). The electrical corporation has established an executive incentive compensation structure approved by the division and structured to promote safety as a priority and to ensure public safety and utility financial stability with performance metrics, that are measurable and enforceable, for all executive officers, as defined in Section 451.5.**

<u>New guidance:</u> To satisfy the requirements of Section 8389(e)(4) and (e)(6), the electrical corporation must have received approval from the Wildfire Safety Division of its 2020 executive compensation structure.

a. **The Wildfire Safety Division is currently undertaking its review of SCE's and SDG&E's executive compensation filings, which were submitted on January 14, 2020 and January 27, 2020, respectively. The Wildfire Safety Division anticipates disposition of executive compensation filings prior to June 30, 2020.**

SCE's executive compensation structure meets the requirements of AB 1054 in prioritizing safety and utility financial stability. SCE outlined details of that structure in its January 14, 2020 submission to the Wildfire Safety Division (Appendix K). On February 11, SCE supplemented that submission with comments in response to TURN and CEJA (Appendix L).

On February 26, the SCE Compensation and Executive Personnel Committee approved the final 2020 company goals. The committee also established the terms and conditions and target amounts for 2020 annual and long-term incentive awards to executive officers and determined the payout of 2019 annual incentive awards. The committee's February 26 actions are reflected in the tables in Appendix M which are updated versions of the tables included in SCE's February 11 comments.

SCE is fully executing on 2020 company goals and metrics and looks forward to reviewing the WSD's comments on its executive compensation structure for consideration in 2021.

5. Section 8389(e)(5) The electrical corporation has established board-of-director-level reporting to the commission on safety issues

New guidance: To satisfy the requirements of Section 8389(e)(5), the electrical corporation must submit documentation of board of director-level reporting to the CPUC on safety issues, including:

a. Name(s) and position(s);
b. Date the reporting protocol or schedule was established and the details of the reporting protocol; and
c. The date(s) on which the electrical corporation reported to the CPUC pursuant to this portion of the code, the form of report (verbal or written), and the contents of the report.

Since the issuance of SCE's initial safety certification, five meetings with CPUC Commissioners have occurred where non ex-parte safety topics, including training and continuous improvement, were discussed. No written materials were used in these meetings. These meetings at which safety was discussed are summarized in the table below.

In the absence of formal CPUC guidance, SCE seeks to continue meet and greets with Commissioners on issues including safety. Mr. Payne, President and CEO of SCE, and a director on the SCE Board will also continue to make himself available to report on safety issues.

Date/ Duration	Topic	Attendees
October 3, 2019	SCE representative at CPUC Supplier Diversity En Banc Public Hearings	Various including: • Marybel Batjer, CPUC President • Martha Guzman Aceves, CPUC Commissioner • Liane Randolph, CPUC Commissioner • Clifford Rechtschaffen, CPUC Commissioner • Genevieve Shiroma, CPUC Commissioner • Kevin Payne, SCE Board Director and SCE President and CEO
November 8, 2019	Meet & Greet	• Marybel Batjer, CPUC President • Pedro Pizarro, EIX and SCE Board Director and EIX President and CEO • Kevin Payne, SCE Board Director and SCE President and CEO • Laura Genao, Managing Director, SCE
November 8, 2019	Meet & Greet	• Martha Guzman Aceves, CPUC Commissioner • Pedro Pizarro, EIX and SCE Board Director and EIX President and CEO

Date/ Duration	Topic	Attendees
		• Kevin Payne, SCE Board Director and SCE President and CEO • Laura Genao, Managing Director, SCE
May 6, 2020	Meet & Greet	• Liane Randolph, CPUC Commissioner • Pedro Pizarro, EIX and SCE Board Director and EIX President and CEO • Carla Peterman, Senior Vice President, SCE • Laura Genao, Managing Director, SCE
May 6, 2020	Meet & Greet	• Clifford Rechtschaffen, CPUC Commissioner • Pedro Pizarro, EIX and SCE Board Director and EIX President and CEO • Carla Peterman, Senior Vice President, SCE • Laura Genao, Managing Director, SCE

6. Section 8389(e)(6)(A) The electrical corporation has established a compensation structure for any new or amended contracts for executive officers, as defined in Section 451.5, that is based on the following principles:

(i) (I) Strict limits on guaranteed cash compensation, with the primary portion of the executive officers' compensation based on achievement of objective performance metrics
(II) No guaranteed monetary incentives in the compensation structure

(ii) It satisfies the compensation principles identified in paragraph (4)

(iii) A long-term structure that provides a significant portion of compensation, which may take the form of grants of the electrical corporation's stock, based on the electrical corporation's long-term performance and value. This compensation shall be held or deferred for a period of at least three years.

(iv) Minimization or elimination of indirect or ancillary compensation that is not aligned with shareholder and taxpayer interest in the electrical corporation

As described in SCE's January 14, 2020 submission to the WSD, SCE does not have employment contracts or guarantees of pay for executives, and SCE's executive compensation structure complies with AB 1054 (please refer to Appendix K for further details).

7. **Section 8389(e)(7) - The electrical corporation is implementing its approved wildfire mitigation plan. The electrical corporation shall file a tier 1 advice letter on a quarterly basis that details the implementation of both its approved wildfire mitigation plan and recommendations of the most recent safety culture assessment, and a statement of the recommendations of the board of directors safety committee meetings that occurred during the quarter. The advice letter shall also summarize the implementation of the safety committee recommendations from the electrical corporation's previous advice letter filing. If the division has reason to doubt the veracity of the statements contained in the advice letter filing, it shall perform an audit of the issue of concern.**

New guidance: To satisfy the requirements of Section 8389(e)(7), the electrical corporation shall include with its request all Tier 1 advice letters required by Section 8389 (e)(7) submitted since issuance of the initial safety certification along with an explanation of how the information reported in the advice letters complies with Section 8389(e)(7). The electrical corporation shall also submit the results of any Wildfire Safety Division compliance audits of 2019 Wildfire Mitigation Plans, the Section 8389(e)(7) advice letters, or audits associated with 2020 Wildfire Mitigation Plans, if any, along with an explanation of remedies.

Tier 1 advice letters as required by Section 8389(e)(7)

Since the issuance of SCE's initial safety certification on July 25, 2019, SCE has submitted three quarterly Tier 1 advice letters as required by Section 8389 (e)(7) detailing implementation of its approved wildfire mitigation plan, recommendations of the most recent safety culture assessment[21] and a statement of the recommendations of its board of directors' safety committee that occurred during the quarter. To each advice letter submittal SCE attached quarterly WMP Progress Updates describing progress in meeting various WMP goals and metrics. These letters are listed in the table below and included in Appendices N, O and P.

AB 1054 Quarterly Tier 1 Advice Letters

Tier 1 Advice Letter	Date Submitted	Status
Advice 4089-E (Q3 2019)	October 23, 2019	Approved by WSD on December 30, 2019 with an effective date of October 23, 2019

[21] In the absence of a CPUC-led safety culture assessment, SCE has provided in its quarterly advice letter filings an overview of its safety culture, including training and continuous improvement.

Tier 1 Advice Letter	Date Submitted	Status
Advice 4153-E (Q4 2019)	January 31, 2020	Approved by WSD on March 11, 2020 with an effective date of January 31, 2020
Advice 4204-E (Q1 2020)	April 30, 2020	Pending review

WSD compliance audits

SCE has not received any Wildfire Safety Division compliance audit results related to its 2019 Wildfire Mitigation Plan, quarterly Tier 1 advice letters, or its 2020-2022 Wildfire Mitigation Plan.

For all the foregoing reasons, SCE requests prompt issuance of a safety certification as required by Assembly Bill 1054. We appreciate the opportunity to continue working with the CPUC on this important topic and ask that you contact me or our Managing Director of Regulatory Affairs, Laura Genao, should you have any questions regarding this submission.

Sincerely,

/s/ Carla Peterman

Carla Peterman
Senior Vice President
Regulatory Affairs

Attachments

cc: Alice Stebbins, CPUC Executive Director
R.18-10-007 Service List

SCE 2020 Safety Certification Request Documentation

Appendix A. SCE's Health and Safety Policy

Appendix B. SCE's Corporate Health and Safety Programs and Standards

Appendix B.1 Hot Work Program

Appendix B.2 Fall Protection Standard

Appendix B.3 Cause Evaluation Standard

Appendix C. Accidental Prevention Manual

Appendix D. COVID-19 Temporary Workplace Wellness and Physical Distancing Policy

Appendix E. Contractor Safety Management Standard

Appendix F. Environmental Health and Safety Handbook for Contractors

Appendix G. Supplier Code of Conduct

Appendix H. Work Restrictions During Fire Weather Conditions

Appendix I. Pedestrian Traffic Control

Appendix J. Safety and Operations Committee Bios

Appendix K. Executive Compensation Submission of Southern California Edison Pursuant to Assembly Bill 1054 (January 14, 2020)

Appendix L. SCE Comments on TURN and CEJA Comments on Executive Compensation Structure (February 11, 2020)

Appendix M. Updates to Tables Included in SCE's February 11, 2020 Comments

Appendix N. Advice 4089-E, Q3 2019

Appendix O. Advice 4153-E, Q4 2019

Appendix P. Advice 4204-E, Q1 2020

Appendix A.
SCE's Health and Safety Policy

Health and Safety			
POLICY	Effective Date	November 20, 2017	
	Supersedes	Environmental, Health & Safety Policy (v.2 - published 10/6/2014) Reporting Accidents, Injuries and Property Damage and Threats Thereof (v.2)	
	Document ID	EIX-CHS-EIXCOMPL-PL-10	Version 2

POLICY SYNOPSIS

- You must comply with the Corporate Health & Safety (CHS) programs, procedures, and standards that apply to your job to assure the health and safety of one another and members of the public
- Stop work if there is an Imminent Hazard
- Notify your supervisor, manager, Union Representative, Operating Unit (OU) or CHS personnel, or the Edison HelpLine as soon as possible if you are aware of any actual or potential safety hazard or an injury involving any employee, Supplemental Worker or member of the general public

1.0 APPLICABILITY

This policy applies to all employees of Edison International and Southern California Edison (the "Company"). Edison Energy Group employees must follow the applicable provisions in their company's policy manual. Talk with your supervisor or manager if you are unsure on how this policy or the Company's CHS programs, procedures, and standards apply to your job.

2.0 POLICY DETAIL

2.1 Health and Safety

The Company is committed to continually strengthening our safety culture to achieve an injury-free workplace and to protect the public and our customers. The Company expects your continuous commitment to health and safety by:

a. Accepting personal responsibility for safety and encouraging safe behavior in others
b. Acting as a Company steward by providing the public with warnings about the potential hazards of working or otherwise being around or near electrical equipment
c. Supporting the Company's effort to evaluate and improve our health and safety programs

Southern California Edison's Corporate Health and Safety Department administers and publishes Health and Safety (H&S) programs, procedures, and standards as necessary to implement this policy in compliance with applicable H&S laws and regulations. For more specifics on the Company's health and safety requirements that apply to your job, refer to the Accident Prevention Manual, the CHS programs and standards, talk with your supervisor or manager, or contact the CHS Department.

2.2 Stop-Work Responsibility

Everyone has the responsibility to stop work if there is an Imminent Hazard. If you become aware of conditions that could cause harm or threaten safety, you are expected to interrupt the work in progress and provide a suitable warning. If you encounter an Imminent Hazard that cannot be immediately corrected without endangering the safety of others or yourself, you should take all reasonable steps to remove all personnel from the area except for those necessary to safely correct the hazardous condition. With any situation where work has been stopped, you must report the condition to your supervisor or manager or the appropriate OU or CHS personnel as soon as practical who will provide the necessary resources and safeguards to correct the condition.

2.3 Reporting Safety Hazards

If you are aware of any actual or potential safety hazard, you must report the situation to your supervisor, manager, Union Representative, OU or CHS personnel, or the Edison HelpLine as soon as possible.

If you are aware of any injury involving a Company employee or Supplemental Worker, you must follow all safety procedures to prevent further injury without exposing yourself to risk of injury and report the incident to your supervisor or manager, OU or CHS personnel or the Edison HelpLine as soon as possible. Supervisors and managers are required to report the injury via the EHSync Tool available on the Portal.

Close Calls should be reported immediately, but no later than within two business days of the occurrence.

If you are involved in any safety incident, the Company expects you to cooperate with local authorities, if requested. You should not make any statements to members of the general public, affected parties or others outside the Company indicating any opinion about liability or the Company's willingness to make a settlement. Contact your OU or CHS personnel or refer to the Company's Accident Prevention Manual or the Company's CHS Programs and Standards, for more detailed information on what to do when an accident occurs and reporting safety hazards.

3.0 Policy Violations

Any violation of this policy may result in disciplinary action, up to and including termination of employment. If laws are not complied with, there is also the possibility of civil or criminal liability.

4.0 Implementation Documents

Accident Prevention Manual
CHS Programs and Standards

5.0 Definitions

Definitions of important terms used in this policy are listed below. These terms are capitalized in this policy.

Close Call: A Close Call is an event where no personal injury was sustained and no property was damaged, but where, given a slight shift in time or position, damage and/or injury could have easily occurred.

Imminent Hazard: A condition that, without mitigation, presents the potential for immediate personal injury, environmental damage or significant property damage.

Supplemental Worker: A worker, who is not an employee, used to augment or support the Company workforce to meet business needs. There are four classifications of Supplemental Workers - Contingent Workers, Consultant, Contractor, and Professional Services.

6.0 References

Internal References
Corporate Health & Safety Portal

7.0 KEY CONTACTS

Corporate Health and Safety: Dean Yarbrough, PAX#42836 or (626) 633-4836



Appendix B.
SCE's Corporate Health and Safety Programs and Standards

Appendix B.1
Hot Work Program

SCE	CHS	SO	PG	Doc. No	7
				Version	5
Responsible Department: Corporate Health and Safety					
Effective Date		05/03/10			
Supersedes		*NA*			

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL® Company

Hot Work

Corporate Health & Safety
Corporate Program

SCE-CHS-SO-PG-7

Approved by: _____ *Date* *5/4/12*

William M. Messner
Director, Corporate Health and Safety

Approved by: _____ *Date:* *5/4/12*

Steve Brown
Acting Manager, Corporate Health and Safety

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1. Introduction

Southern California Edison (SCE) is committed to meeting and exceeding the requirements of all health, and safety laws and regulations applicable to SCE. We have a comprehensive system that includes programs, procedures, and metrics as well as a variety of tools and resources to ensure that SCE operations are performed in accordance with applicable laws, regulations, and best business practices and provide a safe and healthful workplace for our employees, our contractors, and the public. The Hot Work Program is an integral part of the Corporate Health and Safety (CH&S) management system.

Regulation

Federal and state regulations require that SCE evaluate all Hot Work activities that are capable of initiating fires or explosion and to develop safe measures to prevent and control such hazards. See References.

This corporate Hot Work Program has been developed to meet this requirement, achieve consistent compliance with safety rules, and ensure safe operations at all SCE locations.

Applicability

This program is applicable to all SCE Organizations and SCE sites where Hot Work is performed. Hot Work operations in confined spaces may require additional safeguards and are addressed in the Corporate Confined Space Program. See References.

Hot Work in areas/properties that fall under the jurisdiction of the United States Forest Service shall comply with the requirements of the appropriate agency having jurisdiction.

Site Hot Work Plan is required.

As part of this corporate Hot Work Program, each site shall develop a site Hot Work Plan as described in this document. The site Hot Work Plan shall be maintained at each site and be available for employee review. For unmanned location(s), the site Hot Work Plan will be maintained at the manned location responsible for that site.

Changes to this revision

As part of the annual review process and stakeholder feedback, the following changes were made to this revision:

- Made minor editorial and clarification changes to the text.
- Revised the list of Hot Work activities covered by this program.
- Revised the Hot Work Authorization Process.

- Updated Attachment A, Sample Hot Work Authorization.
- Clarified and added SCE Representative or designated Point of Contact responsibilities.
- Updated cover page to reflect current CH&S organization.

Compliance Date

Because no new requirements were added to this revision, affected SCE organizations and sites are expected to be in compliance with the requirements of Revision 4 (issued 5/03/10) of this program.

2. Responsibilities

Note: SCE organizations may use different functional titles or may not have the specific functional titles used in this document. However, each SCE organization shall ensure that specific individuals are responsible for implementing the requirements of this program. ***Although the responsibilities listed may be delegated to appropriate personnel for performing specific actions, the identified position/entity is accountable for the results.***

The following SCE organizations and personnel are responsible for demonstrating a visible commitment to safety and effective implementation of our health and safety efforts. This commitment is shown by performing the following as part of their job duties.

CH&S Director

- Maintains oversight of the all CH&S initiatives to ensure that SCE meets applicable regulations and incorporates best practices to manage health and safety performance.

CH&S Safety Manager

- Evaluates and interprets changes to applicable regulations to ensure that any required Hot Work Program changes are identified, implemented, and monitored for compliance.
- Maintains the corporate Hot Work Program and supporting documentation.
- Provides technical assistance as requested in developing a site Hot Work Plan.
- Reviews and approves Hot Work Plan training materials.

- Ensures that an annual program review is completed.

Site Environment, Health and Safety (EH&S) Manager

The Site EH&S Manager has ultimate responsibility for implementation of EH&S requirements at the site. Working with the Site EH&S Team, the Site EH&S Manager helps to coordinate EH&S activities across all SCE organizations located at the site.

- Ensures that a site Hot Work Plan is developed, implemented, and maintained as required by this program.

SCE Organization EH&S staff

- Provides technical assistance to a Site EH&S Manager in developing a site Hot Work Plan.
- Ensures that appropriate Hot Work Plan information and training are provided.

Employee in Charge

Note: The Employee in Charge does not have to be an employee working in the supervisor position classification. In this program, the SCE title of Employee in Charge is used instead of the Permit Authorizing Individual (PAI).

- Informs employees of the designated Hot Work areas.
- Establishes fire prevention and suppression procedures for Hot Work performed in work area.
- Complies with Hot Work Authorization process.
- Ensures that employees participate in Hot Work Plan training.
- Authorizes Hot Work activities in non-designated Hot Work areas.
- Ensures the safe operation of Hot Work activities performed under a Hot Work Authorization.
- Assigns a Fire Watch when there is a high fire risk during and after Hot Work activities in non-designated areas.

Hot Work Operator

- Performs Hot Work activities in designated areas.
- Qualifies to perform required Hot Work.

- Obtains a Hot Work Authorization when Hot Work activities are required in non-designated areas.
- Maintains Hot Work Authorization at the job site when required.
- Participates in Hot Work Plan training.
- Reports any potential fire hazards to Employee in Charge.

Fire Watch

- Participates in Hot Work Plan training.
- Understands the site-specific emergency procedures.
- Observes the Hot Work and monitors conditions to ensure that a fire or explosion does not occur as a result of the work performed.
- Stops the work if unsafe conditions develop.
- Focuses on the assignment as a fire watch and does not get distracted with other work activities.

SCE Representative or designated Point of Contact

When a contractor performs a job that involves Hot Work covered by this program the SCE Representative or designated Point of Contact before starting a job shall:

- Discuss the planned project completely, including the type of Hot Work to be conducted and the hazards in the area with the Contractor.
- Identify approved site work locations and designated areas where activities producing Hot Work can be performed safely.
- Review any additional provisions required by the site with the Contractor.
- Review the site-specific emergency procedures.

3. Program Elements

The site Hot Work Plan shall contain the following elements:

- Hot Work activities
- Approved locations for Hot Work activities
- Hot Work Authorization process

- Housekeeping
- Training
- Recordkeeping
- Working with Contractors

The Site EH&S Manager ensures that a site Hot Work Plan is developed, implemented, and maintained as required by this program.

3.1 Hot Work Activities

A site Hot Work Plan shall identify work activities that are capable of initiating a fire or explosion at the site.

Activities may include:

- Arc Welding/Cadwelding
- Oxy-fuel gas welding
- Burning
- Oxygen and Arc cutting
- Grinding
- Open flame soldering
- Brazing
- Thawing pipes
- Torch applied roofing
- Thermal spraying

3.2 Approved Locations for Hot Work Activities

Designated Area

A site Hot Work Plan shall identify approved site work locations and designated areas where Hot Work activities can be performed safely. Hot Work is allowed only in areas that are or have been made fire-safe. A written Hot Work Authorization and Fire Watch are not required for such locations.

Non-designated or Permit-Required Areas

A non-designated or permit-required area is an area that is made fire safe by removing or protecting combustibles from ignition sources. A written Hot Work Authorization is required for such locations.

Nonpermissible Areas

Hot Work shall not be permitted in the following areas:

In areas not authorized by Site Manager or Employee in Charge

In presence of explosive atmosphere (i.e., where mixtures of flammable gases, vapors, liquids, or dusts with air exist)

In sprinklered buildings where sprinklers are impaired, unless special authorization is granted by local fire code official or Authority having Jurisdiction.

In the presence of uncleaned or improperly prepared equipment, drums, tanks, or other containers that have previously contained materials that could develop explosive atmospheres until they have been purged, cleaned, and verified as non-hazardous by a qualified employee/contractor.

In area with an accumulation of combustible dusts that could develop explosive atmosphere.

3.3 Hot Work Authorization (Hot Work Permit) Process

Hot Work in non-designated areas

A site Hot Work Plan shall describe the Hot Work Authorization process used to issue a Hot Work Authorization and to control fire hazards in non-designated Hot Work locations. Attachment A contains a sample Hot Work Authorization.

The site Hot Work Plan shall include the names and/or the job titles of those individuals at the site who are responsible for implementing and issuing the Hot Work Authorization.

Obtain Hot Work Authorization

Hot Work in any non-designated areas should be avoided if possible. However, when the job scope requires Hot Work be accomplished, the Hot Work Operator shall obtain the approval from the Employee in Charge before performing Hot Work.

The Employee in Charge shall perform the following before starting Hot Work activities in non-designated areas:

- Determine site-specific flammable materials, hazardous processes, or other potential fire hazards that are present or likely to be present in or in close proximity to the Hot Work location. Ensure necessary precautions are taken to confine heat, sparks, and slag so that they cannot contact flammable or combustible materials.
- Ensure the Hot Work equipment to be used is in satisfactory operating condition and in good repair.
- Ensure the floor is swept clean for a radius of 35 ft. where combustible materials, such as paper clippings, wood shavings, or textile fibers, are on the floor.

Combustible Floors

- Ensure combustible floors are kept wet, covered with damp sand, or protected by a listed or approved welding blanket, welding pad, or equivalent. To prevent the entrance of sparks, the edges of the covers if used at the floor shall be made tight, including at the point at which several covers overlap to protect a large pile.

- Ensure where floors have been wet down, Hot Work operators operating arc welding equipment or cutting equipment are protected from possible electrical shock.

Exception: Wood floors laid directly on concrete is not required to be wetted.

- Ensure all combustibles are relocated at least 35 ft. in all directions from the Hot Work area. If relocation is impractical, combustibles shall be protected by a listed or approved welding blanket, welding pad, or equivalent.

Nearby Openings or Cracks

- Ensure any openings or cracks in walls, floors, or ducts within 35 ft. of the Hot Work area is covered or sealed with listed or approved fire rated or noncombustible material to prevent the passage of sparks to adjacent areas.

Note: The Employee in Charge can reduce the 35 ft. distances to distances he or she considers fire safe for the intended purpose when the Hot Work is known to be incapable of generating slag, sparks, spatter or similar mobile sources of ignition that is capable of leaving the immediate area of the applied Hot Work. Likewise the Employee in Charge can extend the 35 ft. distance to distances greater where the scope of work and tools used can result in possible travel of slag, sparks, spatter or similar mobile sources of ignition farther than 35 ft.

- Ensure ducts and conveyor systems that might carry sparks to distant combustibles are shielded, shutdown or both.

Combustible Construction

- Ensure walls, partitions, ceilings or roofs of combustible construction are protected by a listed or approved welding blanket, welding pad, or equivalent nearby the Hot Work area.

Side of a wall, partition, ceiling, or roof

- Ensure one of the following criteria shall be met if Hot Work is done on one side of a wall, partition, ceiling, or roof:

  1. Precautions shall be taken to prevent ignition of combustibles on the other side by relocating the combustibles.

2. If it is impractical to relocate combustibles, a fire watch is provided on the side opposite from where the work is being performed.

Note: Hot Work shall not be attempted on a partition, wall, ceiling, or roof that has a combustible covering or insulation, or on walls or partitions of combustible sandwich-type panel construction.

- Ensure Hot Work is not undertaken on pipes or other metal that is in contact with combustible walls, partitions, ceilings, roofs, or other combustible that is close enough to cause ignition by conduction.

Extinguishers

- Ensure fully charged and operable fire extinguishers that are appropriate for the type of possible fire is available immediately at the work area.

Note: If existing hose lines are located within the Hot Work area defined by the permit, they shall be connected and ready for service but shall not be required to be unrolled or charged.

Proximity to Sprinkler head

- Ensure the following measure are taken when Hot Work done in close proximity to a sprinkler head:
  - A wet rag shall be laid over the sprinkler head and then removed at the conclusion of the welding or cutting operation.
  - During Hot Work, special precautions shall be taken to avoid accidental operation of automatic fire detection or suppression systems (e.g., special extinguishing systems or sprinklers).
- Ensure Hot Work operator and nearby personnel are suitably protected against dangers such as heat, sparks, and slag.

Fire Watch Posting Requirement

- Determine and designate Fire Watch if needed.
- A fire watch is needed where Hot Work is performed in a location where other than a minor fire might develop or where the following conditions exist:

1. Combustible materials in building construction or contents are closer than 11 m (35 ft.) to the point of operation.
2. Combustible materials are more than 11 m (35 ft.) away from the point of operation but are easily ignited by sparks.

3. Wall or floor openings within an 11-m (35-ft) radius expose combustible materials in adjacent areas, including concealed spaces in walls or floors.

4. Combustible materials are adjacent to the opposite side of partitions, walls, ceilings, or roofs and are likely to be ignited.

Note: More than one fire watch may be required if combustible materials that could be ignited by Hot Work operation cannot be directly observed by the initial fire watch or hidden from view (other side of the partitions, walls, ceilings, etc.,).

- Sign and issue a Hot Work Authorization for the Hot Work Operator. NOTE: The length of the period for which the Hot Work is authorized or valid will be based on individual site condition.

- Ensure that all individuals involved in the Hot Work operations are aware of the risks involved and understand Hot Work Authorization requirements and emergency procedures in the event of a fire.

- Once the Hot Work has been approved in non-designated area and prior to any work commencing, the Hot Work Operator shall:

  – Visually inspect the Hot Work area and equipment (e.g. welding equipment, shields, personal protective equipment, fire extinguishers) to determine any hazards, review procedures, and identify special precautions.

  – Ensure a valid Hot Work Authorization is available at the Hot Work location.

Note: The precaution checklist noted on the Hot Work Authorization must be in effect prior to starting Hot Work.

During Hot Work Operation

- Comply with the conditions of the Hot Work Authorization.

- Perform Hot Work in a safe manner.

- Cease Hot Work activities and notify Employee in Charge for reassessment if unsafe conditions develop.

- When assigned, the Fire Watch shall:

  – Examine the Hot Work area to ensure it is clean and free of combustible materials.

- Have a fire extinguisher readily available and be trained in its use and limitations.
- Watch for fires, smoldering material, or other signs of combustion and extinguish them only when obviously within the capacity of the available fire extinguishing equipment or activate the emergency procedures in the event of an uncontrolled fire.
- Stop Hot Work activities if unsafe conditions develop.

Attachment B contains a sample Hot Work Fire Watch Checklist.

Post Hot Work and Closeout

- After the completion of Hot Work operation, the Hot Work Operator shall:
  - Terminate the Hot Work Authorization when the assigned Hot Work is completed and Hot Work area is rendered safe.
  - Return the terminated or expired Hot Work Authorization to the Employee in Charge.
- The Fire Watch, when assigned, shall continue to monitor the Hot Work area ½ hour after the completion of Hot Work operation to detect and extinguish smoldering fires.

Note: The Employee in Charge can extend the duration of the fire watch if the fire hazards warrant this extension.

- The Employee in Charge shall:
  - Reinspect the Hot Work area ½ hour after the completion of Hot Work operation to detect and extinguish smoldering fires, where fire watch is not required.
  - Ensure that the Hot Work area is clean and all Hot Work materials are stowed away properly including any special precautions taken (e.g., when working in close proximity to sprinkler head) are removed and system restored back to normal operating condition.
  - Ensure the terminated or expired Hot Work Authorization is properly filed with the appropriate SCE organization.

3.4 Housekeeping

A site Hot Work Plan shall identify housekeeping procedures used in the designated Hot Work areas to control the accumulation of flammable and combustible materials.

3.5 Training

The site Hot Work Plan shall identify Hot Work Plan training for site personnel performing Hot Work tasks, serving as a fire watch, or issuing Hot Work Authorizations.

At a minimum, this training shall:

- Review the site Hot Work Plan with the employee before initial assignment to perform Hot Work, including the Hot Work Authorization process.
- Inform assigned employees about the roles and responsibilities of the Employee in Charge, Hot Work Operator, and Fire Watch.
- Review the inherent job risks related to the Hot Work equipment.
- Review emergency plans and procedures.

3.6 Recordkeeping

The site Hot Work Plan shall identify Hot Work recordkeeping requirements. At a minimum address the following:

- Hot Work Authorization records
- Training records in SCE training database

Hot Work Authorizations shall be retained for 1 year following completion of the project/work.

3.7 Working with Contractors

Note: Contractors performing Hot Work should comply with their employer's Hot Work Program and ensure the work procedures do not conflict with the objectives of the SCE Hot Work Program.

SCE Representative or designated Point of Contact

When a contractor performs a job that involves Hot Work covered by this program the SCE Representative or designated Point of Contact before starting a job shall:

- Discuss the planned project completely, including the type of Hot Work to be conducted and the hazards in the area with the Contractor.
- Identify approved site work locations and designated areas where activities producing Hot Work can be performed safely.
- Review any additional provisions required by the site with the Contractor.
- Review the site-specific emergency procedures.

Contractors

Contractors, service representatives and others performing Hot Work at an SCE facility must comply with the following:

- Check in and inform an SCE Representative or designated Point of Contact of the intent to perform work that may include Hot Work.
- Notify the SCE Representative or designated Point of Contact that work activities may involve Hot Work in non-designated areas.
- Comply with any additional provisions required by the SCE Representative or designated Point of Contact.
- Protect combustible materials from fire hazard.
- Store, dispense, and use flammable and combustible liquids safely and in accordance with applicable regulations.
- Report all fires extinguished and use of SCE fire extinguishers to the SCE Representative or designated Point of Contact.
- Check out and inform the SCE Representative or designated Point of Contact after completion of Hot Work activities.

4. Performance Monitoring

The CH&S Manager or designee shall conduct an annual review of the program. This review includes assessing any new regulatory requirements or changes to existing regulatory requirements and identifying any opportunities for improvements to the program.

5. Definitions

Authority having Jurisdiction	An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.
Designated Area	A permanent fire-safe location designed or approved for Hot Work operation.
Employee in Charge/Permit Authorizing Individual	The individual designated by management to authorize Hot Work.
Hot Work	Work involving burning, welding, or a similar operation that is capable of initiating fires or explosions.
Hot Work Authorization	A document issued by the authority having jurisdiction to approve the performance of Hot Work in non-designated areas.
Listed	Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.
Qualified Employee	An employee who by reason of experience or instruction is familiar with the operation to be performed and the hazards involved.
Welding Blanket	A heat –resistant fabric designed to be placed in the vicinity of a Hot Work operation. Intended for use in horizontal applications with light to moderate exposures such as that resulting from chipping, grinding, heat treating, sandblasting, and light horizontal welding. Designed to protect machinery and prevent ignition of combustibles such as wood that are located adjacent to the underside of the blanket.
Welding Curtain	A heat –resistant fabric designed to be placed in the vicinity of a Hot Work operation. Intended for use in vertical applications with light to moderate exposures such as that resulting from chipping, grinding, heat treating, sandblasting, and horizontal welding. Designed to prevent sparks from escaping a confined area.

Welding Pads — A heat –resistant fabric designed to be placed directly under Hot Work operation such as welding or cutting. Intended for use in horizontal applications with severe exposures such as that resulting from molten substances or heavy horizontal welding. Designed to prevent ignition of combustibles that are located adjacent to the underside of the pad.

6. References

Regulation

State

Title 8 of the California Code of Regulations, Section 4848, Fire Prevention and Suppression Procedure

http://www.dir.ca.gov/title8/4848.html

Title 24 of the California Fire Code, Chapter 26, Welding and Other Hot Work.

Federal

Federal Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910.252 Welding, Cutting, and Brazing

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9853&p_table=STANDARDS

National Fire Protection Association (NFPA)

NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, 2009 Edition

http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=51B&cookie%5Ftest=1

American National Standards Institute (ANSI)

ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes, 1994

SCE Edison Portal

The following documents may be found on the Environment, Health and Safety Portal page at (Safety & Environment>Environment, Health and Safety>Topics):

- Hot Work Authorization
- Hot Work Fire Watch Checklist
- Corporate Confined Space Program, EHS-CS-PG-017
- Corporate Environmental, Health and Safety Handbook for Contractors, EHS-CP-HB-001

7. Review/Revision History

Rev	Date	Description of Revision	Contact
0	03/07/06	Initial distribution.	T. Roberts
1	05/01/06	Editorial review	T. Roberts
2	07/01/07	Changed contractor responsibilities; deleted Employee-in-Charge	W. Messner
3	12/01/08	Minor editorial and clarification changes made based on annual review and stakeholder feedback. Updated approval signatures and references to the Edison Portal. Revised responsibilities Employee in Charge, Hot Work Operator, and Fire Watch. Incorporated federal OSHA Standard in the reference section. For unmanned location(s), added clarification that current copies of the site Hot Work Plan covered by this program will be maintained at the manned location responsible for that site.	W. Messner
4	12/01/09	Minor editorial and clarification changes made based on annual review and stakeholder feedback. Incorporated ANSI standard. Included precautions and clarifications of the Hot Work Authorization Process. Updated Attachment A.	W. Messner
5	02/13/12	Minor editorial and clarification changes made based on annual review and stakeholder feedback. Revised the list of Hot Work activities and the Hot Work authorization process. Updated Attachment A. Added SCE Representative or designated Point of Contact responsibilities. Updated cover page to reflect current CH&S organization.	N. Bashar

8. Attachments

Attachment A. Sample Hot Work Authorization

Attachment B. Sample Hot Work Fire Watch Checklist

Attachment A. Sample Hot Work Authorization

HOT WORK PERMIT

BEFORE INITIATING HOT WORK, ENSURE PRECAUTIONS ARE IN PLACE!
MAKE SURE AN APPROPRIATE FIRE EXTINGUISHER IS READILY AVAILABLE!

This Hot Work Permit is required for any activities that are capable of initiating a fire or explosion. Activities may include: Arc Welding/Cadwelding, Oxy-fuel gas welding, Burning, Oxygen and Arc cutting, Grinding, Open flame soldering, Brazing, Thawing pipes, Torch applied roofing, Thermal spraying, etc.

INSTRUCTIONS
Verify precautions listed at right (or do not proceed with the work).
DATE:
LOCATION:
WORK TO BE DONE:
The employee performing hot work in non-designated hot work areas must obtain the approval from the Employee in Charge prior to performing hot work.
NAME OF PERSON DOING HOT WORK:
I verify the above location has been examined, the precautions checked on the Precautions Checklist have been taken to prevent fire, and permission is authorized for work.
SIGNED: Date/Time

Precautions Checklist

- ❑ Available sprinkler, hose streams, and extinguishers are in service/operable.
- ❑ Hot work equipment in good repair.
- ❑ Floors swept clean.
- ❑ Fire-resistant tarpaulins suspended beneath work.
- ❑ Construction is noncombustible and without combustible covering or insulation.
- ❑ Combustibles on other side of walls moved away.
- ❑ Enclosed equipment cleaned of all combustibles.
- ❑ Containers purged of flammable liquids/vapors.
- ❑ Fire watch is trained in use of this equipment and in sounding alarm.
- ❑ Fire watch may be required for adjoining areas, above, and below.
- ❑ Area protected with smoke or heat detection.

Fire watch required: ☐ Yes ☐ No

Permit Expires:
Date:_____
Time:_____ AM/PM

Attachment B. Sample Hot Work Fire Watch Checklist

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HOT WORK FIRE WATCH

A fire watch is need for all hot work activities unless the hot work area does not have fire hazards or combustible exposures.

BEFORE WORK STARTS

The fire watch must:

- Have fire-extinguishing equipment available.
- Be trained in the use of available fire-extinguishing equipment.
- Be familiar with the procedures for sounding an alarm in the event of a fire.

DURING THE WORK

The fire watch will:

- Watch for fires in the exposed areas.
- Extinguish spot fires.
- Immediately sound an alarm in the event of a fire.

The fire watch may be assigned other work duties while in the hot work area; however, they must be vigilant in watching for fires.

WHEN WORK IS COMPLETED

The fire watch must:

- Inspect work area and potentially affected surrounding area for fire, fire damage, or potential fro fire.
- Reactivate smoke and fire detectors that were disabled because of the hot work.

Appendix B.2
Fall Protection Standard

SCE	EHS	SAFETY	ST	Doc. No	4
				Version	2
	Eff. Date	October 14, 2015			
	Supersedes	Fall Protection (v.1)			

Fall Protection

Corporate Environmental, Health and Safety

Corporate Standard

SCE-EHS-SAFETY-ST-04

Approved by: *Date:* *3/20/15*

Don Neal
Director, Corporate Environmental, Health and Safety Department

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1. Introduction

Purpose

The purpose of this standard is to ensure that Southern California Edison (SCE) facilities, remote sites, and employees manage fall protection in accordance with all applicable laws and regulations. This standard defines requirements for fall protection, specifications for personal Fall Protection Systems, and training necessary to reduce the potential for fall incidents.

Scope and Applicability

This standard applies to workers who are working at elevated heights which expose workers to fall hazards. This standard establishes minimum requirements for fall protection and shall be implemented at all applicable sites, regardless if work is performed on or off SCE property. SCE organizations may elect to establish requirements that go beyond the minimum requirements contained within this standard.

Compliance Date

Affected SCE organizations and sites are expected to be in compliance with the requirements of the standard by **April 30, 2015**.

2. Responsibilities

SCE organizations may not have the specific functional titles as used in this document. However, each SCE organization shall identify specific individuals who are responsible for implementing the requirements of this standard.

Although the responsibilities listed may be delegated to appropriate personnel for performing specific actions, the identified position/entity is accountable for the results.

Authorized Person (Worker)

- Participates and completes all required fall protection and rescue training prior to working at elevated locations (e.g., trained to the level of an Authorized Person)
- Uses 100% fall protection, unless specifically exempted by this standard. If Conventional Fall Protection is not used, the worker shall follow the written Site Specific Fall Protection Plan
- Uses equipment that has been properly inspected and is in good condition per manufacturer's inspection criteria

Competent Person

- Understands and is knowledgeable of Fall Protection Systems and equipment (e.g., trained to the level of a Competent Person)
- Implements, supervises, and monitors Site Specific Fall Protection and Rescue Plans
- Conducts a Fall Hazard Assessment when workers are exposed to fall hazards covered by this standard

	• Oversees the installation of approved Fall Protection Systems • Notifies the Organization's EHS Staff and Corporate Environmental, Health and Safety (CEHS) when having to design a Fall Protection System or if the design creates additional hazards • Inspects Personal Fall Arrest Systems (PFAS) at least twice a year in accordance with the manufacturer's specifications • Maintains inspection records according to Section 5 of this standard
Corporate Safety Programs Manager	• Maintains oversight of the Fall Protection Standard • Provides the necessary guidance and technical expertise needed to implement this standard • Maintains knowledge of applicable fall protection standards and regulations • Reviews the Fall Protection Standard annually, upon a regulatory change(s), or at other times as appropriate
OU Management	• Ensures the implementation of this standard • Identifies OU personnel to perform the various roles required by this standard (e.g., Qualified Person, Competent Person)
Qualified Person	• Understands and is knowledgeable of Fall Protection Systems and equipment (e.g., trained to the level of a Qualified Person) • Develops, approves, and maintains the Site Specific Fall Protection Plan **Note:** A written Site Specific Fall Protection Plan must be developed when Conventional Fall Protection is impractical or creates a greater hazard. • Develops, approves and maintains the site Rescue Plan when PFASs, Personal Fall Restraint Systems (PFRS) and Positioning Device Systems (PDS) are used
Safety Monitor	• Recognizes and warns workers of fall hazards when working on elevated walking/working surfaces
SCE Organization (OU) EHS Staff	• Provides technical guidance and assistance in implementing the requirements of this standard at the OU level
Worker in Charge	• Understands and is knowledgeable of Fall Protection Systems and equipment (e.g., trained to the level of a Worker in Charge) • Ensures workers are properly wearing their fall protection • Ensures workers are properly trained in fall protection

- Identifies the Competent Person and Safety Monitor when a Site Specific Fall Protection Plan is required by the Fall Hazard Assessment
- Conducts Job Hazard Analysis (JHA) and/or Tailboard Briefing with affected workers to identify and control all fall hazards
- Ensures only Authorized Persons are allowed in areas designated for fall protection (e.g., Controlled Access Zones)
- Ensures that passers-by are protected from falling equipment/ materials while performing work at heights
- Inspects the worksite for fall hazards periodically
- Ensures each contractor that they supervise has a site specific fall prevention program/plan in place or has access to SCE's Site Specific Fall Prevention Plan, when exposed to fall hazards

3. Requirements

This section summarizes requirements of the Fall Protection Standard. For additional guidance, consult the Fall Protection Manual.

3.1 SCE Facilities and Remote Sites

- A Competent Person shall conduct a Fall Hazard Assessment when workers are exposed to fall hazards that meet or exceed the thresholds listed in Sections 3.2, 3.3, and 3.4 of this standard. An example Fall Hazard Survey and Assessment Checklist Form is contained in the Fall Protection Manual. The Competent Person must utilize these templates, or a methodology that involves an approach comparable to those templates. The following are considered acceptable fall hazard assessment tools, provided they contain an approach comparable to the process and questioning contained within the Fall Protection Manual:
  - Tailboards
  - Job Hazard Analysis
  - Other assessment tools approved by the OU and Corporate Safety
- A Qualified Person shall develop a written Site Specific Fall Protection Plan when Conventional Fall Protection is not possible or feasible. When the following systems are used a Site Specific Fall Protection Plan does not need to be developed or maintained on site:
  - Guardrails
  - PFAS
  - PFRS

  - PDS
- A Fall Protection System approved by the Competent Person shall be used at all times when working from elevated surfaces that exceed height thresholds found in Sections 3.2, 3.3, and 3.4 of this standard
- If a Fall Protection System must be designed or the design creates additional hazards, the Competent Person shall contact the Organization's EHS Staff and CEHS in order to ensure consistency in the approach of designing the system
- A Competent Person shall inspect PFASs twice annually. Please see example inspection checklist, contained in the Fall Protection Manual, for guidance
- PFASs shall be removed from service when an in service load happens (e.g., a worker falls and utilizes a PFAS, or loading equivalent to that received in a drop test.)
- A Rescue Plan shall be developed by a Qualified Person whenever workers have elected to use either of the following: PFAS, PFRS or a PDS
- The Site Specific Fall Protection Plan, which shall be developed if Conventional Fall Protection cannot be used, must be maintained at the job site while work is being performed and, at a minimum, contain the following:
  - Each location where Conventional Fall Protection cannot be used
  - Reason(s)why Conventional Fall Protection is not feasible or would create a greater hazard
  - Measures that will be taken to reduce or eliminate the fall hazard
  - A statement which provides the name or other method of identification for each worker (e.g., job title) who is designated to work in the Controlled Access Zones

3.2 General Applications

This section applies to all work activities, unless specifically covered in Sections 3.3 or 3.4 of this standard.

3.2.1 Walking / Working Surfaces

3.2.1.1 Unprotected Sides or Edges that are Buildings (e.g., roof opening, balconies, porches, platforms ramps etc.)

- Workers on walking/working surfaces with an Unprotected Side or Edge 30 inches or more above a lower level of a building or building structure, shall be protected from falls by Conventional Fall Protection or a Fall Protection Plan

- If guardrails are used, the railing shall be 42 inches high and provided with a toeboard where the platform, runway, or ramp is 6 feet or more above places where workers normally work or pass and the lack of a toeboard could create a hazard from falling tools, material, or equipment

3.2.1.2 Unprotected Side or Edges that are not Buildings (e.g., truck bins, etc.)

- Workers on walking/working surfaces that are not buildings or building structures with an Unprotected Side or Edge 4 feet or more above a lower level shall be protected from falls by Conventional Fall Protection or a Fall Protection Plan
- Where overhead clearance prohibits installation of a 42-inch guardrail, a lower rail or rails shall be installed. The railing shall be provided with a toeboard where the platform, runway, or ramp is 6 feet or more above places where workers normally work or pass and the lack of a toeboard could create a hazard from falling tools, material, or equipment
- Workers shall be protected at any height from falling into dangerous equipment by Conventional Fall Protection
- Employees transitioning between the ground and the aerial bucket are exempt from the requirement of fall protection

3.2.1.3 Floor Openings, Floor Holes, and Roofs

- Workers shall guard every floor and roof opening by a cover, a guardrail, or equivalent on all open sides (e.g. roof top hatches, skylights, and other similar Openings).
  - While the cover is not in place, the Opening shall be constantly attended by someone or shall be protected by guardrails
  - Toeboards shall be installed around the edges at Openings where persons may pass below the Opening
- Floor holes, through which materials or tools may fall and create a hazard or through which parts of a person's body may contact dangerous moving parts, shall be completely covered
- Floor holes, through which transmission equipment passes, shall be guarded by toeboards
- Workers required to work at locations where there is a routine need for any worker to approach within 6 feet of the edge of the roof shall ensure guardrails are installed
  - For the purpose of this requirement, routine need means more than four times a year and intermittent work means work not exceeding four times a year

  - When intermittent work is being done, other Conventional Fall Protection may be provided in lieu of guardrails, provided that it is determined to be an approved method based upon the assessment conducted by the Competent Person
  - Guardrails shall be provided along the roof edge extending at least 6 feet beyond the areas occupied by persons accessing, servicing or repairing permanently-mounted machinery and/or equipment

- Workers approaching within 6 feet of any skylight shall be protected from falling through the skylight or skylight Opening by one of the following methods:
  - Skylight screens
  - Guardrails
  - Fall Protection Systems
  - Covers installed over the skylights
  - Fall Protection Plan -- when the previous methods are impractical or create a greater hazard

3.2.1.4 Service Pits and Yard Surface Openings

Workers near service pits or yard surface Openings that present a fall hazard shall adhere to the following requirements.

- Unused portions of service pits and pits not in actual use shall be covered or protected by guardrails using moveable posts or stanchions, chain rails or other guardrails which will provide equivalent protection
- Permanent yard surface Openings such as pits or sumps shall be guarded
- Trench or conduit covers and their supports, when located in plant roadways, shall be designed to carry a truck rear-axle load of at least 20,000 pounds
- Manhole covers and their supports, when located in plant roadways, shall comply with local standard highway requirements if any; otherwise, they shall be designed to carry a truck rear-axle load of at least 20,000 pounds

3.2.1.5 Exceptions

The following are **exceptions** to Section 3.2.1 - Walking / Working Surfaces. When the following exceptions are met, workers may access elevated surfaces without a Fall Protection System (e.g., guardrails, fall arrest systems) upon completion of a Fall Hazard Assessment.

Scaffolding

- When erecting or dismantling supported scaffolds when it is determined by a Competent Person that providing fall protection is not feasible or creates a greater hazard

Platforms and Runways

- Runways used exclusively for oiling, adjusting or otherwise maintaining shafting or other machinery may have the guardrail on the side adjacent to the machinery omitted provided that additional guarding is provided
- Stationary elevated platforms secured to buildings or structures used exclusively for the service and maintenance of overhead bridge cranes and similar mobile equipment may be equipped with removable railings in lieu of guardrails on the side adjacent to the machinery provided such railings are secured against falling when they are not serving as a protective railing. In existing installations where clearance prohibits railings on the outside of the platform, railings shall be permitted on the building side to serve as handholds
- Portable platforms, portable or fixed work-stands, where used in close quarters which would make the installation of guardrails impracticable, may be provided with removable or hinged railings which can be either removed or swung out of the way during such work. Toeboards may not be required on portable or fixed platforms where the nature of the work requires the workers to sit on the edge of the platform

Loading and Storage Platforms

- Portions of loading or storage platforms which are used primarily for loading or unloading trucks used for cargo handling
- Open-sided platforms or floors used for storage of lumber or other materials may be guarded with movable single rails, sliding panels, gates or other barriers provided they are of strength and design equivalent to guardrails
- Open sides of storage platforms less than four feet wide, or portions thereof which are loaded and unloaded exclusively by means of stackers or lift trucks handling pallet supported loads

Work of a Short Duration with limited exposure

- When the work is of Short Duration, has limited exposure to fall hazards, and the time involved in rigging and installing the safety devices equals or exceeds the time required to perform the tasks involved, these provisions may be temporarily suspended provided that adequate risk control is recognized and maintained, as decided by a Competent Person. Examples of these work activities are

measuring, roof inspections, and electrical/mechanical equipment inspection

Mobile Equipment

- On mobile vehicles and equipment, where the design or work processes make guardrails impractical, the use of steps and attached handholds or structural members which allow the user to have a secure hand grasp shall be permitted

3.2.2 Fixed Ladders

Workers using fixed ladders must utilize fall protection, unless the ladder is less than 20 feet in length, or is equipped with landings for workers to rest at 20 foot intervals, or have ladder cages throughout the entire length of the fixed ladder.

3.2.3 Portable Ladders

- The worker shall climb or work with the body near the middle of the step or rung and shall not overreach from this position.
- When necessary to avoid overreaching, the worker shall descend and reposition the ladder
- When it is not practical to work with the body near the middle of the step or rung, the ladder shall be secured to the top support, and the worker shall be protected by a PFAS in accordance with this standard

3.2.4 Working from an Aerial Device

- Prior to the operation of the bucket or platform, workers shall wear a full Body Harness and be attached to an engineered anchorage point on the aerial device by a shock absorbing or retractable lanyard
- Snap-Hooks and Connectors shall be of the self-locking type
- Working or standing on any rail of an aerial device is prohibited. All work shall be performed from the floor of the platform

3.2.5 Working over Water

- Workers shall to wear U. S. Coast Guard approved personal flotation devices (PFD) that are marked or labeled Type I PFD, Type II PFD, or Type III PFD, or a U.S. Coast Guard approved Type V PFD that is marked or labeled for use as a work vest for commercial use or for use on vessels
- Workers shall have U. S. Coast Guard approved 30-inch ring buoys with at least 150 feet of 600 pound capacity line that is readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet

- One or more boats, either manually or power-operated, shall be provided and readily accessible at all times

3.3 Construction Applications

This section applies to all construction activities, unless specifically covered in section 3.4 of this standard. The following work activities are examples of construction activities: power plant outages, building structures or buildings, altering buildings or structures, roof work, roadway paving, excavations, demolitions, and large scale painting jobs.

3.3.1 Fall Protection Requirements

Approved Fall Protection Systems, such as PFASs, PFRSs, or PDSs, shall be worn by those workers exposed to falling in excess of 7 ½ feet from the perimeter of a structure, Unprotected Sides, and Leading Edges

Note: Nevada and Arizona requires workers to be protected at 6 feet

3.3.2 Wall Openings

- Workers who are positioned on, at, above, or near wall openings from which there is a drop of 4 feet and the bottom edge of the wall opening is less than 3 feet must be protected from falls by standard guardrails or intermediate rail
- A standard toeboard or an enclosing screen is required in addition when the bottom of the wall opening is less than 4 inches above the working surface

3.3.3 Excavations - Wells, Pits, or Shafts

- Workers on walkways or bridges shall be protected by standard guardrails when workers or equipment are required or permitted to cross over excavations over 6-feet in depth with a width greater than 30-inches
- Workers in excavations shall have an adequate physical barrier
- Workers conducting work near wells, pits, and shafts that present a fall hazard shall have guards, barricades or covers installed

3.4 Power Generation, Transmission, Distribution and Telecommunication

This section applies to work from poles, towers, or similar structures.

3.4.1 Poles, Towers and Similar Structures

- Workers shall use fall protection when climbing or changing location on poles, towers, or similar structures at or above 4 feet
  - Exception: Point to point travel by a Qualified Person (i.e.,

Qualified Climber) is allowed, unless conditions such as ice, high winds, design of the structure, or other condition (e.g., chemical contaminants) prevents the worker from gaining a firm hand or foothold while traveling

- Workers shall use a Fall Protection System (e.g., PFAS, PDS), if other fall protection methods have not been provided
- When equipped, ladders shall be used by workers for ascending and descending structures, except where work assignments or conditions dictate otherwise
- When a rope grab or cable grab are available and operational, they shall be used to ascend and descend a structure
- In situations where a safe climbing device is not available or not operational and climbing has been determined necessary, Qualified Climbers will be allowed to climb while maintaining one hundred percent attachment to a suitable anchorage point while using a fall arrest or a work positioning system

4. Training

Initial fall protection training shall be provided, prior to the commencement of work, for any worker who performs work subject to this standard. Training shall be developed and maintained by the affected work groups and/or organization and shall be consistent with the manufacturer's recommendations for the equipment used. At a minimum, training shall include the following elements:

- Recognition of the fall hazards and requirements to eliminate or mitigate those hazards
- Rescue provisions, including emergency protocols, situations where rescue may be required, and hazards associated with suspension trauma
- Proper use, inspection, and care of fall protection equipment
- Acceptable points of Anchorage

For additional guidance, consult the Fall Protection Manual.

5. Recordkeeping

The following documentation shall be kept on file for a minimum of one year:

- Site Specific Fall Protection Plans
- Rescue Plans

- Periodic site inspections
- Reviews of the Site Specific Fall Protection Plans
- Fall arrest inspection data (e.g., inspections conducted twice annually)
- All fall protection and rescue training documentation shall be maintained in the workers training and qualifications file

6. Definitions

Anchorage	A secure point of attachment for Lifelines, Lanyards, or Deceleration Devices and capable of supporting at least 5,000 pounds per worker.
Authorized Person	A qualified worker designated by the supervisor/manager to perform specific duties under the conditions existing.
Body Belt (Positioning Device System (PDS))	A strap with means both for securing it about the waist and for attaching it to a Lanyard for positioning. Body Belts used in conjunction with PFRSs or PDSs shall limit the maximum arresting force on a worker to 900 pounds. Note: PDSs shall not be used as a form of fall arrest.
Body Harness	Straps that may be secured about the person in a manner that distributes the fall-arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a means for attaching the harness to other components of a PFAS. A Body Harness shall limit maximum arresting force on a worker to 1,800 pounds.
Competent Person	A person capable of identifying existing and predictable hazards in the surroundings or working conditions which are hazardous or dangerous to workers and who has the authorization to take prompt corrective action to eliminate them. The Competent Person may or may not also be designated as a Qualified Person.
Connector	A device that is used to couple (connect) together parts of a PFAS or PDS.
Conventional Fall Protection	A Fall Protection System (i.e., Guardrail System, safety net system, PFAS, PFRS or PDS) used by workers when exposed to fall hazards.
Controlled Access Zone	A clearly marked work area in which certain types of work may take place without the use of Conventional Fall Protection systems (e.g., guardrail, PFAS, or safety net) to protect the workers working in the zone as part of a written fall protection plan.

Deceleration Device	Any mechanism such as rope grab, rip-stitch Lanyard, specially-woven Lanyard, tearing or deforming Lanyards, or automatic Self-Retracting Lifelines/Lanyards which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limits the energy imposed on an worker during fall arrest. A Deceleration Device shall bring a worker to a complete stop and limit maximum Deceleration Distance a worker travels to 3.5 feet and have sufficient strength to withstand twice the potential impact energy of a worker free falling a distance of 6 feet, or the free fall distance permitted by the fall arrest system, whichever is less.
Deceleration Distance	The additional vertical distance a falling person travels, excluding Lifeline elongation and free fall distance, before stopping, from the point at which a Deceleration Device begins to operate.
Fall Protection System	A system designed to protect workers from the risk of falls when working at heights of four feet or greater.
Guardrail System	A barrier erected to prevent workers from falling to lower levels. PFASs shall not be attached guardrails.
Hole	A void or gap 2 inches or more in the least dimension in a floor, or roof, or other walking/working surface.
Lanyard	A flexible line of rope, wire rope, or strap that generally has a Connector at each end for connecting the Body Belt or Body Harness to a Deceleration Device, Lifeline, or Anchorage. Lanyards shall have a minimum breaking strength of 5,000 pounds.
Leading Edge	The edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking or formwork sections are placed, formed, or constructed.
Lifeline	A component consisting of a flexible line for connection to an Anchorage at one end to hang vertically (vertical Lifeline), or for connection to Anchorage's at both ends to stretch horizontally (horizontal Lifeline) and that serves as a means for connecting other components of a PFAS to the Anchorage. Lifelines shall be protected against being cut or abraded. Self-Retracting Lifelines which automatically limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the Lifeline or Lanyard in the fully extended position.
Opening	A gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition, through which workers can fall to a lower level.
Personal Fall Arrest System (PFAS)	An assembly of components and subsystems used to arrest a person in a free fall. A system must always include a full Body Harness and

	connecting means between the harness and an Anchorage or anchorage Connector. Such connecting means may consist of a Lanyard, energy absorber, fall arrestor, Lifeline, Self-Retracting, Lanyard or suitable combination of these.
Personal Fall Restraint System (PFRS)	A Fall Protection System that prevents the user from falling any distance. The system is comprised of either a Body Belt or Body Harness, along with an Anchorage, Connectors and other necessary equipment. The other components typically include a Lanyard, and may also include a Lifeline and other devices.
Positioning Device System	A Body Belt or Body Harness system rigged to allow a worker to be supported on an elevated vertical surface, such as a wall, tower, or pole, and work with both hands free while leaning backwards. Note: PDSs are only approved for vertical travel.
Qualified Climber	A worker who by virtue of physical capabilities, training, work experience and job assignment, is authorized by the employer to routinely climb fixed ladders, step belts or similar climbing device attached to structures
Qualified Person	Determined by training, knowledge, and experience with personnel performing work at heights. A Qualified Person, in addition to training, knowledge, and experience, is designated by supervision/management. The Qualified Person may or may not also be designated as a Competent Person.
Safety Monitor	A Competent Person who is designated in the fall protection plan as responsible for recognizing and warning workers of fall hazards. The monitor must be on the same level and be able to see and talk with the person(s) being monitored. The monitor must be able to see and communicate with all the workers being monitored.
Self-Retracting Lanyard	A Deceleration Device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under minimal tension during normal worker movement and which, after onset of a fall, automatically locks the drum and arrests the fall. Self-Retracting Lanyards which automatically limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the Lifeline or Lanyard in the fully extended position.
Short Duration	When the work is of Short Duration (i.e., non-repetitive) and limited exposure and the hazards involved in rigging and installing the safety devices equals or exceeds the hazards involved in the actual construction, these provisions may be temporarily suspended, provided adequate risk control is recognized and maintained under immediate, competent supervision.
Site-Specific Fall	A site specific written plan that is required when the use of conventional

Protection Plan	fall protection methods (e.g., harness and Lanyard) are not used.
Snap Hook	A Connector consisting of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released automatically closes to retain the object.
Unprotected Side and Edges	Any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or standard guardrail or protection provided.
Worker in Charge	Any worker who is responsible for work procedures and accident prevention.

7. References

Federal Regulation	29 CFR 1910.23 Guarding Floor and Wall Openings and Holes 29 CFR 1926.500 Fall Protection Scope Definitions 29 CFR 1926.501 Fall Protection Duty 29 CFR 1926.502 Fall Protection System Criteria and Practices 29 CFR 1926.503 Fall Protection Training 29 CFR 1910.269 Fall Protection
State Regulation	8 CCR 1669-1671.2, Fall Protection 8 CCR 1632, Floor, Roof, and Wall Opening to be guarded 8 CCR 2320.8 Fall Protection 8 CCR 2940.6 Tools and Protective Equipment 8 CCR 3209, Standard Guardrails 8 CCR 3210, Guardrails at Elevated Locations 8 CCR 3212, Floor Openings, Floor Holes and Roofs 8 CCR 3270-3280, Access, Work Space, and Work Areas
Other	ANSI/ASSE Z359.2-2007 - Minimum Requirement for a Comprehensive Managed Fall Protection Program ASTM F887-04 - Standard Specification for Personal Climbing Equipment
SCE Documents	The following SCE documents are found on the Corporate Environmental, Health and Safety Edison Portal page: • Fall Protection Manual • Accident Prevention Manual (APM) • Environmental, Health and Safety Handbook for Contractors

8. Review/Revision History

Rev.	Date	Description of Revision	Contact
0	12/29/2014	Initial distribution	Coil Dunn
1	03/17/2015	Incorporated additional comments for OUs	Coil Dunn

Appendix B.3
Cause Evaluation Standard

Cause Evaluation

STANDARD				
	Effective Date	July 25, 2019		
	Supersedes	Cause Evaluation Standard (v.1 effective: January 28, 2019)		
	Document ID	SCE-CHS-SO-ST-15	Version	2

1.0 STANDARD STATEMENT

This standard establishes the framework for conducting a cause evaluation and developing associated actions. Cause evaluation actions correct an incident (event or problem), such as a vault fire, or address a cause, such as an inadequate work management process, or an adverse trend, such as a customer service trend.

Cause evaluations are used to identify causes and associated actions designed to correct and reduce the probability of recurrence of an incident. This standard provides the method for performing the five different types of cause evaluations - Root Cause Evaluation (RCE), Apparent Cause Evaluation (ACE), Common Cause Evaluation (CCE), Standard Cause Evaluation (STDCE) and Learning Team Evaluation (LTE).

This standard provides instructions to conduct a cause evaluation and to develop and implement Corrective Action plans (corrective measures). This instruction standardizes the terminology for cause evaluations within SCE for consistency of use and clarity.

This standard does not provide guidance concerning the identification or reporting, screening, trend tracking of corrective actions or determination of the type of cause evaluation to be performed. Refer to your Operating Unit's guidance for these requirements.

2.0 APPLICABILITY

This standard applies to all Southern California Edison (SCE) employees who have been tasked to perform a cause evaluation for an incident associated with equipment, procedure, program, process, human performance, environmental, health & safety, organizational, or programmatic issue. Where more stringent regulatory requirements, policies, and/or standards related to performing cause evaluation exist, they may supersede all or part of the requirements stated in this document.

For non-safety related incidents, Management in each Operating Unit (OU) determines when a cause evaluation will be conducted. An OU's executive management or procedure or program identifies the type of cause evaluation to perform based on the actual or potential risk and consequences to SCE's staff, property, information, and ability to conduct business.

3.0 STANDARD DETAIL - PERFORMING A CAUSE EVALUATION

3.1. Identify Level of Cause Evaluation

The type of cause evaluation depends on the incident. Each OU must use this standard to establish their own criteria for non-safety incident severity levels and the corresponding level of cause evaluation. If your OU does not have this criteria, talk to your supervisor or manager to determine the severity of the incident and the corresponding level of cause evaluation to conduct and determine if an Attorney-Client Privileged evaluation is necessary. A cause evaluation may also be initiated at the direction of SCE executives or OU leadership.

The following are the levels of cause evaluations:

a. **Root Cause Evaluation (RCE)** - Assigned when an incident results in a major impact (e.g., fatality, outage effecting 30,000 customers, equipment failure resulting in significant financial loss, etc.) to SCE and/or personnel. The incident presents significant risks and consequences to the safe, clean, reliable operation to SCE, personnel safety, or organizational and human behaviors such that recurrence is unacceptable
b. **Apparent Cause Evaluation (ACE) -** Assigned when an incident results in a moderate impact (e.g., Actual or Potential Life Threatening or Life Altering incident) to SCE and/or personnel. The incident

presents moderate risks and consequences to the safe, clean, reliable operation to SCE, personnel safety or organizational and human behaviors such that we want to learn from the incident to prevent or minimize the probability of recurrence

c. **Standard Cause Evaluation (STDCE) -** Assigned when an incident results in a minor impact (e.g., minor DART Injury) to SCE and/or personnel. The incident presents low risks and consequences to the safe, clean, reliable operation to SCE, personnel safety or organizational and human behaviors such that the incident is minor
d. **Common Cause Evaluation (CCE) –** Assigned 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
e. **Learning Team Evaluation (LTE) -** Assigned when an open team approach for an incident(s) is desired

Note: Cause evaluations containing the following types of information must be marked as confidential and saved so only those with authorized access may review the evaluation.

- FERC Restricted
- Critical Energy Infrastructure Information
- Intellectual Property
- Attorney-Client Privileged

3.2. Assemble Cause Evaluation Team

Once the level of cause evaluation has been identified, assemble a team to conduct the analysis. Use the following table to identify the required team members needed to perform the cause evaluation:

Team Member	Root Cause	Apparent Cause	Common Cause Evaluation/ Learning Team	Standard Cause Evaluation
Executive Sponsor	**X**			
Sponsor*	**X**	**X**	**X**	**X**
Cause Evaluation Lead (Co-Lead)	**X**	**X**	**X**	
OU Lead (Co-Lead)	**X**	**X**	**X**	**X**
Team Member(s)	**X**	**X**	**X**	
Administrative Support Personnel	**X**			

* In an Attorney-Client Privileged evaluation the Legal Department will direct the team to preserve Attorney-Client Privileges and other Legal and regulatory protections.

Refer to Attachment A – Cause Evaluation Roles, Responsibilities, and Qualifications for an explanation of the roles and responsibilities of each team member.

3.3. Draft the Problem Statement

The problem statement describes the reason(s) for conducting a cause evaluations and ensures the scope of the cause evaluation is correct. The Co-Leads and Sponsor, in collaboration with identified Team Members, draft the problem statement. The problem statement must describe:

a. The requirement that was deviated from in the incident or issue under evaluation. This requirement may come from a regulator requirement, SCE governance document, procedure, guide book, or management expectations
b. How the requirement was deviated from
c. The actual (if any) or potential consequences associated with the incident or issue under evaluation

For Common Cause Evaluations, the problem statement must:

d. Identify the incident(s) that prompted the creation of the cause evaluation (summarize or paraphrase)
e. Describe the actual (if any) or potential consequences associated with the incident(s) under evaluation

The Sponsor(s) must approve the problem statement once it has been drafted. Once approved, add the problem statement into the problem statement section of the Cause Evaluation Report Template. Use the Cause Evaluation Report Templates (e.g., STDCE Template, ACE Template, and CCE Template) to record the findings of your cause evaluation.

3.4. Implement Immediate or Interim Actions

To prevent the probability of the incident from reoccurring, take Immediate or Interim Actions to temporarily address the specific condition until final actions are in place if immediate or interim actions have not already been implemented by the immediate work group. Use the Corrective Action Matrix section of the Cause Evaluation Report Template to record all immediate and interim actions, the action completion dates, and the action owners. For immediate or interim actions completed, only record the action completed in the analysis section of the report. Immediate or interim actions are typically taken within 72-hours to prevent reoccurrence.

3.5. Evaluate Extent of Condition (EOCo)

The cause evaluation team must perform an EOCo analysis early in the evaluation process that focuses on identifying where the same or similar condition exists or may exist with other equipment, processes, personnel, or written instructions. The EOCo analysis answers the question – Where else do we have this same or similar problem right now?

Record the EOCo analysis in the Extent of Condition section of the Cause Evaluation Report Template by listing the actions taken to address each condition identified. Actions from an EOCo analysis must align with the following:

- **a.** When an EOCo analysis identifies there is a risk of the same or similar incident occurring, then develop Corrective Actions to address those conditions and list them in the Corrective Action Matrix section of the Cause Evaluation Report Template.
- **b.** If an EOCo analysis cannot be completed within the allotted time period of the cause evaluation, then assign a Corrective Action to complete the analysis at a later date. The Corrective Action to complete an EOCo analysis should include direction to create additional Corrective Actions for conditions identified, after the EOCo analysis is completed.

Typically, an EOCo analysis is not performed for a Common Cause Evaluation or Learning Team Evaluation.

3.6. Determine Sequence of Events

The cause evaluation team must document a brief summary, in chronological order, of relevant events, activities, or equipment/site status prior to and including termination of the incident. A sequence of events may include a timeline that spans many years or be as short as several minutes prior to the incident. Record the timeline under the sequence of events section in the Cause Evaluation Report Template.

3.7. Conduct Incident Analysis

3.7.1. Basics of Analysis

The greatest benefit to SCE is realized when the resulting cause(s) and associated Corrective Actions address organizational, programmatic, and process issues, and not just individual performance issues. The cause evaluation team does not determine who is at fault or the disciplinary actioned needed for an incident.

The cause evaluation team must follow the steps below, in sequential order, to perform a basic analysis:

- **a.** Perform interview(s), conduct document review, equipment reviews, training reviews, and inspect the site of the incident
- **b.** Determine the type of analysis to be performed (e.g., Event and Causal Factor Analysis, Barrier Analysis, Organizational & Programmatic Analysis, etc.)
  - **i.** For STDCEs use the "Standard Evaluation Question Tool", within the STDCE Template, to identify the Undesired Action/Condition(s) or Equipment Failure then, determine the cause(s)
  - **ii.** For ACEs, three analysis methods are required, Event and Causal Factor Analysis (E&CFA) and Barrier Analysis is the preferred analysis methods, plus an Organizational and Programmatic Analysis

iii. For RCEs, three methods of analysis are required, plus an Organizational and Programmatic analysis. Use either the E&CFA or Barrier Analysis as one method. Perform an Extent of Cause (EOCa) review focused on the Root Cause(s) and determines the extent to which the cause have or could adversely affect other processes, equipment, or human performance

iv. LTE's, use a discussion type method for analysis, will have Lessons Learned and may not have cause(s) and corrective actions

c. Identify the Direct Cause(s)/Apparent Cause(s)/Root Cause(s) or any Contributing Cause(s) to the incident(s)

d. Identify what can be corrected to reduce the probability of a repeat of the same Undesired Action/Condition (UA/C) or Equipment Failure (EF) that led to the incident

Prepare a one to two paragraph summary for each analysis type, stating the conclusion(s) from each analysis selected. Record each analysis under the Analysis and Causes section of the Cause Evaluation Report Template. Detailed analysis may be included in the body of the report. For large write-ups, summarize conclusions in the body of the report and then include an attachment of the detailed analysis.

3.7.2. Incident Analysis for CCE

CCEs are typically performed for groupings of incidents. To perform a CCE establish the initial grouping of incidents or issues or adverse trend with potential similarities for evaluation. These incidents (and the rationale for selecting them) may already be described in an issue, or they may be recorded in a separate issue, work orders, Standard Cause Evaluations, operator experience, or trend codes and may share potential similarities in areas such as system, process, activity, incident type, precursor, and individual controls. Identify the predominant common causes for a group of incidents as opposed to all causes / casual factors for the data set. Those causal factors that remain may continue to cause other incidents until identified and addressed. The goal is not to solve every Common Cause, but to apply Corrective Actions that address the most predominant or significant cause or issues.

Document your analysis in the Analysis and Causes section of the Common Cause Evaluation Report Template. If a Common Cause is not identified, then notify the Sponsor. Otherwise, if the Sponsor and Co-Leads concur there is not a Common Cause, then the Cause Evaluation Lead must document the results in the report, then provide documented feedback to the Sponsor with an explanation why no further action is required. Once the Sponsor agrees with the results, the CCE is completed.

3.8. Determine Corrective Actions and Business Actions

The types of actions associated with cause evaluations are Immediate and Interim Actions, Corrective Actions to address the original incident and causes, Corrective Action to Prevent Recurrence (CAPR), Extent of Condition Corrective Actions, and Extent of Cause Corrective Actions. Additionally, Business Actions address those issues not significantly contributing or causal to the incident (e.g., planning item, tracking action, development action, benchmarking action, submittal for funding action, Lesson Learned).

3.8.1. Elements of a Corrective Action

Corrective Actions should be Specific, Measurable, Achievable, Realistic, and Timely (SMART). Corrective Actions to Prevent Recurrence (CAPR) for a Root Cause should be SMART and Sustainable (SMARTS). Use the Corrective Action Matrix section of the Cause Evaluation Report Template to document the following:

a. Record what Corrective Actions are being taken or have been taken and clearly indicate which causes the Corrective Action intends to address. This should include Corrective Actions to address the incident in the problem statement and any causes. Record the Corrective Actions by providing details description of the action, the assignee responsible for the action, the tracking number for the action, and the due date for when the Corrective Action was or will be completed

b. Prepare a Corrective Action Matrix that identifies Corrective Action(s) (for Causes, Extent of Condition, and Extent of Cause), Immediate and Interim Actions, CAPRs, Business Actions and Effectiveness Reviews, including description, due date, and owner

c. Obtain buy-in from the identified individuals assigned a corrective action

d. Create a coaching Corrective Action for the supervisor or manager to address individual human performance associated with a cause. Do not include specifics of disciplinary action to be taken in the Corrective Action Matrix section of the Cause Evaluation Report Template.
e. Perform Corrective Actions in a timely manner commensurate with the significance of the incident and probability of recurrence

Sponsors may modify, add, or delete actions prior to final approval. If actions are identified during the evaluation that do not address causes, then address these issues outside of the report or as a Business Action.

3.9. Develop Effectiveness Review (EFR)

If the cause evaluation identifies a CAPR, then the cause evaluation team must develop an Effectiveness Review. EFR's are conducted to confirm each CAPR has been completed as intended, and to determine the effectiveness of the CAPR(s) for a specific cause evaluation.

a. EFRs are required for CAPR from an RCE and CCE. EFR's are optional for an ACE and per management discretion.
b. For EFRs addressing ACEs and CCE Corrective Actions, determine an EFR method and quantitative or qualitative acceptance criteria to be used to measure CAPR(s) or primary Corrective Actions (for those ACEs without a CAPR) effectiveness.
c. An EFR can address one or more Corrective Action(s) for a cause or multiple Corrective Actions for multiple causes. The decision for the best way to evaluate the effectiveness of Corrective Action(s) to address the cause(s) is typically a Team Member, Co-Lead, and Sponsor decision.
d. EFR methods include, but are not limited to metrics, self-assessments, direct observations, audits, inspections, tests, trending of data, and follow-up discussions with staff.
e. Record the EFR method, acceptance criteria, and EFR due date in the Cause Evaluation Corrective Action Matrix.
f. Ensure buy-in from the EFR owner. The owner should be someone from the associated OU but not the person who implemented the associated Corrective Actions.
g. When writing the EFRs, use the Method, Attributes, Success, and Timeliness (MAST) methodology to determine whether the Corrective Actions succeed in preventing recurrence.
h. EFR due dates are typically set within two to six months of completing the action(s) and with consideration of what would be an appropriate time to allow adequate "Run Time" of the action to facilitate accurate measurement of effectiveness.

3.10. Enter Actions and EFRs into a Tracking Mechanism

Actions must be entered into a tracking mechanism to ensure adequate monitoring to completion. Each OU must have procedures describing how to track Corrective Actions, Business Actions, and Effectiveness Reviews using their individual program prescribed tracking mechanism. Corrective Actions for Edison Safety incidents are entered into the Incident Management system. Actions for cause evaluations completed under Attorney-Client Privilege must be tracked and monitored under Legal department guidance.

3.11. Finalizing the Report

Use the following steps to finalize the Cause Evaluation Report Template in a timely manner. Reports for cause evaluations completed under Attorney-Client Privilege must be maintained by the Legal Department.

a. The Co-Leads must draft an Executive Summary that briefly describes the incident including which organization identified the incident and if it is associated with a regulatory finding/violation/citation
b. Include in the Executive Summary the cause(s), and/or Contributing Cause(s) (Paraphrased) and Corrective Actions (Paraphrased). Summarize the relationship between the problem statement, causes, Corrective Actions, and other consequences if conditions are left unaddressed
c. Record the summary in the Executive Summary Section of the Cause Evaluation Template
d. If comments from the Sponsor are to be incorporated, then ensures the comments are incorporated
e. Include a Legal Disclaimer within each report (see Appendix B)

3.12. Timeliness, Review & Approval, Content Changes, and Extensions

Use the following table to determine who can grant extensions of due dates, make content changes, and who has Approval authority for cause evaluations:

Type	Review	Final Approval	Content Change
Root Cause Evaluation* (RCE)	Qualified Advanced Cause Evaluator and Co-Leads	Sponsor, Executive Sponsor	Sponsor **
Apparent Cause Evaluation* (ACE)	Qualified Advanced Cause Evaluator and Co-Leads	Sponsor	Sponsor **
Common Cause Evaluation* (CCE)	Qualified Advanced Cause Evaluator and Co-Leads	Sponsor	Sponsor
Standard Cause Evaluation (STDCE)	Qualified Basic Cause Evaluator and Cause Evaluation Lead	Sponsor	Sponsor

* RCE, ACE, CCE typically take 60 days to perform, some evaluations such as fatality/serious injury/ Life Threatening or Life Altering or complex incidents may exceed 180 days. STDCE typically take 15-30 days to complete or complex incidents may exceed 180 days.

** Those evaluations performed subject to the Attorney-Client Privilege may follow a different content and Approval than specified in this procedure.

3.13. Communicate Results

Communicating results of cause evaluations can be specific and/or general.

Specific communications are provided as immediate or interim actions, usually to a specific work team, group, and OU or job classification. This communications is developed by the Cause Evaluation Team as a specific Corrective Action or Business Action and is documented in the Corrective Action Matrix. For example, communication to an OU or work group regarding proper use of a tool communicated through a conference call, during a stand down or tailboard briefing.

General communications (learnings) are initiated by completing the Operating Experience (OE) template and provide general information about the incident, cause(s) and Corrective Action(s). Typically, after the cause evaluation is approved by the sponsor. This OE Template is posted on the OE Safety Portal site for company-wide sharing of the learnings. For example, safety cause evaluations are reviewed and screened by the Safety Communications Council for determination of the best method and audience to share learnings.

3.14. Performance and Closure of Corrective Actions

Performance and Closure of Corrective Actions must be conducted in accordance with the procedures described in section 3.5 of the Safety Incident Management Standard.

3.15. Performance and Closure of Effectiveness Reviews

Performance and Closure of Corrective Actions must be conducted in accordance with the procedures described in section 3.6 of the Safety Incident Management Standard.

4.0 DEFINITIONS

Definitions of important terms used in this standard are listed below. These terms are capitalized in this standard.

Apparent Cause Evaluation (ACE): The reason for an Equipment Failure or Undesired Action/Condition based on available evidence and facts. If corrected, then an apparent cause should reduce the probability of repeating the same or similar incidents. Apparent causes are not discussed in or part of RCEs. ACE's are typically performed when an incident results in a moderate impact to the SCE and/or personnel. The incident presents moderate **r**isks and consequences to the safe, clean, reliable operation to SCE, personnel safety or organizational and human behaviors so we want to learn from the incident to prevent or minimize the probability of recurrence.

Approval(s): The section of a formal document annotated with signatures and dates attesting to authorship and person(s) responsible for the document content. Such Approvals must be by a level of responsible management

accepting responsibility for the document's authenticity and shall be at least one management level above the originator.

Attorney-Client Privilege: See the Information Governance Policy for the definition.

Barrier Analysis: Is conducted to identify an item that reduces or is intended to reduce the adverse impact of a threat or hazard on a target. Barrier Analysis identify four elements:

- Effective barrier: Is a barrier that was in place to protect the object.
- Missing barrier: Is a barrier that was not in place to protect the object.
- Weak barrier: Is a barrier whose effectiveness is compromised to one extent or another through poor design, degradation, and misapplication for the object it is protecting.
- Ineffective barrier: Is a barrier that did not work to provide protection from the object it is protecting.

Business Action (BA): Is any action assigned as part of an issue that is not a Corrective Action, Corrective Action to Prevent Recurrence, or Effectiveness Review. For example, benchmarking, developing training, Lesson Learned or seeking financial approval.

Closure: The documentation to clearly identify the objectives of the issue and the deliverables required for completion. The intent of associated Corrective Actions is to be specifically stated to assist the reader/reviewer in understanding how the issue was satisfied.

Common Cause: Is selected from the most significant incidents or issues or from the common factors associated with the greatest number of recurrences.

Common Cause Evaluation: A diagnostic causal analysis tool (approach) used to collectively evaluate a set of data or occurrences (*i.e.*, patterns or commonalities within a series of incidents) for commonly shared incidents that typically indicate a program or process failure.

Contributing Cause: A cause contributing to an incident or making the incident more difficult to detect, but one that singularly by its elimination would not have prevented the incident.

Corrective Action (CA): An action taken or planned that restores a condition to an acceptable condition or capability. CAs address the condition or incident, Extent of Condition, Extent of Cause, and Cause(s).

Corrective Action to Prevent Recurrence (CAPR): A special Corrective Action specifically designed to eliminate or control Root Causes for incident to prevent recurrence of a significant incident.

Direct Cause: The immediate reason of an incident, accident or an injury.

Effectiveness Review (EFR): A post-Closure review of CAPR or selected CAs against pre-determined criteria is effective in changing the design or behavior so there is reasonable assurance that the incident will not repeat under the same circumstances as the initial incident.

Extent of Cause (EOCa): The extent to which the cause of an identified incident exists in other processes, equipment, or human performance. The extent also includes different incidents due to the same cause.

Extent of Condition (EOCo): The extent to which the incident or problem identified exists or is at **r**isk of experiencing the same or similar consequences as the incident or problem being evaluated.

Equipment Failure (EF): An equipment malfunction or cessation of normal operation that results in an unintended condition.

FERC Restricted: Information related to the rules and regulations (the Standards of Conduct or SOC) that govern transactions between SCE's Transmission Function Employees (TFEs) and Market Function Employees (MFEs), and transactions between SCE's TFEs and affiliate MFEs.

Immediate Action (IA): An action taken immediately upon discovery of an incident to make the situation safe.

Implementation: To do and arrive at some reasonable (as seen by an external reviewer) and measurable end-point which describes when the requirement and intent are accomplished. Examples include:

- If implementing a process, then there is to be a measurable demonstration the process has gone through one cycle and can be repeated.
- If implementing a qualification, then there is to be individuals successfully qualified.

Incident: An event, problem, failure, deficiency, or trend involving equipment, human performance, or programs contrary to good business practices or regulatory requirements.

Intellectual Property: Refer to the Discoveries and Inventions Policy for the definition.

Interim Action: A temporary Corrective Action taken between the time an incident is discovered and when final actions are complete to prevent or mitigate the effects of the incident or minimize the probability of a repeat incident.

Learning Team Evaluation: A team concept used to evaluate success and adverse incidents thought a group discussion.

Lesson Learned: A "good work practice" or innovative approach captured and shared to promote repeat application. A lesson learned may also be an adverse work practice or experience captured and shared to avoid recurrence.

MAST: Methodology to determine the effectiveness of Corrective Actions.

- **M**ethod to be used (e.g., PI observation, test);
- **A**ttributes of the Plan (what will be measured);
- Explain how **S**uccess of the Plan will be measured (success criteria, how much will be measured); and
- **T**imeliness of the Plan (due date).

Root Cause Evaluation (RCE): The most fundamental reason for an incident and, if eliminated or controlled, will prevent recurrence of the incident and similar incidents. RCE's are typically performed when an incident results in a major impact to SCE and/or personnel. The incident presents significant **r**isks and consequences to the safe, reliable operation to SCE, personnel safety, or organizational and human behaviors so recurrence is unacceptable.

SMARTS / SMART: An acronym for; **S**pecific, **M**easurable, **A**chievable, **R**ealistic, **T**imely, and **S**ustainable. CAPRs must be SMARTS, while CAs must be SMART.

- **S**pecific: The action provides the detail necessary to ensure the action will be performed as described. The action cannot be interpreted differently than intended.
- **M**easurable: Desired outcome described so it can be seen physically (i.e., during an observation) or the physical outcome is obvious.
- **A**chievable: The proposed action must be something within the ability of the organization to accomplish.
- **R**ealistic: The action does not place undue stress on the organization, passes a cost-benefit test, and allows the organization to continue to meet its primary objective.
- **T**imely: The proposed timeline for completing the CAPR(s) and Corrective Actions (CAs) must be commensurate with the **r**isk of the incident recurring. If at the time of the grading the actions are not yet coordinated and scheduled, then the grader should use judgment on the ability of the actions(s) to be timely.
- **S**ustainable: Actions to be institutionalized and not removed without management Approval.

Sponsor: A manager or supervisor with accountability or responsibility for a subject or is the owner of the report results. The person that supports the conduct of a Cause Evaluation.

Standard Cause Evaluation (STDCE): Provides a method for organizations to learn from incidents to reduce the probability of higher consequence incidents from occurring. STDCE's are typically performed when an incident results in a minor impact to the SCE and/or personnel. The incident presents low **r**isks and consequences to the safe, reliable operation to SCE, personnel safety or organizational and human behaviors so the incident is minor.

Supplemental Worker(s): Refer to the Supplemental Workers Policy for the definition.

Undesired Action/Condition (UA/C): An action taken, or action not taken, that results in an unintended condition, nonconformance, or noncompliance.

5.0 GOVERNING DOCUMENT(S)

The company's Health and Safety Policy governs this standard.

6.0 REFERENCES

External References
None

Internal References
Advanced Cause Evaluator Training (SAP course code 10032527)
Basic Cause Evaluator Training (SAP course code 10031251)

7.0 KEY CONTACTS

Safety, Security, and Business Resiliency; Edison Safety: Todd Gallaher, (949) 331-0932



Attachment A – Cause Evaluation Roles, Responsibilities, and Qualifications

The following are the roles, with their associated responsibilities, required to conduct a cause evaluation.

Executive Sponsor and Sponsor

- Provides direction to SCE personnel that Implementation of cause evaluation is a high priority.
- Designated by Executive Management or defaults to the same person who completes the Final Approval or higher, typically in the area of responsibility of the incident.
- Designates team roles – considers conflicts of interest and qualifications
- Reviews team updates and status reports
- Provides input on analysis and assignments
- Ensures resources are available
- Removes barriers to ensure quality and timely completion of cause evaluation.
- Approves the final cause evaluation.
- Approves Root Cause Evaluations, selected Apparent Cause Evaluations, selected Common Cause Evaluations, Effectiveness Reviews and Corrective Action to Prevent Recurrence.
- Determines external support (Non SCE) and involvement in the cause evaluation (e.g., Non Destructive Examination).
- An attorney from SCE's Legal Department may serve as Sponsor to direct Co-Leads, Team Members, and Administrative Support Personnel to perform a cause evaluation under the Attorney-Client work product/doctrine and directs the retention of the cause evaluation report and Corrective Actions.

Typically the Co-Leads work together to lead the cause evaluation with the Cause Evaluation Lead providing knowledge of the evaluation process and the OU Lead providing knowledge of the incident subject.

Organizational Unit Lead (Co-Lead)

- Role required for Root Cause Evaluations or selected Apparent Cause Evaluations.
- Contacts Union Representative when IBEW personnel are interviewed.
- Invites the Union Safety Representative (USR) to participate when a Life Threatening or Life Altering incident that involves an IBEW member occurs.
- Provides status updates to management and external agencies, including written status updates, progress and response to questions, allowing the Cause Evaluation Lead to focus on the cause evaluation process.
- Facilitates request from the evaluation team to the OU for information, interviews, documentation and directed actions.
- Ensures comments from reviews and approvers of the report are incorporated into the evaluation as appropriate.
- Co-authors the evaluation using the Cause Evaluation Report Templates.
- Ensures buy-in for the cause evaluation and associated actions for the OU.
- Creates an OE by completing the OE Template and provides it to the Safety Communications Council.

Cause Evaluation Lead (Co-Lead)

- Establish cause evaluation schedule and set agendas for team meetings.
- Provides a level of critical thinking to ensure the final work product adequately identifies the cause(s) and Corrective Actions to correct or reduce the probability of recurrence of an incident.
- Performs interviews, gathers and reviews documents, performs analysis, determines causes and actions to support the development of the report.
- Determines tools (e.g., interviewing techniques, Event and Causal Factors Analysis, Barrier Analysis) to be used by evaluators to assist in the evaluation process and the identification of actions.
- Documents the performance of the evaluation and Corrective Action plan using the current approved Cause Evaluation Report Template.
- Ensure introduction to cause evaluation to the cause evaluation team at the start of a cause evaluation.
- Gains the level of knowledge about the incident and performs an analysis adequate to ensure resolution of the incident.
- Co-authors the evaluation on the Cause Evaluation Report Templates.

- Ensures comments from reviews and approvers of the report are incorporated into the cause evaluation as appropriate.

Team Member

- Team Members include process experts, subject matter experts (SMEs) or persons knowledgeable of cause evaluation process.
- A representative unrelated to the incident should be considered, such as a supervisor from an unrelated group of same or similar activity. Caution should be used involving Team Members directly involved in the incident being reviewed. Individuals directly involved in the incident should be interviewed for information.
- Under the direction of the Co-Leads, gathers and documents information in a timely manner.
- Reports to the Co-Leads while participating on the Cause Evaluation.
- Records evaluation on the Cause Evaluation Report Template.
- No specific training required.

Administrative Support Personnel

- Coordinates meeting rooms, interviews, tracking of actions, and other duties as assigned.
- No specific training required.

Note: One person can fill multiple roles in performing a cause evaluation.

Cause Evaluation Mentor

A Cause Evaluation Mentor may be requested and assigned to perform the following responsibilities:

- Coaches the Sponsor(s), Co-Leads, and Team Members in the effective and efficient Implementation of this procedure and cause evaluation processes. Participation is only part-time and not required for all cause evaluations.
- Provides insights and suggestions on analysis, corrective actions, and effectiveness reviews.
- Provides feedback on progress and status to the Sponsor(s) and Co-Leads.
- No specific training required.

Qualifications

Requirements that apply to cause evaluations performed under this standard by SCE employees or authorized agents are as follows:

Root Cause, Apparent Cause, and Common Cause Evaluations require a qualified cause evaluator to perform. To perform a Standard Cause Evaluation or Learning Team Evaluation, Basic Cause Evaluation training is preferred but not required. Root Cause, Apparent Cause, and Common Cause Evaluations shall have a Co-Lead that has meet the following requirements:

- Taken Basic and Advanced Cause Evaluation training.
- Attended at least two continuing training (Cause Evaluation Forum) meetings per year in the years subsequent to initial training
- Or performed a RCE, ACE or CCE in the prior year
- Root Cause Evaluators shall have attended Root Cause Evaluation training

Training requirements, including Basic, Advanced, Root Cause Evaluation, and continuing training may be waived by the Edison Safety Cause Evaluation Manager or Edison Safety Performance Improvement Manager based on the individual's prior training and experience. There are no Qualifications for Attorneys, Sponsors, OU Lead, Team Members, Administrative Support Personnel, and Cause Evaluation Mentor. Cause Evaluator training is available via the company Learning Management System.

Authorized Cause Evaluators are those hired to perform cause evaluations for SCE and will be approved by an Edison Safety Cause Evaluation Manager or Edison Safety Performance Improvement Manager (or designee).

Appendix B – Legal Disclaimer

The following text shall be incorporated at the beginning of every Cause Evaluation Report:

Disclaimer

Consistent with the SCE philosophy that problems should be thoroughly understood, this cause evaluation evaluates, through an after-the-fact hindsight-based analysis, conditions adverse to quality and the causes of those conditions. The information identified in this cause evaluation was discovered and analyzed using all information and results available when it was written. These results and much of the information considered in this evaluation were not available to the organizations, management, or individual personnel during the time frame in which relevant actions were taken and decisions were made. Cause evaluations serve two purposes: (1) to document and "assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected," and ensure that actions are taken to prevent recurrence; and (2) to understand and evaluate the causes of the events in order to prepare for any litigation or regulatory proceedings that may arise.

This cause evaluation does not make a determination on whether the actions or decisions taken by management, vendors, internal organizations, or individual personnel at the time of the event were reasonable or prudent based on the information known or available when they took such actions or made such decisions. Any individual statements or conclusions in the evaluation on whether errors may have been made or improvements are warranted are based upon the information considered, including information and results learned after-the-fact, evaluated in hindsight after the results of actions or decisions are known, and do not reflect any conclusion or determination on the prudence or reasonableness of actions or decisions when they were made.

The reason for adding this information is to clarify to outside reviewers that the cause evaluation is not a "reasonableness" or "prudence" review, and to prevent statements and conclusions in cause evaluations from being used out of context.

This language does not change how we do cause evaluations, but reflects current practice. Cause evaluations should continue to be critical, thorough, and accurate in identifying the reasons why adverse conditions or events occurred and what corrective action is needed to address them and, as appropriate, to prevent recurrence.

The following text shall be incorporated at the beginning of all evaluations performed subject to the Attorney-Client Privilege:

Purpose: SCE Law Department counsel instructed the Edison Safety department to conduct a confidential privileged evaluation of the performance of SCE's operation and maintenance of its system as it relates to this incident and to determine the cause of the incident. The comprehensive review and evaluation included an extensive confidential review, under the attorney client, work product and other privileges. Edison Safety evaluator worked with Claims, T&D Safety and other departments to obtain information to conduct its root cause evaluation.

This expanded review by Edison Safety is to investigate the facts and circumstances of the incident in greater detail and to perform a comprehensive root cause analysis of those facts and circumstances. The evaluation was initiated to eliminate future similar occurrences and to inform SCE's legal and factual positions in anticipation of possible litigation and regulatory proceedings.

DRAFT

Appendix C.
Accidental Prevention Manual

ACCIDENT PREVENTION MANUAL



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Policy Section

P-1. Scope

a. It is the policy of the Company that all rules and policies contained in this manual shall be complied with by every employee of the Company under every circumstance where they are applicable, and shall be effective as of the date of issuance.

b. When an employee of one Company organization is assigned to work on equipment or facilities under the jurisdiction of another, such employee shall follow the rules of the latter. Such employee shall report to the designated supervisor of the organization in which the employee is going to work to determine the hazards that may be encountered in that particular department or division.

c. Each site shall develop and maintain a site-specific Injury and Illness Prevention Program (IIPP) Implementation Plan. Corporate EH&S has developed guidance for implementing the requirements of this program. Information regarding the IIPP Program including templates can be found on the Corporate Environmental Health & Safety Portal.

P-2. Enforcement

a. The Manager of Corporate Safety Policy and Regulation shall be the administrator of the SCE Injury and Illness Prevention Program.

b. It shall be the responsibility of the appropriate site manager to implement and maintain the corporate Injury and Illness Prevention Programs in each work location under their area of responsibility.

c. Employees acting in a supervisory capacity, either regularly or temporarily, shall require all employees working under their jurisdiction to comply with all applicable policy safety rules and safety work practices.

d. Noncompliance by any employee constitutes a violation of corporate policy and subjects the employee to disciplinary action including, but not limited to written reprimand, suspension, or termination.

P-3. Investigations

All industrial injuries and illnesses shall be investigated in accordance with established Corporate policies.

P-4. Knowledge

Each employee of the Company shall be provided access to this manual and shall be required to know and understand those sections which apply to the work being performed. Employees shall be subject at any time to an examination on the contents which apply to their duties.

P-5. Education

a. It shall be the responsibility of each supervisor to ensure that all new employees and all employees given new job assignments for which they have not previously been trained, be provided with training and instruction on hazards unique to their job.

b. In addition to any current safety, accident prevention, educational, or training program, each supervisor shall make certain that all employees under his/her jurisdiction are instructed and advised concerning applicable rules and their application.

P-6. Emergencies

In case of an emergency which may result in a serious personal injury, a supervisor, or employee in charge, may temporarily modify or suspend any of these rules as may be considered necessary to permit proper handling of the specific emergency. In any such case, the person so acting shall be fully accountable for the reasonableness of these actions and for any accident or service interruption resulting therefrom.

P-7. Interpretation

a. These rules shall be strictly interpreted to bring about compliance and safe conduct and shall take precedence over any conflicting instructions. However, lawful and applicable governmental regulations which may be contrary to these rules shall control.

b. All rules shall be interpreted as minimum requirements. Organizations may elect to observe stricter rules, standards and policies according to business needs as long as minimum requirements are met.

P-8. Amendments

Any employee, safety team or congress, or organization may propose revisions to SCE's Accident Prevention Manual (APM). The following procedure is provided:

a. All proposed revisions shall be submitted to the Organizational Unit (OU) department having responsibility for safety and/or health issue(s).

b. That OU department shall review the proposed revision and determine if it meets the following criteria:

- ☐ Is the proposed revision necessary?
- ☐ Is the proposed rule covered anywhere else in the manual?
- ☐ Is the proposed rule consistent with OU policies?
- ☐ Is the proposed rule consistent with California or Nevada regulatory requirements as applicable?
- ☐ Is the proposed rule consistent with California or Nevada regulatory requirements as applicable?

c. If the proposed revision meets the criteria above, then:

1. A senior manager, an OU safety manager or their designees shall submit the rule to the company APM Rules Committee, through their APM team OU representative(s) or the IBEW business manager or their representative(s). (The APM Rules Committee Charter provides information regarding team membership, the purpose and objectives of the team, and the decision making process. This charter document is located on the Corporate Health & Safety Portal page.).

2. Corporate Health & Safety will review the proposed revision to confirm it meets the requirements listed in Subsection b., above. Once confirmed, the proposed revision is sent to the APM Rules Revision Team for review, feedback, and consideration for approval.

3. The APM Rules Committee will review using the originator and/or subject matter experts (SMEs) as needed, to make a determination whether to return to the submitting OU for further work, or to either approve or disapprove the proposed revision. APM Rules Committee members are expected to solicit input from their respective leadership, and OU leadership as appropriate, to ensure they are voting on behalf of the organizations they represent in their role as team members.

4. If returned to the originator, the proposed rule revision will either be reworked by the originator as requested or dropped.

5. If approved, the rule will be issued on a special safety bulletin from Corporate Health & Safety, becoming effective with the date on the bulletin. This bulletin will be placed on the Corporate Health & Safety Portal page and distributed to those employees designated by their OUs. The approved rule will then be added to the APM in the next distribution of the manual. Rule revisions determined by the APM Rules Committee to have insignificant operational impact or made solely to correct typographical or grammatical errors will not involve the distribution of a safety bulletin, but will be issued in the next APM distribution.

P-9. Supplementary Information

Additional instructions and information relating to the safe performance of work as issued through the medium of Corporate EH&S Publications, business unit policies and procedures, letters, operating instructions, bulletins, and so forth, that are applicable to the work being performed shall be used to supplement these fundamental safety rules as necessary and shall be made available by supervisors to all affected employees.

For information related to environmental requirements, such as the handling, labeling, removal, clean-up, and disposal of chemicals and to the use of approved containers for such chemicals, or to the reporting of chemical spills, refer to the business unit policies and procedures that are applicable to the work being performed.

P-10. Governmental Safety Standards

In addition to its own safety rules and practices, the Company and its employees in the performance of their work, are subject to the regulations of various governmental agencies including federal, state, county, and city. Supervisors shall make certain that all applicable provisions of governmental regulations are complied with on their jobs.

A list of the major governmental regulations or orders which may be applicable to our work and are presently in effect are as follows:

STATE OF CALIFORNIA
CALIFORNIA CODE OF REGULATIONS

Title 8 — Industrial Relations

Title 13 — Motor Vehicles

Title 17 — Public Health

Title 19 — Public Safety

STATE OF CALIFORNIA
LABOR CODE

Division 5 — Safety in Employment

Part I — Safety and Occupational Health

STATE OF CALIFORNIA
PUBLIC UTILITIES COMMISSION

Rules for Overhead Line Construction — G.O. 95

Rules for Construction of Underground Electric

Supply and Communication System — G.O. 128

Standards for Gas Services — G.O. 58-A

Gas Holder Orders — G.O. 94-A

STATE OF NEVADA
NEVADA INDUSTRIAL COMMISSION

Nevada Occupational Safety and Health Standards

Code of Federal Regulations, Title 29 LABOR:

Chapter XVII Occupational Safety and Health Administration, Department of Labor

FEDERAL OSHA

Code of Federal Regulations, Title 29 LABOR:

Chapter XVII Occupational Safety and Health Administration, Department of Labor

P-11. Care in Performance of Duties

a. Each employee shall use reasonable care in the performance of duties, and act in such a manner as to assure safety and health to themselves, their coworkers, and the public.

b. Employees shall not engage in practical jokes, scuffling, “horseplay,” or the urging of persons to take unnecessary chances.

P-12. Qualifications for Duty

a. Employees shall not attempt work for which they are not mentally or physically fit.

b. Possession or use of alcoholic beverages or illegal drugs by any employee during working hours is forbidden and any violation will be sufficient cause for termination.

c. Supervisors having reasonable grounds to suspect that an employee under their jurisdiction is either mentally or physically unfit for the work assigned, shall prohibit such employee from working until satisfactory medical or other evidence indicating fitness is secured.

P-13. First Aid

a. Employees shall familiarize themselves with the First Aid Section.

b. Every injured person shall be given first aid as soon as possible.

c. Properly equipped and approved first aid kits shall be maintained on trucks, in attended stations, and such other locations as may be considered advisable.

d. First aid kits shall be inspected at least monthly to assure readiness in the event of an illness or injury. The contents of each first aid kit shall be compared to the most current inventory list available and materials replenished after each use.

e. A list of names, addresses, and telephone numbers of ambulance services, physicians, hospitals, and members of the Company’s organization who are to be called in emergencies shall be provided for all employees in authority and shall be posted in suitable locations.

f. As a first responder, you may come in close contact with people who are carriers of infectious diseases. Proper protection is important to reduce your chances of exposure and therefore decrease your chances of contracting the illness. While providing rescue breathing, use a CPR mask if possible. To protect yourself from blood or other bodily fluids, wear nitrile gloves if available. If no nitrile gloves are available, use a plastic bag, thick dressings or have the victim hold the dressing in place with their hands. In all cases, as soon as the first aid emergency is over, wash your hands and any other areas that came in contact with blood or bodily fluids with an antimicrobial soap for at least two minutes. If you have questions or concerns about your exposure, please contact Workers’ Compensation for advice on how to proceed.

P-14. What to do When an Accident Occurs

The following procedures covering the reporting and preliminary evaluation of all accidents shall be strictly observed:

a. Injury to Employees.

1. If possible, at least one employee should stay with the injured person, rendering first aid they are qualified to perform until Emergency Medical Services arrives. If only one employee is available, they must summon emergency medical services as quickly as possible even if that means leaving the victim momentarily.

2. In the event of an emergency requiring EMS, supervisors or responding employees must call for medical assistance using available communication devices (phone, mobile phone, radio, etc.). The caller should dial 911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator. The caller should be prepared to give the following information:

   (a). Name, nature of emergency.

   (b). Address, nearest cross street, and city.

   (c). Phone number you are calling from.

   (d). The caller should stay on the line until information is confirmed.

   Employees should follow any site-specific instructions regarding when and how to call the 911 emergency operators.

3. Supervisors, or responding employees, shall report the emergency per site specific or field emergency procedures. For SCE Office buildings this point of contact would be the Edison Security Operations Center. For field operations they should follow relevant OU field procedures.

4. Supervisors, or responding employees, shall report injuries that require EMS to the Watch Office: PAX 44286 or (626) 812-4286. The Watch Office will notify Corporate Safety, Claims/Law, Workers' Compensation and appropriate Business Unit Management.

5. Employees shall report all industrial injuries and illnesses to the work location supervisor as soon as possible.

6. When an employee requires non-emergency medical care for a work related injury or illness, the employee shall be initially referred to, and treated or evaluated by a medical facility designated by the Workers' Compensation Division. The Workers' Compensation Division has designated two medical facilities for each manned work location in California; a medical facility to be used during normal business hours, and an alternative facility for after hours medical care. All follow-up medical care must be provided by a member of SCE's Medical Provider Network unless the employee has designated his or her personal physician prior to the work related injury or illness. Contact the Workers' Compensation Claims Division for the names and locations of SCE's authorized industrial medical providers and facilities.

b. Injury to Non-employees.

1. All accidents which may involve the Company, resulting in personal injuries to, or death of, non-employees shall be reported immediately by the first employee having knowledge of the incident by the fastest means of communication to the Watch Office. The Watch Office shall notify Claims/Law.

2. Work location or department supervisors will be held responsible to see that a complete preliminary evaluation is made immediately and the accident reported in writing in accordance with Company instructions.

3. First aid may be rendered if necessary but do not assume responsibility for any injury. Do not obligate the Company to pay for ambulance, doctor, or hospital services. Do not make statements admitting liability or indicating that the Company will make a settlement. Do not discuss the accident in the presence of non-employees.

c. Automobile Accidents.

In all accidents involving the operation of a Company vehicle, the employee-driver, with the assistance of other employees present, shall:

1. Stop at once. If an employee is injured, follow the provisions in Policy P-14 a.; if a non-employee is injured, follow the provisions in Policy P-14 b.

2. If a vehicle or other property is damaged and the owner is not present, attempt to locate such owner and inform him/her of the accident and identify yourself. If the owner cannot be located, leave a notice with your name and address in a conspicuous place on or in the damaged property, and report the accident immediately to the law enforcement agency having jurisdiction.

3. Determine if any non-employee has been injured and report any possible injuries to the Watch Office.

4. Obtain the names and addresses of all witnesses or possible witnesses before they leave the scene.

5. Secure all data from the operator's license of the driver of each vehicle involved and the name and address of each passenger.

6. Secure all data from the registration certificate of each vehicle, including registered owner, license plate number, and the make, model, type, and year of the vehicle.

7. Identify yourself to all non-employees involved in the accident and make your driver's license and the Company vehicle registration certificate available for inspection.

8. Note the time and exact location of the accident.

9. If it is safe to do so, the driver should take measurements, or estimated measurements, of the accident scene (e.g., vehicle locations, locations of fixed objects, etc.). If possible, take photographs before the vehicles are moved, showing their position and extent of damage to each vehicle. If the driver suspects that the vehicle is non-operable after the accident, they should not move the vehicle and should contact their local Transportation Services Department garage for instructions on towing the vehicle.

10. Avoid discussing the accident and make no admissions of responsibility to anyone except authorized Company representatives. Necessary data given to a law enforcement officer should be given in private.

11. If injury or death results from the accident, file a written report immediately with the Highway Patrol or the law enforcement agency having jurisdiction.

12. Secure the name and badge number of any law enforcement officer who appears at the scene.

d. Property Damage.

1. All accidents resulting in damage to the property of others shall immediately be reported by the first employee having knowledge thereof to the Company personnel or office designated in Policy P-14 e.

2. Do not make statements admitting liability or indicating that the Company will make a settlement.

e. Reporting Incidents on EHSync.

1. Work location or department supervisors shall ensure that a preliminary evaluation is completed immediately and the incident is reported in writing in accordance with Company instructions.

2. The central repository for safety and vehicle related incidents is EHSync. Supervisors are expected to ensure reporting of incidents that resulted in injuries or vehicle damage and close calls. Instructions on accessing EHSync are located in the following locations on the Company portal:

(a). T&D employees go to the following site: "Report a T&D Incident"
https://edisonintl.sharepoint.com/sites/TD/org/Pages/EHSync.aspx

(b). All other employees go to the following site:
https://edisonintl.sharepoint.com/Lists/MultiEnvAppLinks/CustDispForm.aspx?ID=319

If the incident involves SCE employee injuries or property damage resulting from the actions of a third party, the Watch Office must be contacted immediately and informed of the incident. Do not include the names of the third parties on any EHSync report. The Watch Office will contact Claims, who will direct you on the next steps to be taken.

P-15. Traffic

a. Knowledge and Compliance With Laws. Drivers of vehicles shall be familiar with and obey all State Vehicle Codes, local traffic rules and ordinances, traffic control signs, posted speed limits, parking restrictions, and all Company rules and regulations governing vehicle operation.

b. License Requirements.

Drivers of vehicles shall have in their possession at all times a valid driver's license appropriate for the type of equipment to be operated. Any change in the status of an employee's drivers license shall be reported immediately to his/her supervisor.

c. Defective Equipment.

Drivers shall not operate vehicles with faulty brakes or mechanical defects such as faulty steering mechanism or lights, except to proceed to a place where repairs can be made, and then only at such reduced speed or in such a manner that will enable the movement to be made safely. Such conditions shall be reported in writing in accordance with existing instructions.

d. Distracted Driving

Employee use of all company-provided hand-held portable electronic devices is prohibited while driving. In addition, personal hand-held portable electronic devices are prohibited while driving on company business and property.

EXCEPTIONS: Where it is legally permitted, the following exceptions apply:

- Hands-free cellular phones
- 800/900 GHz radios

DEFINITIONS: Hand-held electronic devices includes: cell phones, BlackBerrys, pagers, Personal digital assistants (PDAs), portable Global Positioning Systems (GPS), meter reading hand-held devices and other portable electronic communication devices.

Use of hand-held electronic devices includes: talking, dialing, checking voice-mail messages, entering data or reading text.

Vehicles include: autos, light-medium-heavy duty trucks, motorcycles, as well as mobile equipment such as fork-lifts, cranes, heavy equipment, road graders, golf carts, bucket-boom trucks, tracked crawlers, platforms, and truck mounted cranes.

P-16. Reserved

P-17. Use of Safety Devices

All safety devices furnished by the Company shall be properly used by all employees as required. These devices will be regularly tested as required and kept in good repair by the Company, but this will not relieve the employee of the responsibility of using only those in good condition.

P-18. Reporting Hazards

a. Employees shall immediately report any defective tool, apparatus, equipment, or other hazardous condition or work practice to the most available supervisor.

b. Unsafe or unhealthy conditions and/or work practices shall be corrected as soon as is practical.

c. When an imminent hazard exists which cannot be immediately corrected without endangering employees, all personnel shall be removed from the area except those necessary to correct the hazardous condition. Employees necessary to correct the condition shall be provided necessary safeguards.

d. Employees are encouraged to make recommendations which serve to improve the Injury and Illness Prevention Program, and to do so without concern for criticism or reprisal.

P-19. Scheduled Inspections, Housekeeping, Clean and Orderly Premises

a. Supervisors shall conduct or cause to be conducted, periodic inspections of work locations under their area of responsibility for the purpose of identifying and correcting unsafe conditions and work practices. A written report of such inspection shall be kept at the work location and shall include:

- ☐ Name of person conducting the inspection
- ☐ Any unsafe condition or work practice identified
- ☐ Corrective action taken

b. Combustible materials, such as oil-soaked and paint-covered rags, waste, shavings, packing, and rubbish shall not be allowed to accumulate on benches, floors, or yards, except in areas provided therefore.

c. Permanent floors and platforms shall be reasonably free of dangerous projections or obstructions and shall be maintained in good repair, and reasonably free from oil, grease, or water. Where the type of operation necessitates working on slippery floor areas, such surfaces shall be protected against slipping by the use of mats, grates, cleats, or other methods employed to provide equivalent protection. Floors and platforms shall be constructed and maintained to safely support the loads to which they are subjected.

d. Stairways, aisles, exits, roadways, walkways, and material storage areas in yards shall be kept reasonably clear and free from obstructions, depressions, and debris.

e. Material and supplies shall be stored in an orderly manner to prevent their falling or spreading and to eliminate tripping and stumbling hazards.

P-20. Tailboard

a. A tailboard, means, tailboard conference, pre-job briefing, tailgate meeting, or job procedure discussion, or talking the job over before starting to work to ensure all supervisors and members of each crew involved thoroughly understand the job to be performed and the method of accomplishing it in a safe manner. Before the start of each job or in the event the scope of the job changes, every supervisor or lead person shall call his/her crew together and outline the proper work procedure to be followed in such a manner that the following will be accomplished:

1. Each employee will understand the purpose and critical steps of the job.

2. Each employee will understand what he/she is to do.

3. Each employee will understand what the other employees involvement in the work assignment are to do.

4. Each employee will understand the supervisor's manner of fulfilling the work assignment, including understanding the criteria for backing out of a job when unexpected conditions arise and what to do in the event of an emergency.

5. Each employee will understand the hazards or trouble spots involved and will take the necessary actions to overcome such problems and, if applicable, what personal protective equipment (PPE) will be required.

6. Each employee shall be notified by the supervisor or other employee in charge of the conditions or clearance of lines or equipment before work is started. Where applicable, the supervisor shall notify each employee of any change to the conditions or status of lines or equipment. When the supervisor is not present at job site and either expected job conditions are found to be different from initial tailboard or later change, work will be stopped until the supervisor is notified by the involved employee(s) and an agreement of how to safely handle the new conditions will be reached before work proceeds.

b. An employee working alone shall perform a self tailboard, as outlined in Policy P-20 a. to ensure all tasks and hazards are identified, and shall take the necessary actions to overcome such hazards prior to performing the task.

P-21. Radiation Protection at Nuclear Generation Stations

a. Personnel Exposure to Radiation.

It is the policy of Southern California Edison Company to keep all personnel radiation exposure as low as reasonably achievable.

b. Personnel Responsibility.

1. The primary responsibility for radiation protection lies with the individuals and their supervisors. It is, therefore, the responsibility of individuals to keep their exposure as low as reasonably achievable, consistent with discharging their duties and in accordance with applicable standards. Each individual is also responsible for the safety and welfare of others in the area, and for observing all rules and procedures.

2. It shall be the responsibility of Radiation Protection supervision to evaluate radiological conditions in a nuclear generating station, to establish radiological procedures to be followed for safety of personnel, to assure that all applicable federal and state regulations are complied with, and that required personnel radiation exposure records are maintained.

3. It shall be the responsibility of each supervisor to see that radiological safety rules and procedures are complied with, that personnel are properly instructed in radiation protection, and that work involving radiation is performed in a safe and approved manner.

4. Nuclear generating station personnel shall advise Radiation Protection personnel immediately of any unusual incident involving radiation, or of any anticipated changes in procedures or working conditions which have not previously been evaluated by Radiation Protection personnel.

P-22. Hazard Communication

a. The Hazard Communication Program and Chemical Management Program is applicable at all SCE work locations and their respective business units. Each business unit shall develop an organization specific Hazard Communication process that meets the requirements and minimum standards of this program to ensure their employees receive timely information on the hazardous substances they use or are exposed to while performing their work activities.

SECTION 100
GENERAL RULES

101. Limitations on Access to Vicinity of Company Facilities

a. Minors, visitors, or uninstructed persons shall be accompanied by a qualified employee in stations and around Company properties where life, service, or property might be endangered.

b. Where requests have been received from a third party, the supervisor (or authorized representative) having jurisdiction shall be the Company representative designated to make, if practical, the arrangements in implementing the safety measures required of those operating equipment within the vicinity of high voltage lines by the State of California High Voltage Electrical Safety Orders, Article 36. Status of line changes, if any, shall be confirmed in writing by both parties.

102. Operations to Be Done by Authorized Persons Only

All station operations shall be performed only by or under the direct and specific authorization of the station operator or, if no operator is on duty, then by an authorized person.

103. Locking Stations and Enclosures

All stations and gates to switch structures containing energized high voltage equipment shall be kept closed and locked at all times except when a qualified employee has such station or structure under observation.

104. Live Line Tools

a. All work requiring the use of live line tools shall be performed in accordance with applicable Accident Prevention Rules.

b. All live line tools shall be approved by the OU before being put into use. No alterations shall be made without approval.

c. Live line tools shall be visually inspected for defects before use each day. Tools to be used shall be wiped clean and if defects are indicated such tools shall not be used.

d. Live line tools shall be taken out of service biennially for an inspection following OU procedures.

105. Clearances

a. Before any employee starts work on de-energized equipment, apparatus, or lines for which clearances are required, the employee shall either obtain a clearance or report to, and work under, a qualified employee who holds a clearance.

b. Clearances are required to work on de-energized generating station or substation apparatus or equipment which is normally energized above 600 Volts.

c. Clearances are required to work on de-energized lines or line sections above 600 Volts. When clearances are required, they shall be taken in accordance with Section 700 of the Accident Prevention Manual.

EXCEPTION: On distribution tap lines with a single source of supply, the person in charge of the distribution crew or Troubleman must issue a formal clearance to himself or another qualified person of the crew prior to working on an electric line or some piece of operating equipment which is inherently too hazardous to work on while in service. The following shall be provided to the Switching Center and Distribution Operations Center prior to de-energizing any distribution tap line:

- ☐ Name, radio call number or cell telephone number
- ☐ Circuit name and voltage
- ☐ Identify work to be performed and location
- ☐ Identify method to de-energize tap line
- ☐ Estimated time frame if de-energizing tap line

106. Lockout and/or Tagout (Hazardous Energy Control)

Each organization shall develop and utilize procedures for SCE Hazardous Energy Control Program to prevent inadvertent movement of machinery or equipment or release of stored energy which could cause injury to employees. This rule is not applicable for transmission or distribution lines or for substation electrical equipment. (see Rule 105 and Section 700 for clearance requirements for T&D)

This procedure applies to employees engaged in the cleaning, repairing, servicing, setting up, and adjusting of prime movers, machinery and equipment. The procedure shall clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy and the means to enforce compliance and shall, at a minimum, include the following components:

a. A statement of the intended use of the procedure.

b. The procedural steps for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy.

c. The procedural steps for the placement, removal and transfer of lockout devices and tagout devices and responsibilities.

d. The requirements for testing a machine or equipment, to determine and verify the effectiveness of lockout devices, tagout devices and other hazardous energy control devices.

e. The hazardous energy control procedures shall be documented in writing.

f. The hazardous energy control procedure shall include separate procedural steps for the safe lockout/tagout of each machine or piece of equipment affected by the hazardous energy control procedure.

g. Machinery or equipment capable of movement shall be deactivated, de-energized or disengaged to prevent inadvertent movement during cleaning, servicing, and adjusting operations, and the movable parts shall be mechanically blocked, locked out and/or tagged out.

h. Prime movers, equipment, or power driven machines equipped with lockable controls shall be locked out and/or tagged out during, repairing and setting up operations.

i. Signs, tags, locks, seals or other similar attachment devices shall be secured to the controls or power source of the prime movers, machinery, and equipment.

j. When utilizing a seal or other similar attachment device on a lockable control, the device(s) shall be of a non-reusable type, attachable by hand, self locking and non-releasable with a minimum unlocking or breaking strength of no less than 50 pounds. When a seal or other attachment device is used on an energy isolating device, which is capable of accepting a lock, the seal or attachment device shall be attached at the same location the lock would have been attached, and provide the same equivalent of safety to employees.

k. Inspections:

1. Inspection of the energy control procedure shall be conducted at least annually to evaluate its effectiveness and determine the necessity for updating the written procedure.

2. The inspection shall be performed by an authorized person other than the one(s) utilizing the energy control procedure and shall be documented in writing.

3. The inspection documentation shall identify the machine or equipment, the date of the inspection, the name(s) of the employee(s) included in the inspection, and the person conducting the inspection.

l. Training:

1. Authorized employees shall be trained on hazardous energy control procedures and on the hazards related to performing activities required for cleaning, repairing, servicing, setting up and adjusting prime movers, machinery and equipment.

2. Each affected employee shall be instructed in the purpose and use of the energy control procedure.

3. All other employees whose work operations may be in an area where energy control procedures may be utilized shall be instructed about the prohibition relating to attempts to restart or re-energize machines or equipment which are locked out or tagged out.

m. Whenever non-Edison personnel are used to perform work on company machinery or equipment, they must follow the on-site Edison lockout/tagout procedure.



NOTE

For the purpose of Rule 106, “lockout/tagout” means the use of devices, positive means and procedures which will result in the effective isolation or securing of prime movers, machinery and equipment from mechanical, hydraulic, pneumatic, chemical, electrical, thermal or other hazardous energy sources.

107. Working on Station Equipment

No person shall work on any station equipment without first obtaining proper authorization from the operator in charge or the watch engineer. The person desiring to work shall specifically state what work he/she intends to do, what equipment is to be worked on, and the work area.

108. Rubber Gloves

a. Approved rubber gloves shall be worn at all times when working on exposed energized conductors rated from 120 Volts to 17 kV (a/c nominal) unless performing work with live line or other approved insulated tools.

1. When working on a pole or tower, rubber gloves shall be worn when employee(s) are within reach of exposed energized conductors rated from 120 Volts to 17 kV (a/c nominal).

2. When working with rubber gloves on overhead primary conductors or equipment energized in excess of 7,500 Volts, insulate/isolate practices shall be used in accordance with approved business unit procedures.

3. When this work is performed from an aerial lift/digger derrick, a qualified person trained in first aid/CPR, radio procedures, aerial lift controls and rescue procedures shall be present on the ground. The qualified person shall have access to the lower horizontal and vertical positioning controls for the aerial lift/ digger derrick in case of an emergency.



NOTE

Rubber gloves are not approved for use in lieu of applying personal grounds on de-energized and ungrounded high voltage overhead conductors while working at ground level.

109. Clothing/PPE

a. Employees shall wear approved clothing and foot protection at all times to minimize work hazards and under any conditions as the supervisor in charge shall direct.

b. Employees shall wear approved head protection when working:

1. Where there is a risk of receiving head injuries from hazards such as flying or falling objects, electric shock and burns, or other overhead hazards.

2. On poles, structures, or when in an aerial device (for example, Bucket truck, pin on platform, or crane basket).

3. In switch yards.

4. High voltage rubber gloving or hot sticking work, listed in the Arc Flash Manual, can be done with an approved arc rated balaclava and goggle kit.



NOTE

Head protection shall not have unapproved accessories, flammable or conductive materials attached.

c. A garment with full length sleeves (rolled down and buttoned) shall be worn when working with:

   1. Wood poles or crossarms.

   2. Hot or injurious liquids or materials.

   3. Open flames or sparks, additionally the garment must be flame resistant.

   4. Within the arc flash boundary or exposed energized lines or equipment arc resistant (AR) shirts tucked in, with full length sleeves rolled down and buttoned, and AR pants shall be worn.

d. Appropriate gloves shall be worn where work involves exposure to cuts, burns, electric shock, corrosives, irritants or other harmful substances to the hands. Some examples where gloves shall be worn are when working with:

   1. Wood poles or cross arms.

   2. Hot or injurious liquids or materials.

   3. Open flames or sparks.

NOTE

For the purpose of these rules, high voltage rubber gloves with keepers can be used in lieu of FR gloves.

e. Employees working on or near exposed electrical conductors or equipment energized at 50 Volts (AC/DC nominal) or greater shall not wear clothing made of, or which contain, synthetic fabrics such as acetate, nylon, polyester, or rayon that have not been treated for flame retardancy. When provided by the company, employees shall wear AR PPE as required by the task being performed (Refer to the Arc Flash Manuals or hazard assessment for appropriate arc rating combination).

f. Employees who enter underground vaults, manholes, power cable trenches, CST/SOE or BURD enclosures shall wear approved AR PPE, appropriate for the work as listed in the Arc Flash Manuals (SAFM, DAFM, TAFM) or hazard assessments (for Generation or Facilities assets).

g. Employees performing station switching on electric conductors or equipment shall wear approved AR PPE with full length sleeves rolled down, buttoned, and tucked in and pants, approved eye protection, hard hat with full AR face shield with chin guard attached and leather gloves.

   Additionally, employees operating single blade disconnects in substations, or while switching on indoor or cubicle gear shall wear the above mentioned in conjunction with an AR balaclava and AR gloves. Employees may substitute a department approved full coverage switching hood as an alternative to the AR balaclava and full AR face shield combination.

NOTE

Performing checking during Station Switching is also considered performing Station Switching and all the above applies.

h. When working on or near exposed energized three phase systems in pad-mounted equipment, pull sections or electrical panels, approved eye protection, and a hard hat with a full AR face shield with chin guard attached shall be worn.

i. While performing underground or padmounted switching PPE worn shall be rated for the hazard associated with the task (Refer to the Arc Flash Manuals or hazard assessment for appropriate arc rating combination).

j. While in the process of removing and/or replacing fuses within an in-service BURD Switches (connected to a distribution system), employees shall wear AR PPE with sleeves rolled down, tucked, and buttoned, gloves, approved eye protection, a hard hat, and an AR balaclava. This subsection does not apply to BURD Switches where:

   1. Fuse chamber(s) is/are isolated (line and load) from any source, or

   2. Line and load have been disconnected from any source, or

   3. Grounded line and load source

k. When operating energized loadbreak elbows employees shall wear AR PPE as listed in the Arc Flash Manuals or hazard assessments.

l. Employees opening electrical service panels, that contain exposed energized equipment shall wear appropriate AR PPE with sleeves rolled down, and buttoned, and the shirt tucked into AR pants (refer to the Arc Flash Manuals or hazard assessment for appropriate arc rating combination).



NOTE

Face shields shall only be worn in conjunction with, approved eye protection. Face shields are not approved eye protection.

110. Smoking (including e-cigarettes)

a. Employees shall not smoke in proximity to flammable liquids, explosives, or gases or where “No Smoking” signs are displayed, either on property occupied by the Company or on the premises of other persons.

b. Matches, cigars, cigarettes, tobacco, or other substances must not be discarded while still burning except when placed in a proper receptacle or otherwise disposed of safely.

c. Smoking shall not be permitted in areas indicated as danger zones or areas closed by federal, state, county, or city officers.

d. When hydrogen filled equipment, such as generators and synchronous condensers are out of service for overhaul, smoking or open flames shall not be permitted around the unit until all hydrogen has been purged from the equipment and the unit is declared safe to enter.

   Smoking or open flames shall not be permitted while filling the equipment with hydrogen. The area around the equipment shall be roped off and plainly marked and posted with approved signs during these operations.

e. Smoking in enclosed facilities is prohibited.

f. Smoking is allowed only in designated and approved Smoking Areas at each SCE facility. Approved smoking areas will be designated by Facility Management in accordance with applicable laws.

g. All designated and approved smoking areas must be, at minimum, twenty feet away from a facility's entrance, operable windows or ventilation system.

h. The Quad in G.O. 1 is a no smoking area.

i. Smoking in any company vehicle is prohibited at all times.

j. Smoking in any vehicle rented/leased by the company is prohibited at all times.

111. Sight Protection

Approved eye protective devices, including goggles, are provided on jobs that require eye protection. Such devices shall fit properly, be kept clean at all times, shall not be altered, and shall be worn when an employee is engaged in or in the vicinity of work involving:

a. The handling of exposed energized parts of equipment or systems energized at 120 Volts or more between conductors.

b. Drilling or chipping stone, brick, concrete, paint, pipe coatings, or metal.

c. Grinding, buffing, or wire brushing, whether there is a guard or not.

d. Dust or flying particles.

e. Welding, cutting, or burning.

f. The use of hot or dangerous substances.

g. Injurious light or heat rays.

h. While mixing or working around injurious chemicals.

i. When wearing a face shield where eye protection is required.

j. Operating and riding in off highway vehicles without fully enclosed cabs (e.g., snowmobiles, all terrain utility vehicles, etc.).

k. Any other job where there is recognized danger of eye injury.



NOTE

Face shields shall only be worn over, or in conjunction with, approved eye protection. Face Shields are not approved eye protection.

112. Protection from Dusts, Fumes, Vapors, or Gases

Where it is impracticable to eliminate harmful quantities of dusts, fumes, vapors, or gases, every employee in the zone of contamination must be protected in a manner which will ensure a supply of clean air. Otherwise, approved respiratory equipment shall be used. Information and requirements for qualification, selection, fit, and use of respirators are contained in the SCE Respiratory Protection Standard.

113. Poisons

a. Before handling poisonous, infectious, or corrosive substances, such as acids, solvents, leads, and so forth, employees shall thoroughly familiarize themselves with the hazards involved and utilize all necessary precautions, protective devices, and/or equipment. Particular care shall be exercised by persons with open sores.

b. Employees shall not handle food, tobacco, and so forth, with such poisonous substances on their hands.

114. Radio Frequency (RF) Energy Exposures

Each organization having employees who may potentially be exposed to radio frequency (300 kHz to 100 GHz) energy exceeding the Federal Communications Commission (FCC) occupational exposure limits shall develop training programs and minimum working procedures, for the purpose of preventing such exposures.

a. Only employees trained on RF safety procedures (qualified employees) shall be allowed to work in posted, or known, areas where radio frequency energy may exceed public exposure limits, or on towers, poles or other structures where telecommunication antennas have been installed.

b. Employees shall not work beyond posted signs that say, “Caution — Beyond This Point: Radio frequency fields at this site may exceed FCC rules for human exposure”, unless it has been determined, through monitoring or calculations, that it is safe to do so.

c. Employees shall not work beyond posted signs that say “Warning — Beyond this point: Radio frequency fields at this site exceed the FCC rules for human” or “Danger” unless RF sources have been de-energized and it has been determined, through monitoring, that it is safe to do so.

d. Qualified employees must follow business unit work procedures while working near AM/FM/TV broadcast sites, near third party RF antennas, and beyond posted RF areas.

e. Employees shall not approach energized antennas that are attached to SCE poles, towers, or other structures such as the top of buildings, closer than shown in the following table, unless additional safety measures have been taken, per business unit procedures. Figure 100–1.1 to Figure 100–1.3 display drawings of omni directional, directional and microwave antennas. Figure 100–1.4 and Figure 100–1.5 illustrate the approach distances for omni directional and directional antennas.



NOTE

Low powered devices such as cell phones, SmartConnect™ meters and relays, and NetComm devices are not covered by these approach distances.

Work Location	Closest Horizontal Approach Distance
Passing by at the same level as omni-directional antennas	3 feet
Working at the same level near omni-directional antennas	10 feet
Working within 2 feet above or below omni-directional antennas	3 feet
Passing by at the same level in front of directional and microwave antennas	3 feet
Passing by at the same level behind directional and microwave antennas	1 foot
Working at the same level behind directional and microwave antennas	3 foot
Working at the same level in front of directional and microwave antennas	10 feet
Working within 2 feet above or below in front of directional and microwave antennas	4 feet

f. All antennas are to be considered energized unless confirmation has been obtained that they have been de-energized, and will remain de-energized, in accordance with appropriate procedures.



NOTE

The SCE Radio Frequency Energy Safety Program is an integral part of the Corporate EH&S management system. This program provides requirements for identifying, evaluating, and working near or around RF emitting antennas. For additional guidance, refer to the Corporate Environmental Health and Safety website.

Figure 100–1: Antennas



Figure 100–1.1: Omni-directional Antenna

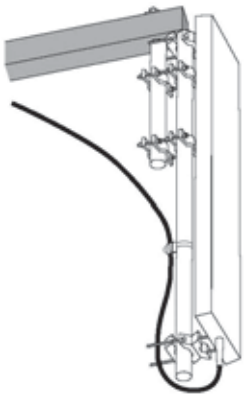


Figure 100–1.2: Directional Antenna

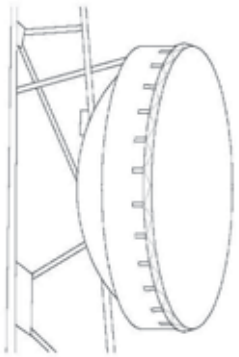


Figure 100–1.3: Microwave Antenna

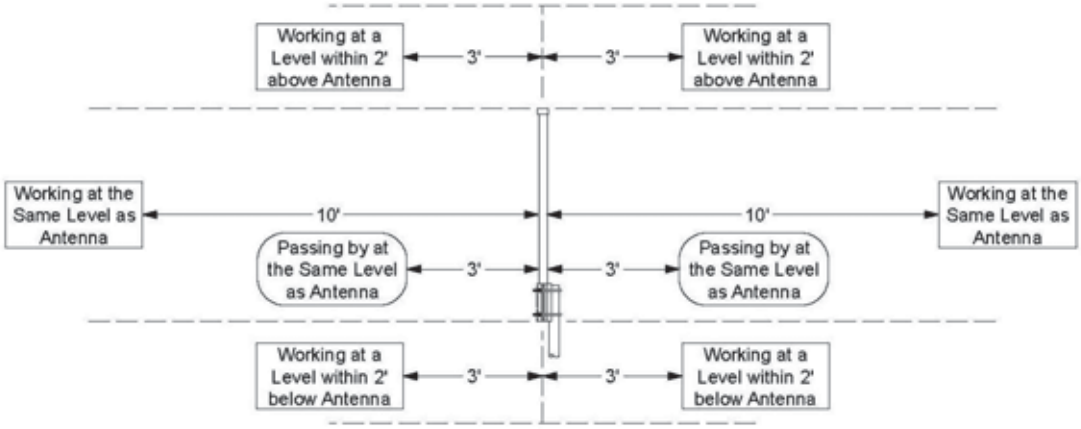


Figure 100–1.4: Closest Horizontal Approach Distances for Omni-directional Antennas

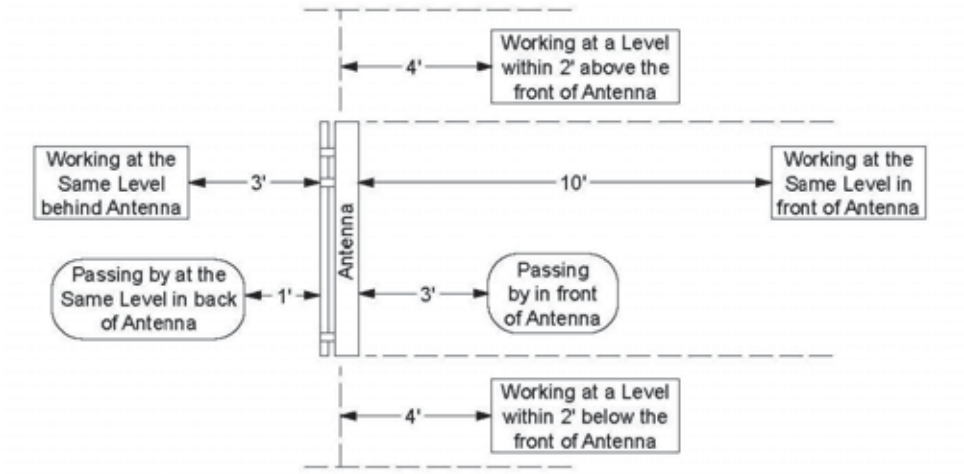


Figure 100–1.5: Closest Horizontal Approach Distances for Directional and Microwave Antennas

115. Reserved

116. Lights

No artificial light, except an approved electric flashlight or an approved extension cord and fixture, shall be used near escaping gas or gasoline or other flammable vapors, or when entering a room or enclosure suspected of containing gas.

117. Flammable Liquids

a. Fuel Dispensing Vehicles

1. Smoking is prohibited in the vicinity of fuel dispensing vehicles.

2. Only properly trained personnel shall be authorized to operate vehicles. Vehicles shall not be operated unless they are in proper repair, devoid of accumulation of grease, oil, or other flammables, and free of leaks. The driver or operator shall remain in attendance while the vehicle is being filled or discharged.

   The cargo tank shall never be loaded liquid full. Sufficient space shall be left vacant in every case to prevent leakage due to expansion.

3. Storage

   Fuel dispensing vehicles shall be stored only at designated locations not less than 50 feet from any building (except buildings approved for storage or servicing of such vehicles). Vehicles shall not be stored inside a structure unless written approval has been obtained from the Corporate Safety Department.

b. See Fire Information, Rules, and Education Manual for additional information and approved fire extinguishing equipment.

c. Flammable Liquids

1. Flammable liquids shall be stored, handled, and transported only in approved containers and extreme care must be used at all times to prevent ignition.

   In addition, employees shall familiarize themselves with and observe local ordinances relative to such storage. When transporting flammable liquids on vehicles, containers shall be properly secured and carried outside of the driver or passenger compartments.

2. When pouring or pumping gasoline from one container into another, metal contact shall be maintained between the pouring and receiving containers.

3. When refueling vehicles, employees shall remain in attendance at all times.

118. Rotating Shafts

All exposed parts of line or counter-shafts, or collars, clutches, cutoff couplings and clutch pulleys seven feet or less above floor or other normal working surface shall be identified and evaluated to determine the appropriate guarding required to protect against the hazard of accidental contact. All guards shall be appropriate for the hazards involved, secured in place, constructed of substantial material and have surfaces free of hazardous projections.

119. Work in CO_2 Rooms

When working in any room, switch cell, or other compartment where CO_2 equipment is permanently piped for fire protection, the CO_2 equipment must be made non-automatic unless the station and/or division manager expressly authorizes suitable safeguards to ensure prompt evacuation of and to prevent entry into such atmosphere should the system discharge. Suitable safeguards shall include personnel training, pre-discharge alarms, discharge alarms, and warning signs (see Rule 1236).

After a CO_2 discharge in an enclosed room or compartment, no one shall enter unless they are wearing an approved self-contained breathing mask or until the room has been thoroughly ventilated and tested with an approved oxygen deficiency tester.

120. Compressed Air

Compressed air shall not be used to clean the clothing or hair, or be turned against any employee for any reason.

121. Compressed Gases

a. Oil or grease shall not be allowed to come in contact with valves, regulators, or any other parts of oxygen cylinders or apparatus. (Oxygen contacting oil or grease may cause an explosion.)

b. Portable gas cylinders or containers shall be handled with extreme care and shall be stored in a suitable, well ventilated location, properly secured in a vertical position with valve cap in place, except one ton chlorine cylinders which shall be stored horizontally.

c. Portable gas cylinders or containers shall not be exposed to excessive heat. Sparks and flames shall always be kept away from such cylinders or containers.

d. Oxygen cylinders shall be stored separately from cylinders containing flammable gases (hydrogen, butane, propane, acetylene, and so forth) and from oils, greases, or flammable liquids. A distance of at least 20 feet, or a 5 foot high noncombustible barrier having a fire resistance rating of at least 1/2 hour shall be the minimum separation.

e. All connections to piping, regulators, and other appliances shall be kept tight to prevent leakage. Should leaks develop, use only soap and water solution or equivalent to make leak tests; never use open flames. When cylinders or containers are not in use or in transit, caps must be in place and cylinders secured to prevent falling or rolling.

f. Compressed gases shall not be used from a cylinder or cylinder manifold or other container unless an acceptable pressure regulating device is installed on the cylinder, valve, or manifold, except that regulators shall not be required with fuel gases used from cylinders through torches or other devices which are not equipped with shutoff valves.

122. Hazardous Chemicals

a. Employees handling hazardous materials, substances or chemicals shall, where appropriate, keep their sleeves rolled down and buttoned, wear approved respirator, or Self-Contained Breathing Apparatus (SCBA), aprons, gloves, eye, and face protection, and shall take precautions to prevent personal injury. They shall also become familiar with the location of eyewash stations, emergency showers, and wash basins. Periodic inspections shall be made to determine the condition of the eyewash stations, emergency showers, and related Personal Protective Equipment (PPE).

   If hazardous chemicals contact the skin, thoroughly wash the affected area with water. If cuts, skinned areas or abrasions, eyes, nose, or mouth are contacted by hazardous chemicals, immediately flush affected area with water and notify your supervisor. After handling equipment containing chemicals, wash hands before leaving the area.

b. Reasonable safeguards, including protection against earth tremors, shall be taken in storing hazardous chemicals to prevent injury to persons or property. To prevent a fire hazard, do not store containers of strong reducing agents such as concentrated hydrazine next to containers of strong oxidizing agents such as chromate or dichromate salts. Do not allow hydrazine to come in contact with these salts.

c. All chemical containers shall be properly marked.

d. Because of the volatile nature of ammonia or chlorine solutions, containers of the concentrated liquid should be opened in a well ventilated area. Pouring or pumping these solutions into open containers should be done with caution.

e. Information regarding recognition, types, and control of potential exposures to hazardous chemicals are available on the safety portal site. Refer to the Chemical Briefing material in the A to Z index, Hazard Communication and Chemical Management.

123. Transportation

a. When operating a brake equipped trailed vehicle, brake test shall be made on the towing vehicle each time the trailed vehicle is coupled or uncoupled and shall include visual inspection of brake hoses and couplings, and an actual test of all possible braking combinations.

b. Before starting to move a vehicle either forward or backward, the driver shall determine that no person or object is in the path of the vehicle.

c. Employees shall not ride on pole dollies, trailers, fenders, running boards, side rails, or on top of vehicles.

d. Employees shall ride in the space provided therefore in Company vehicles and shall not ride with their legs hanging out of the rear or side of any vehicle.

e. Employees shall remove their climbers before riding in a vehicle.

f. All sharp tools, such as saws, chisels, axes, knives, and so forth, carried on vehicles shall be so stored or guarded to prevent injury.

g. Before proceeding, drivers shall make certain that all loads are properly secured, that riders are properly located to prevent falling from the vehicle, and are not exposed to hazards from shifting loads.

h. Employees shall not get on or off vehicles in motion.

i. Drivers shall not permit more employees to ride on the driver's seat than the number for which the seat was constructed.

j. Seat Belts and Shoulder Harnesses

1. Employees operating or riding in Company vehicles or personal vehicles while on Company business shall use restraint devices where provided.

2. Employees operating vehicles on Company business shall require all passengers to use restraint devices.

k. When outriggers are lowered or raised, they shall be within the view of the operator or shall be directed by an observer.

1. Vehicles having projections to the rear (load or part of the vehicle) four or more feet beyond the bed or body shall display at the end of the projection:

2. During darkness, two red lights visible at least 500 feet to the sides and rear; and,

3. At all other times, a red flag not less than 16 inches square.

l. Vehicle/Equipment Jack Stands

1. Always inspect the jack stand(s) for damage and capacity rating prior to use. Verify that the vehicle or equipment weight is below this rating. If the vehicle weight is unknown, the Gross Vehicle Weight Rating (GVWR) can be used. The GVWR is in the owner's manual and also on the driver's side front door jamb for on road vehicles.

2. Jack stands are to be placed under a sturdy chassis member, such as the frame or axle housing to support the vehicle or equipment weight.

3. An employee shall never place themselves under a vehicle or equipment when only a hydraulic or mechanical jack supports it without being properly secured on a jack stand(s).

m. Working with Vehicles that have a Battery (that is, Electric Vehicles or Hybrid Vehicles)

1. Vehicle repairs will only be conducted by authorized repair facilities (for example, vehicle dealership, Pomona EVTC, and authorized garage personnel)

2. No work or maintenance shall be conducted on electrical/hybrid vehicles unless authorized to do so (for example, jump starting a vehicle).

n. Working with Vehicle Winches

1. Persons not involved in the winching process must not be allowed to remain in the area during winching operations

2. Always wear leather gloves

3. Inspect the wire rope prior to use for damage that could reduce its breaking strength

4. Use an approved winching accessory over the wire rope approximately halfway along the hook attachment. This weight will act as a damper and help prevent a broken wire rope from whipping

5. Do not step over a taut wire rope or allow anyone else to do so

6. Due to the possibility of cable failure, direct all personnel to stand clear of any possible pathway

7. Do not reach over or across the winch and/or pulling cable while the winch is in operation. Keep hands and fingers clear of wire rope and hook when operating winch

8. Do not wear loose clothing or jewelry as they can be caught in moving parts

9. Always make sure that there are at least five complete turns of rope left on the drum before winching

10. Never hook the wire rope back onto itself. This can cause excessive strain that could break individual strands and weaken the entire wire rope

11. Do not overload the winch or any of its connecting parts

12. Disconnect the remote control when not in use

13. Winch cables shall not be used as a tow strap

14. Connect winch hook only to manufactured anchor points when equipped

o. Vehicle Tow Straps

1. Only authorized employees are permitted to use approved tow straps for moving or transporting company vehicles

2. Tow straps shall include the manufacturer's rating label

3. Tow straps that are missing required labeling or are not legible are not approved and shall be removed from service

4. Lifting slings are prohibited from being used as tow straps (for example, recovery straps)

5. Tow straps are prohibited from being used as lifting slings

6. Chains are prohibited from being used for towing or recovery activities

124. Parking

a. Drivers shall comply with state and local parking regulations except when exemption therefrom is granted for work involving construction, operation, removal, or repair of utility facilities. Vehicles parked under the foregoing special conditions must be protected by specified warning devices.

b. When any motor vehicle is parked on a grade, the operator shall turn the front wheel against the curbing, set the emergency brake, and place the transmission in gear or parking position. Chocks, where provided, shall be used where there are no curbs, or where other conditions require.

c. The operator shall not leave the controls of any vehicle or mobile equipment parked in such a position that it might coast or freewheel from its parked position.

125. Vehicle Booms, Ladders, and Lifts

a. Drivers of vehicles equipped with booms used for setting or removing poles, truck mounted ladders, mechanical or hydraulic lifts, hole diggers, or similar equipment, shall not drive with such equipment in an elevated or partially elevated position. Provided, however, this shall not preclude the movement of vehicles so equipped at the same job location with the boom in an elevated or partially elevated position.

b. Notwithstanding the provisions of subparagraph a. above, special equipment for which a valid variance permit has been secured from the proper governmental agency, and which has been individually approved by the superintendent or manager in charge, may be operated with the boom in a partially elevated position or projecting beyond the vehicle while traveling on streets or highways.

c. Riding in the basket, bucket or pin on platform of an aerial lift truck which is traveling between work locations is not permitted. Employees may ride for short moves at the work location to reposition the truck for a better boom angle, but only with the boom in the cradled position.

EXCEPTION: See Rule 167 for exceptions allowed for towering work.

126. Cranes, Hoists, Derricks, Booms, and Winches

a. A crane, boom, derrick, hoist, or winch shall not be loaded beyond the rated capacity or safe working load, whichever is smaller. These shall be operated only by qualified and authorized persons.

b. When mobile hoists, cranes, booms, or other similar lifting devices are used near energized lines or equipment, employees operating this equipment shall not stand on a grounded surface, other than the equipment itself. All other persons shall remain in the clear until the equipment is in a safe position. The person in charge shall check and determine that all persons remain in the clear while the vehicle is being moved or the boom is being repositioned (see Rule 147).

c. Employees shall not ride on loads.

d. Operators shall not move loads over the heads of employees or others, including those in vehicles, unless authorized by the supervisor. Operators shall not leave cranes, hoists, or derricks unattended while load is suspended, unless suspended over a barricaded area, blocked, or otherwise supported from below during repair or emergency. Employees shall not stand or pass under a suspended load.

e. Employees shall not ride on the steps of locomotive cranes.

f. Crane, hoist, or derrick operators shall take signals from only one person during operations. Only qualified and authorized employees shall give signals.

g. Standard signals as set forth in the T&D Overhead Rules shall be used to signal derrick, crane, and overhead traveling crane operators. The appropriate chart shall be conspicuously posted in the vicinity of hoisting operations (cage or cab if so equipped) depicting and explaining the system of signals to be used.

h. A warning bell shall be sounded when overhead traveling and gantry cranes (controlled from a cage) are in motion or loads are being moved overhead.

i. A suitable warning device shall be sounded before moving a locomotive crane.

j. Safety switches shall be opened before changing the power cable on a gantry crane.

k. Rigging equipment shall be carefully inspected before and after use. Defective equipment shall be repaired or discarded immediately.

l. All crane controls, including limit switches, shall be tested before the equipment is first operated after the start of each shift.

m. Portable cranes, hoists, and derricks shall be positioned, equipped, protected, and/or operated so that no part comes closer to energized power lines than indicated in this table:

Nominal Voltage kV Phase to Phase	Minimum Required Clearance (ft)
.6 to 50	10 ft
50 to 175	15 ft
175 to 350	20 ft
350 to 550	27 ft
550 to 1,000	45 ft



NOTE

These clearances do not apply to such equipment when used for authorized work on overhead and underground conductors, structures, or apparatus by qualified persons.

127. Work Area Protection and Traffic Control

a. Approved warning signs, barriers, guards, flags, alternate pathways, and lights at night shall be installed and properly maintained wherever hazards exist due to: Moving or stationary vehicles, pedestrians, exposed energized parts, open excavations, construction operations, open walk-in vaults or open underground structures. Refer to Business Unit procedures for work area protection, pedestrian and traffic control.

b. Where approved signs or barricades do not provide the necessary traffic control, flaggers shall be provided.

   Only properly instructed personnel shall be used as flaggers. Flaggers shall wear approved vests and they shall be reflectorized when worn at night. During the hours of darkness, flaggers shall be illuminated and clearly visible to approaching traffic.

   Where flaggers are utilized, the stop/slow paddle shall be used. However, where paddles are not available and a danger to the traveling public or employees exists, red flags may be temporarily used.

c. Employees on foot, working on or alongside a roadway with vehicular traffic, shall wear an approved high-visibility garment appropriate for their work. This applies both inside and outside of a traffic control zone.

d. Flashing amber warning lights shall be used on Personnel Aerial Lift Equipment in use. When proper traffic control has been established, the use of flashing amber lights is no longer required.

128. Barrier Tape and Guard Rails

Suitable barrier tape shall be used to mark off and bar approach to hazardous areas. When suitable barrier tape is used to surround or isolate high voltage electrical equipment, an employee shall not be permitted to cross over or under the tape while it is barricading an area, except in an emergency or when work in progress requires the employee to enter the hazardous area. While in the area, the employee shall be continuously watched by another qualified employee.

The following colors shall be used when barrier tape is used:

Red:	Danger or Stop
Orange:	Identification of hazardous parts or machines
Yellow:	Caution
Blue:	Safety Information
Purple:	Radiation Hazards

Floor openings and openings in walkways shall be guarded by a cover, a standard guardrail, or shall be constantly attended. Toe boards shall be installed where persons may pass underneath or there is moving machinery or equipment with which falling material could create a hazard.

129. Removing Safety Guards

a. Safety guards shall not be removed except on approval of the foreman, supervisor, or other person in charge, and after necessary steps have been taken to ensure the safety of employees and the public.

b. Where regular safety guards are removed, they shall be replaced or suitable temporary guards provided before returning to normal operation.

130. General Fall Protection

a. Employees shall use approved Fall Protection Systems, which include positioning device systems, body belts and safety straps, lifelines, or other adequate protection as required when working in elevated positions. See the CHS Fall Protection Standard and Manual or Rule 212 for additional information.

b. It shall be the employee's responsibility to inspect each safety device prior to use, and to use only those that are in good condition.

c. No employee shall be elevated in a boom type aerial bucket or work platform, including truck-mounted streetlight ladders or hydraulic lifts without first being secured with a lanyard or self-retracting lifeline and a full body harness. When working from pin-on platforms, employees shall utilize a Lineman's body belt and safety strap. If a lanyard or self-retracting lifeline, is utilized, it shall be rigged such that an employee can neither free fall more than 6 feet, nor contact any lower level, and, where practicable, the anchor end of the lanyard shall be secured at a level not lower than the employees waist.

d. Employees shall ensure that the snap hook is properly engaged in the "D" ring before the weight of the body is placed on the safety strap. When the strap is in use, both snap hooks shall not be attached to the same "D" ring.

e. Wire hooks, for hanging tools or equipment, shall not be used on body belts.

f. When working over or near water and the danger of drowning exists:

   1. Employees shall wear approved life jackets or buoyant work vests when working alone.

   2. When employees are not working alone, approved life jackets or buoyant work vests shall be worn, at least one approved ring buoy with a minimum of 90 feet of 600 pound capacity line shall be immediately available, or a safety strap, lifeline, or properly installed approved safety net must be used to eliminate the danger of drowning.

g. An employee using a boatswain chair shall, in addition to being secured to the boatswain chair, be secured with a safety harness to a safety line attached to a fixed part of the structure being worked upon. Boatswain chairs shall be periodically inspected. The cables, seats, and mechanism shall be maintained in a safe condition. No welding, burning, or sandblasting shall be done from a boatswain chair suspended by a fiber rope.

h. Personal Fall Protection System equipment must be used according to the manufacturer's instructions and shall be inspected prior to each use for wear, damage, and other deterioration. All personal fall protection equipment must be arc rated when working near energized equipment (within the arc flash boundary). Defective components shall be removed from service. See the CHS Fall Protection Standard and Manual for further information regarding additional requirements relating to Personal Fall Protection Systems.

131. Care and Testing of High and Low Voltage and Dielectric Testing of High Voltage Rubber Protective Equipment

a. Rubber gloves shall never be worn inside out or without approved protectors or overgloves. They shall be exchanged at any time they become damaged or the employee to whom they are assigned becomes suspicious of them. Approved protectors or overgloves shall not be worn except when in use over rubber gloves.

b. Low voltage rubber gloves shall be inspected for defects and shall be given the roll and air test at least once each day while in use, preferably at the beginning of the work period and at any other time when their condition is in doubt.

c. High voltage rubber gloves shall be air and water tested at the beginning of each work period and at any time when the glove's condition is in doubt. The gloves shall be visually examined over their entire inner and outer surface for any defects, that is, burns, cuts, cracks, or punctures. In addition, the cuffs shall be stretched to detect abrasions or weak spots.

d. When not in use, rubber protective equipment shall be protected from mechanical and chemical damage, and shall always be stored in the containers provided and nothing else placed therein.

e. Rubber blankets and sleeves shall be given a visual roll test to inspect for defects at least once each day while in use, preferably at the beginning of the work period and at any other time when their condition is in doubt.

f. Rubber blankets, when used on the ground, shall be protected from physical damage and moisture by means of a tarpaulin, canvas, or protective mat.

g. Extreme care shall be exercised to avoid puncturing all protective equipment. To avoid corona and ozone damage, rubber protective equipment shall not be allowed to remain in place on energized lines or apparatus overnight or for more than one eight hour period unless approved by the supervisor in charge.

h. Rubber gloves, sleeves, blankets, used on high voltage (above 600 Volts) conductors and equipment shall be dielectrically tested at least once every six months and before being placed into service when received from the manufacturer. This equipment shall be marked with the date the dielectric test was conducted.

i. Rubber gloves used on low voltage (below 600 Volts) conductors and equipment shall be dielectrically tested at least once every six months following placement into service when the rubber glove is received from the manufacturer. Rubber gloves shall be marked with the date the dielectric test was conducted.

132. Insulating Aerial Devices and Pole-Mounted Insulated Platforms Used for High Voltage (above 7500 Volts) Rubber Glove Work

Insulating Aerial Devices and insulating bucket liner(s) used for Insulate/Isolate Work Methods (7.5 kV through 17 kV nominal phase to phase voltages) shall be dielectric tested at least every 12 months and comply with the latest ANSI A92.2 standard for aerials designed for gloving work. In addition they will have insulating bucket liner(s) and liner protector(s) installed. For aerials manufactured after June 26, 2016, the aerial manufacture identification plate must also indicate "Configured for Electrical Work Rubber Gloving". Aerials manufactured prior to June 26, 2016 are not required to have this indication.

Pole-mounted Insulated Platforms used for Insulate/Isolate Work Methods (7.5 kV through 17 kV nominal phase to phase voltages) shall comply with the latest ASTM F1564 standard. In addition, they will be tested at least every 24 months. The test method will follow the dielectric test outlined in ASTM F1564 standard.

Immediately prior to use, visually inspect and wipe clean if necessary of anything that will adversely affect the insulation of the Insulating Aerial Devices or Pole-mounted Insulated Platforms.

133. Safe Supports

No employee, material, or equipment shall be supported on any portion of a tree, pole structure, scaffold, ladder, walkway, or other elevated structure, crane, or derrick, and so forth, without it first being determined that such support is adequately strong and properly secured.

134. Portable Ladders

a. When employees are working from a portable ladder, the ladder shall be securely placed and held, tied, or otherwise made secure to prevent slipping or falling. Portable rung and cleat ladders shall, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one quarter of the working length of the ladder (the length along the ladder between the foot and the top support). All portable ladders, except stepladders, shall be equipped with nonslip bases.

b. Wire truss and portable metal ladders shall not be used in the vicinity of exposed energized circuits. Any such ladders used for authorized purposes shall be legibly marked “Caution — Do Not Use Around Electrical Equipment.”

c. Wooden ladders shall not be painted with a pigment based paint.

d. When using portable ladders to gain access to roofs, landings, underground structures, trenches, excavations, and so forth, the side rails shall extend a minimum distance of three feet above the point of support.

e. Permanently installed underground structure ladders shall not be used if removed from their designed supportive assembly.

f. Ladders shall not be placed in front of doors opening toward the ladder unless the door is open, locked, or guarded.

g. Employees shall face the ladder and use both hands when climbing or descending.

h. When work from a ladder requires reaching to one side, the center of the employee’s body shall not extend beyond the side rails unless work positioning equipment (for example, Lineman’s Belt, Body Belt) or fall restraint is utilized.

i. Employees shall not use ladders with broken or missing steps, broken side rails, or other defects.

j. Employees shall not use benches, boxes, tools, chairs, or other makeshift substitutes as ladders.

k. Employees shall not stand or climb on the top cap or the step below the top cap of stepladders without the use of fall protection.

l. Employees shall not sit on the top cap of stepladders without the use of fall protection.

EXCEPTION: Employees may sit on the top cap of stepladders that are 4 feet or shorter.

135. Tools

a. Only tools in good condition shall be used.

b. Field fabricated tools must be approved by local management.

c. Tools and other materials shall not be left lying in elevated positions, unless protected from falling.

d. Metallic rules shall not be used near exposed energized electrical equipment. Cloth tapes with metal reinforcing shall not be used on the system under any circumstances.

e. Hand Lines

1. When raising or lowering tools or lightweight material, a hand line or hand line with material bag attached thereto shall be used.

2. Hand lines shall be approved nominal 1/2 inch material.

EXCEPTION: At the discretion of the supervisor in charge, a smaller line may be used by the person on the pole to pull lightweight tools and material to themselves.

3. When utilizing conductive hand line sheaves on any structure which conductors energized 72 kV and below are attached, sheaves shall be attached, sheaves shall be attached with a non-conductive material (for example, non-conductive rope or sling, a “becky”).

f. Powder Actuated Tools

1. Only qualified employees shall be permitted to operate powder actuated tools, and they shall be operated in accordance with the manufacturer’s instructions.

2. Powder actuated tools and powder loads shall be in a lockable container and stored in a safe place when not in use and shall be accessible only to qualified employees.

g. Portable Tools

1. Non-current carrying metal parts of portable electric power tools shall be grounded, or if supplied by a portable generator, the non-current carrying metal parts of tool and generator shall be bonded in lieu of grounding.

2. Only nonconducting hoses of adequate strength for normal operating pressure are to be connected to hydraulic and pneumatic tools operated on or near energized lines or equipment.

3. Employees operating air, hydraulic or electric tools to break or drill concrete or rock shall wear approved head, eye, ear, and foot protection.

136. Current Transformer Secondaries

Before energizing any current transformer, it shall be known that the secondary circuit is closed. If the primary voltage exceeds 600 Volts the secondary shall also be grounded. Before working on instruments or other devices in a current transformer secondary circuit, the instruments or devices shall be short-circuited by jumpers or approved test switches, so that the current transformer secondary circuit cannot be opened while working on the instruments or devices connected thereto. The ground lead or the secondary circuit of an energized current transformer shall never be disconnected or opened.

137. Edison Communication Open Wire Lines and Equipment

a. Rubber gloves must be worn when working on all Edison communication open wire lines or equipment unless the employee is adequately insulated from the ground and other conductors, or positively knows the line to be shorted and grounded (This does not apply to communication equipment on the station side of telephone insulating transformers or other protection equipment on the communication terminal rack).

b. Telephone fuses must not be removed or replaced except by the use of suitable insulated tools or rubber gloves, unless the fuse block is first entirely disconnected from the line or lines.

c. Work on telephone type alarm circuits, including pallet switches, rectifiers, and all connections, shall be done in accordance with Rule 138 a. and Rule 138 b.

138. Edison Communication Cable

a. Work on telephone type alarm circuits, including pallet switches, rectifiers, and all connections, shall be done in accordance with Rule 137 a. and Rule 137 b.

b. Rubber gloves shall be worn when connecting or removing any station or remote shield grounds and neutral or driven grounds from the messenger. The field testman shall wear rubber gloves when in contact with a grounded cable shield.

c. When in contact with a cable shield in communication terminal cabinets, rubber gloves or approved insulated rubber mats shall be used. Contact with any portion of the telephone terminal rack and/or foreign grounds shall be avoided.

139. Breaking Pressure Connections

Before removing a valve bonnet or stuffing box gland, breaking a flanged joint, removing manhole covers, or other pressure connection, the bolts, nuts, or other fasteners shall first be loosened, but not removed, and special care exercised to make sure that pressure is released or does not exist.

140. Chain Saws

a. Employees required to use chain saws shall be trained in their use and application.

b. Only approved chain saws shall be used from elevated positions on erected poles; provided it does not weigh more than 25 pounds (gross weight).

c. Chain saws shall not be attached to or suspended from a body belt or harness.

d. Chain saws shall be secured with a separate line at all times when being used from an elevated position.

e. When a chain saw is being used, the operator shall grip the saw with both hands during the entire cutting operation.

f. The saw engine shall be stopped when working on any part of the chain or cutting bar.

141. Grounding

a. Unless otherwise performing work with live line or other approved insulated tools, Overhead, Underground or Station conductors and equipment normally operated at a voltage in excess of 600 Volts shall not be worked on until de-energized and the normally energized parts have been tested as de-energized with an approved device for indication of voltage and all conductors have been short circuited and grounded according to business unit procedures. Backfeed from transformers, energized high voltage conductors which cross over a de-energized conductor and unprotected energized conductors which cross under a de-energized conductor shall be considered possible sources of supply. This shall not preclude the removal of grounds for test purposes. When the work on such de-energized conductors involves the wiping or testing of insulators only, high voltage conductors crossing under such de-energized conductors need not be considered a possible source of supply.

b. Only approved grounding and jumper equipment shall be used. This equipment shall only be used for grounding purposes. Portable grounding devices shall be secured to permanently grounded objects at the location selected for grounding in the following order of priority:

1. Station ground

2. 4-wire multi-grounded primary neutral

3. Steel structures

4. Anchor rods

If none of the foregoing are available, an approved temporary ground rod shall be used. An approved testing device shall be used to prove conductors or equipment is de-energized before grounding. The conductors or equipment shall be grounded and short circuited with approved grounding devices. Grounding devices shall be applied and removed with live line tools. When the primary neutral conductor is used as the grounding medium, grounding devices must be connected to an additional approved ground.

NOTE

A multi-grounded primary neutral, as opposed to a “neutral of 4 kV isolated neutral system” is defined as a neutral conductor on a primary circuit, that has grounds attached to it, at intervals of up to 1,200 feet. If a multi-grounded primary neutral has grounds attached to it at intervals greater than 1,200 feet, it should be reported, however it shall still be considered a priority for grounding purposes, over steel structures, anchor rods, and driven grounds.

5. The grounding devices shall first be connected to a ground before being brought in contact with any conductor to be grounded. When being removed, they shall be removed from all conductors before being disconnected from ground. No employee shall handle any conductive portion of the grounding device while it is being installed or removed from the conductors, except when using live line tools.

6. The employee applying the grounding device shall determine that all persons are a safe distance from any portion of the grounding device before contacting the conductor with the grounding equipment.

7. Grounds shall be installed so that at least one set is visible to one member of the crew, unless one of the grounding devices is accessible only to authorized persons.

8. Grounding devices shall be placed so that employees cannot make accidental contact between the grounding devices and unprotected energized conductors.

9. When working on new lines or equipment under construction or on existing de-energized conductors or equipment, jumpers shall be installed to ensure that no potential difference exists between the equipment being worked upon and any grounded conductors or equipment which might be contacted while the work is in progress. On grounded steel structures, a personal ground shall be installed between each de-energized conductor being worked upon and the steel structure. Before opening or closing any conductor that may be exposed to a difference of potential or that has been grounded to a primary neutral, approved jumpers shall be in place across the point to be opened or closed to ensure continuity of the conductor. When splicing overhead conductors at ground level that are exposed to hazardous differences in electrical potential, an Equal Potential Zone (EPZ) mat shall be used, or a ground shall be installed on each side and within ten feet of the working area. The two ends being spliced shall be bonded together with an approved jumper.

10. When it is necessary for employees of other Business Units to work in substations or generating stations on lines or equipment where portable grounds are required they shall be supplied by the substation or generating station.

11. When work is to be done on one de-energized circuit of a multiple circuit line at the same level and the circuits are separately bonded, tests shall be made to determine that no appreciable difference of potential exists between the grounded conductor and the bond of the circuit to be worked upon.

12. When working on or climbing through energized multiple circuits that are commonly bonded and it is impossible to avoid personal contact with the bond, the bond shall first be grounded before the lineman climbs through or works on the circuit.

13. When work is to be done or contact made on the bond or metal fixture of either a Dreyfuss or squirrel cage fixture supporting energized conductors, it must be done with live line tools or the fixture must be grounded. If the bond wire is #4 copper and is exposed so it can be inspected, only one fixture need be grounded. If not, approved jumpers are required between fixtures.



NOTE

Nothing in this rule shall prohibit working on conductors with approved insulated tools or equipment.

14. Station ground disconnects shall not be considered for use as approved personal grounding devices. Only approved grounding devices as outlined in this rule shall be used for the protection of personnel.

142. Hearing Conservation

a. Employees shall wear hearing protection in areas where required or where the noise level and the time involved exceeds the levels established by the state or federal OSHA.

   1. Generating stations and hydro powerhouses shall develop a site specific Hearing Conservation Program Implementation Plan. Business Units that dispatch workers from a work location, for example, the Transmission and Distribution (T&D), shall develop a business unit Hearing Conservation Program Implementation Plan to cover any employees required to be in the Hearing Conservation Program.

b. Employees shall be aware of areas with high noise levels where hearing protection is required. When in doubt — hearing protection shall be worn.

c. Only approved hearing protection shall be used. The employee shall use protection provided and exercise due care to keep protection in a sanitary condition.

d. A copy of the Corporate Hearing Conservation Program and/or site specific Hearing Conservation Program Implementation Plan shall be maintained at each site.

   1. Corporate EH&S has developed guidance for implementing the requirements of this program. Information regarding the SCE Hearing Conservation Program can be found on the Corporate Environmental Health & Safety Portal.

143. Confined Spaces and Permit Required Confined Space

Enclosed Spaces (Underground Utility Vaults) (see Rule 300).

a. Confined Space — A confined space is defined as a space that has all three of the following:

   ☐ Is large enough that an employee can bodily enter; and,
   ☐ Has limited openings for entry or exit; and,
   ☐ Is not designed for continuous employee occupancy.

b. Permit Required Confined Space (PRCS) — A PRCS is a confined space that meets any of the following:

- ☐ Contains or has a potential to contain a hazardous atmosphere; or,
- ☐ Contains a material with the potential to engulf an entrant; or,
- ☐ Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or a floor that slopes downward and tapers to a smaller cross section; or,
- ☐ Contains any other serious safety or health hazard.

c. Atmospheric Testing and Monitoring

1. Test for the presence of combustible gases, toxic gases, and oxygen deficiency and/or enrichment shall be made with approved testing devices immediately prior to an employee entering these space(s). Where practical, initial tests shall be made before access doors are opened or covers removed.

2. During the time such space is occupied atmospheric monitoring shall be at intervals not to exceed 4 hours. Continuous monitoring is a best practice. Re-logging of atmospheric monitoring results shall be made at intervals frequent enough to assure a safe atmosphere, but are not to exceed four hours. Where normal ventilation is not adequate to provide a safe atmosphere, suitable temporary ventilation to ensure employee safety shall be provided.

   Ensure that:

   (a). The intake is away from traffic to avoid vehicle exhaust fumes.

   (b). If the ventilating equipment is gas powered, the motor exhaust is not being drawn into the air intake.

   (c). The ventilation equipment's intake is at least 5 feet away from the space entry.

3. All test results shall be recorded in an approved inspection log and retained by the work location for one (1) year

4. Written, understandable operating and rescue procedures shall be developed and provided to affected employees by each work location requiring employees to enter into and work in a confined space. If entry into a confined space in which a dangerous air contamination and/or oxygen deficiency exists, the following shall be done prior to entry:

   (a). Appropriate approved protective equipment shall be provided and worn.

   (b). Rescue procedures and equipment shall be developed and provided.

   (c). At each location, a qualified employee shall evaluate the workplace to determine if any confined spaces are permit required confined spaces (permit spaces).

   (d). Employees exposed to a permit space shall be informed of the existence and location of the danger posed by the permit spaces.

(e). If employees will not be allowed to enter permit spaces, effective measures shall be taken to prevent employees from entering the permit space.

(f). If employees will enter permit spaces, a written permit program shall be developed and implemented by each location which contains permit space(s).



NOTE

If the development of dangerous air is imminent or should atmospheric monitoring test results indicate the development of dangerous air, evacuate the space, permit no one to enter the space, and notify Corporate or Business Unit Safety.

The SCE Confined Spaces Program is an integral part of the Corporate EH&S management system. This program provides the requirements for identifying, evaluating, and working in non-permit and permit required confined spaces. For additional guidance, you must refer to the Corporate Environmental Health and Safety Portal.

144. Powered Industrial Trucks

a. Each supervisor shall ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation specified in this rule.

b. Training shall be consistent with CCR, Title 8, General Industry Safety Orders, 3668.

c. An evaluation of each powered industrial truck operator's performance shall be conducted and documented at least once every three years.

d. Refresher training and evaluation in relevant topics shall be provided to the operator when:

1. The operator has been observed to operate the vehicle in an unsafe manner;

2. The operator has been involved in an accident or near miss incident;

3. The operator has received an evaluation that reveals that the operator is not operating the truck safely;

4. The operator is assigned to drive a different type of truck; or

5. A condition in the workplace changes in a manner that could affect safe operation of the truck.

e. Employees operating industrial trucks shall follow all posted operating rules, in accordance with CCR, Title 8, General Industry Safety Orders, 3664, along with any site specific procedures established by the work location.

145. Helicopter Operation

Only personnel qualified in the specific helicopter work method operation conducted by Aircraft Operations shall participate in the operation. Helicopter work methods include: external loads, Helicopter Manlift, line stringing, rigging, and pole sets.

All equipment used in helicopter work method operations shall be approved and inspected prior to each operation.

a. Personal Transport

1. Personnel shall not board or depart from a helicopter with the rotor turning or enter the area below the rotor's arc, until authorization is received from the pilot. Entry and departure from this area shall be from the front of the aircraft only.

2. Personnel shall not board or depart from an airborne helicopter.

   EXCEPTION: Allowed when operations are conducted under Section D. (Helicopter Manlift Operations) of this rule.

b. External Load Operations

1. Only personnel who have received a special course of instruction from the Air Operations Division or their qualified designee shall be permitted to work below a hovering helicopter.

2. The job shall be planned to minimize the time spent by personnel below a hovering helicopter.

3. Personnel shall not enter the area below the blades of the main rotor of a hovering helicopter until authorized by the pilot and with the approval of the supervisor in charge.

4. The job shall be planned so that the number of personnel directly assigned to the helicopter operation shall be kept to a minimum. Persons not directly assigned or connected with the job shall not be permitted within 150 feet of the helicopter touchdown and liftoff location (passing automobiles on adjacent roads are excluded from this requirement).

5. Personnel shall not stand or pass under a load suspended from a hovering helicopter.

6. When utilizing hand signals, helicopter pilots shall receive hand signals from only one person during operations. Only qualified and authorized employees shall give signals. Personnel giving signals shall be readily identifiable.

7. When working in the vicinity of hovering helicopters, personnel shall wear dust goggles; hard hats shall be secured by chinstraps.

c. Aerial Patrol

All personnel on-board a helicopter during patrols shall have completed Aircraft Operations' patrol training.

EXCEPTION: Allowed with written waiver from Manager of Aircraft Operations or designee.

1. Pilots and patrol personnel shall tailboard the mission to be flown, the patrol personnel's knowledge of the mission, known hazards to flight, responsibilities of the crew, and response to emergency situations.

2. When expected to operate for extended periods at low altitudes and low speeds, personnel shall not wear clothing made of, or which contains, synthetic fabrics such as acetate, nylon, polyester, or rayon that have not been treated for flame retardancy. In addition, a company approved fire retardant shirt, fire retardant coveralls, or a fire retardant rain suit and a protective flight helmet shall be worn.

d. Helicopter Manlift (Human External Cargo — HEC)

1. TDBU and Aircraft Operations procedures directing helicopter Manlift operations shall be strictly followed.

2. All personnel participating in a Helicopter Manlift operation shall be qualified or accompanied by qualified personnel in accordance with applicable procedures.

3. All equipment used in Helicopter Manlift operations shall be approved and inspected by qualified personnel prior to each operation.



NOTE A hovering helicopter is defined as one which is airborne and virtually motionless.

Figure 100–2: Helicopter Hand Signals

MOVE RIGHT



Left arm extended horizontally; right arm sweeps upward to position over head.

HOLD-HOVER



The signal “Hold” is executed by placing arms over head with clenched fists.

MOVE LEFT



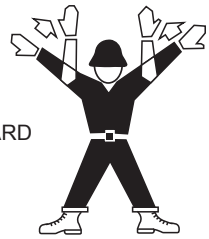
Right arm extended horizontally; left arm sweeps upward to position over head.

TAKEOFF



Right hand behind back; left hand pointing up.

MOVE FORWARD



Combination of arm and hand movement in a collecting motion pulling toward body.

LAND



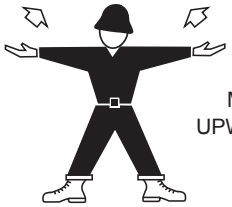
Arms crossed in front of body and pointing downward.

MOVE REARWARD



Hands above arm, palms out using a noticeable shoving motion.

MOVE UPWARD



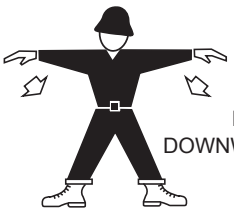
Arms extended, palms up; arms sweeping up.

RELEASE SLING LOAD



Left arm held down away from body. Right arm cuts across left arm in a slashing movement from above.

MOVE DOWNWARD



Arms extended, palms down; arms sweeping down.

146. Trenches and Excavations

a. Pre-inspection requirements

Before entering any trench or excavation, an examination by a qualified person shall be conducted to determine that no hazardous conditions exist which could expose employees to injuries from possible ground movement during such time that the trench or excavation is occupied.

b. Employee protection, Guarding

No trench or excavation five feet or more in depth shall be entered until it has been effectively guarded by a:

1. shoring system, or,
2. benching or sloping of the ground (3/4 horizontal to 1 vertical) or,
3. other equivalent means

c. Employee protection, Excavated material or equipment

Excavated material or equipment shall not be placed closer than two feet from the edge of trenches or excavations.

d. Protection from hazardous ground movement

Protection for employees who work in trenches or excavations less than five feet in depth shall also be provided when examination by a qualified person indicates that hazardous ground movement may occur.

e. Trench or excavation egress

All trenches or excavations four feet or more in depth shall be ascended and descended with ladders unless it is sloped or stepped. There shall be a ladder no more than 25 feet away from any employee occupying the trench or excavation, and it shall extend at least three feet out of the trench or excavation.

147. Minimum Approach Distance

a. No employee shall approach or take any conductive object, except with approved devices, closer to unprotected energized parts than shown in the following table at altitudes 3,000 feet or less

MAD	
Nominal Voltage in Kilovolts Phase to Phase	**Distance to Ground (ft-in)**
0.05 to 0.30	Avoid Contact
0.301 to 0.750	1-1
0.751 to 5.0	2-1
5.1 to 15.0	2-2
15.1 to 36.0	2-7
36.1 to 72.5	3-4
72.6 to 121	3-9
121.1 to 169	4-10[a/ b/]
169.1 to 242	6-8[c/ b/]
420.1 to 550	11-3

a/ 161 kV MAD may be reduced to 4 feet 0 inches if reclosing disabled.

b/ Transmission hot line orders are in effect.

c/ 220 kV MAD may be reduced to 5 feet 3 inches if reclosing disabled.



NOTE

When working at elevations higher than 3,000 feet above sea level, a calculation must be performed to determine the proper minimum working distance. The following correction factors shall be used when working above 3,000 feet.

Altitude Correction Factor	
Altitude (ft)	**Correction Factor**
Sea level to 3,000	1.00
3,001 to 4,000	1.02
4,001 to 5,000	1.05
5,001 to 6,000	1.08
6,001 to 7,000	1.11
7,001 to 8,000	1.14
8,001 to 9,000	1.17
9,001 to 10,000	1.20
10,00 to 12,000	1.25
12,00 to 14,000	1.30
14,00 to 16,000	1.35
16,001 to 18,000	1.39
18,001 to 20,000	1.44

Example calculation:

Working at an altitude of 4,200 feet on a 12 kv circuit

- Minimum Approach Distance (MAD) (below 3,000 feet) = 26 inches (2 feet 2 inches)
- Altitude Correction Multiplier at 4,200 feet = 1.05
- MAD at 4,200 feet: 26 inches ×1.05 = 27.3 inches. Round up to 2 feet 4 inches for new MAD.

b. Approach distances may be reduced, provided adequate approved protective devices are used. Such protection shall be applied and removed with approved insulating devices.

c. Contact shall not be made with protective devices on conductors energized above 7,500 Volts except with live line tools.

EXCEPTIONS:

- Employees certified in rubber gloving of conductors energized between 7,500 Volts to 17 kV may contact protective devices up to 17 kV while wearing rubber gloves rated for the voltage and while utilizing “insulate and isolate” work practices.
- Employees certified in performing bare hand – live line tool work methods on conductors energized between 69 kV and 550 kV while wearing a faraday suit, conductive gloves, hood and boots, and while maintaining minimum approach distances from other phases and/or ground potential.

148. Drop Zone

Prior to a worker entering into the drop zone area, the person(s) on the ground will communicate to those worker(s) in an elevated position that they are entering the area. Confirmation will be communicated prior to entering the drop zone.

A drop zone is described as an area below work that is being performed, where there is the potential for suspended loads, tools, equipment, waste, or other items to fall and create a hazard.

149. Backfeed

a. Before contacting the high voltage (rated in excess of 600 Volts) side of a de-energized transformer(s), or conductors connected thereto, all possible sources of backfeed shall be eliminated by disconnecting with an opening (opening primary or secondary jumpers, fuses, primary switches, cutouts, and so forth), or by grounding and short circuiting the low or high voltage side.

“PERSONNEL AT WORK — Do Not Energize” signs shall be placed at all isolation points before contacting de-energized high voltage conductors or equipment, or they shall be considered energized, and worked in accordance with established rules. Signs may be removed only by the person placing them.

EXCEPTION: Where the person placing the sign has left the premises or is otherwise unavailable to remove the sign, the supervisor in charge may authorize removal of the sign after verification that all personnel are clear of all conductors and equipment.

b. Before contacting de-energized low voltage conductors or equipment, all possible sources shall be eliminated or short circuited; or they shall be considered energized and worked on in accordance with established rules.

c. When short circuiting at the customer panel, shunts shall be connected to each phase, the neutral, and the customer ground.

150. "PERSONNEL AT WORK — Do Not Energize" Signs

a. "PERSONNEL AT WORK — Do Not Energize" signs shall be placed at all isolation points before contacting de-energized low voltage conductors or equipment, or they shall be considered energized, and worked in accordance with established rules.

EXCEPTION: This rule shall not apply in cases where the isolation points are in clear view of the workers or a qualified observer during the entire course of the job.

b. Signs may be removed only by the person placing them.

EXCEPTION: Where the person placing the sign has left the premises or is otherwise unavailable to remove the sign, the supervisor in charge may authorize removal of the sign after verification that it is safe to do so.

151. Small Unmanned Aircraft Systems (UAS's/Drones)

No SCE employee may operate the flight controls of a small UAS unless the operator has a valid remote pilot certificate with a small UAS rating issued pursuant to FAA regulations and meet the applicable knowledge requirements.

No SCE employee may operate the flight controls of a small UAS unless they have been qualified to do so by Aircraft Operations and have been added to the roster of SCE UAS pilots.

UAS operators, including those contracted through UAS services, shall adhere to all applicable Federal Aviation Regulations. For further information refer to the Air Operations Unmanned Aircraft Systems Standard (SCE-TMDIST-AIROPS-ST-9).

152. Asbestos and Man-made Mineral Fibers

Procedures addressing the handling and removal of asbestos and man-made mineral fibers and the required employee protective equipment are contained in the Asbestos Management for Construction Related Activities Program.

153. Polychlorinated Biphenyl (PCB) Handling and Disposal

a. The handling of PCB materials shall be in accordance with the following procedures to ensure that allowable exposure limits are not exceeded and environmental contamination does not occur.

1. Employees shall wear appropriate protective clothing when contact with PCB is unavoidable.

   Protective clothing shall consist of approved safety goggles and face shield, nonabsorbent gloves, nonabsorbent boots, and nonabsorbent coveralls.

2. The supervisor or person in charge shall require employees to wear an approved respirator when handling PCB in an area without adequate ventilation.

3. If PCB contacts the skin, waterless cleaner shall be used to cleanse the skin prior to washing with ordinary soap and water. This procedure shall be followed before eating, drinking, smoking, or using toilet facilities. Wipe towels or cloths used to remove the cleaner shall be discarded in an approved disposal container.

4. If liquid PCB contacts the eyes, they shall be immediately irrigated with water. After the eyes are irrigated, seek medical attention.

b. To ensure that PCB contaminated equipment and debris are properly disposed of, the following procedures shall be followed:

1. Any PCB spill causing visible contamination shall be cleaned up and leaking equipment, debris, or liquid disposed of in an approved container.

2. Only approved solvents may be used to clean tools and equipment contaminated with PCB. Rags or solvents used during clean up shall be disposed of in an approved container.

154. Reserved

155. Qualified Electrical Workers

Only qualified electrical workers or employees in training under the supervision or instruction of a qualified electrical worker shall be assigned to work on conductors or equipment energized in excess of 600 Volts. Except as outlined below, when work is being performed on exposed conductors or exposed parts of equipment energized in excess of 600 Volts, a second qualified electrical worker or employee in training, shall be in close proximity at each work location to act primarily as an observer for the purpose of preventing an accident and to render immediate assistance in the event of an accident.

Qualified electrical workers may be assigned to work alone:

a. When clearing trouble.

b. To replace fuses.

c. To operate switches, except where additional requirements exist within other APM rule(s): 309b, 312b(2).

d. To make current, voltage tests, and phase identification.

e. In emergencies involving hazards to life or property.

f. In operations which do not require the employee to contact exposed energized high voltage conductors or equipment.

g. Clean insulators in uncrowded conditions.

h. Hot insulator testing.

i. When installing or removing line monitoring, metering or test equipment with a single Live Line Tool in uncrowded conditions.



NOTE

"Uncrowded conditions" is defined as: Work environments with space for a Qualified Electrical Worker, working alone, to maintain at least the minimum approach distance(s) at all times while performing assigned tasks.

156. Records and Logs

Employees required to maintain logs and records shall keep them current and accurate. Abnormal or special conditions shall be called to the attention of proper supervision and logged promptly. Shift employees shall read the log before taking shift or as soon as possible thereafter, and be familiar with the current status of lines, equipment, units, or systems within their jurisdiction.

157. Permission

a. Permission shall be issued in a formal manner stating the hazards and so logged by the operator.

b. Permission shall only be issued when the equipment cannot be deactivated for the issuance of a clearance.

158. Permission Procedure

a. Employees desiring to work on a piece of equipment shall request the permission of the operator, stating the piece of equipment and what they intend to do.

b. The equipment shall be made as safe as possible to work on to accomplish the desired work. When possible, “Personnel at Work” tags shall be hung at points used to isolate the equipment.

c. The status and hazards shall be stated by the operator and the person desiring the permission shall repeat the same. Special attention shall be given that automatic equipment is made non-automatic, where possible, before permission is granted.

d. The status of the equipment and the hazards shall be logged by the operator.

e. The permission shall be entered in the log.

f. The permission shall be signed by the operator and by the person accepting the permission, when possible. When it is not practical for the employee to sign the log, all communications shall be clear and the permission formal. The person’s name shall be written by the operator and countersigned as soon as the person is available.

g. When the work is completed, the permission shall be released in a formal manner stating the status of the equipment, and all work completed.

159. Abnormal Conditions

Employees shall monitor affected equipment to prevent potential hazards to personnel and equipment. Employees shall be informed of, and safeguards shall be used around, hazardous areas and equipment.

160. Welding, Metallizing, Soldering, and Use of Open Flames

a. Open flames shall not be brought near to, nor welding processes, brazing, flame cutting, or soldering done on any empty container, tank, or other vessel which has previously contained a flammable or explosive substance, except pipe lines which are covered in Rule 160 g., until one or more of the following precautions as required for each job have been taken to prevent explosion or fire:

1. Clean with water, steam, or a caustic solution.

2. De-scale using non-sparking tools.

3. Remove residue or other flammable material from area of work to be done, or provide an observer as required, equipped with proper fire extinguishing devices.

4. Fill container or vessel with water or inert gas such as carbon-dioxide or nitrogen.

5. Provide ample venting to remove explosive mixtures.

6. Test for explosive atmosphere, using an approved test device.

b. Welding processes may be performed on the outside surface of a container, tank, or other vessel containing a liquid flammable material, except pipe lines which are covered in Rule 160 g., provided the work is done not less than six inches below the level of the liquid, and there is little likelihood of burning through the vessel wall. Adequate venting shall be provided as required. This does not apply to LPG vessels.

c. Welding processes may be performed on the top surface of a vessel which is partially filled with a liquid flammable material which cannot be removed, only after the area above the liquid is filled with steam, carbon dioxide, or other inert gas and the vessel is held under positive pressure. This will not apply to LPG vessels or for repairing leaks in the vessel.

d. Welding processes, flame cutting, brazing, metallizing, soldering, and the use of open flames on vessels subject to possible ignition of contents shall be done in accordance with approved procedures by fully qualified personnel who shall observe the following additional precautions:

1. Keep away from vessel openings as far as possible.

2. Provide suitable fire protection equipment adjacent to the work. Fire protection rules and information will be covered by the Fire Information, Rules, and Education Manual.

3. Hazardous areas shall be designated by signs and protected by approved barricades as required.

e. It shall be the responsibility of the welder to see that, where practicable, screens are properly placed to prevent eye injury to fellow employees and onlookers. Helpers shall wear suitable eye protection when assisting in welding.

f. Whenever lead, cadmium, galvanized, or other toxic fume producing material is welded, burned, or otherwise heated to such a degree that fumes from the metal or its fluxes are generated, the persons performing the work shall be protected by approved respiratory equipment. If respiratory equipment is required to protect the persons performing the operation, the following additional precautions shall be observed:

   1. Sufficient ventilation shall be provided for the protection of others to prevent accumulation of harmful quantities of fumes in the work area; or

   2. The operation shall be isolated; or

   3. The work shall be performed outdoors, in such a location that fumes will not enter any building in harmful quantities.

g. When performing any repairs or alterations on chemical or fuel piping, a qualified person shall be accountable for the work to see that all proper precautions to prevent explosion or fire are observed and all safety rules and procedures applicable to the use of special apparatus to effect such repairs or alterations are followed.

h. When burning into a pipe or closed vessel, stand on the opposite side or in the clear. Where there is danger of causing a fire in the area during a welding operation, an employee shall stand fire watch.

i. When welding, cutting, or heating operations are being performed, suitable fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state of readiness for instant use.

j. Welding or cutting fuel lines is permissible only after being isolated, drained, and purged or otherwise made safe to work on or when approved detailed written procedure for the specific job has been prepared by the supervisor in charge.

161. Open Flames in Battery Rooms

The use of open flames in battery rooms is prohibited except under the direct supervision of qualified and experienced personnel, and then only after the room has been well ventilated.

162. Material Handling

a. Prior to lifting the load ensure you can lift the load comfortably, take a firm grip of the object. If possible, keep the feet flat and secure on the ground. Place the feet at a comfortable width apart. Then shift the hips back and bend at the knees while keeping the back and head neutral. Make sure to keep the object close to the body while lifting with the legs throughout the entire lift.

b. Secure help when needed. Use cranes or hoists for lifting heavy loads. Keep out from under suspended loads.

c. Use gloves or hand pads as required when handling materials.

d. Never carry a load that obstructs the vision.

e. No material or tools of any sort shall be carried on the shoulder when working in proximity to exposed energized equipment. Long material, including lumber, shall be carried in a horizontal position. Caution shall be exercised to prevent any material or tools from accidentally contacting energized conductors or equipment.

163. Packing, Unpacking, Storage, Loading, and Unloading of Materials

a. Nail points, ends of wires, or bands shall not be left exposed when packing or unpacking boxes, crates, barrels, or other containers.

b. Nails shall be removed from loose lumber, the points bent down, or the lumber shall be disposed of so it will not become a hazard.

c. Sharp or pointed articles shall be so stored as to prevent persons from coming in contact with the sharp edges and points.

d. Care shall be exercised when packing or unpacking glassware, porcelain, and other fragile objects which may have sharp edges, and gloves or other protective hand equipment should be used.

e. Loads shall not be handled from the street side of a vehicle if it can be avoided.

f. Special regulations and instructions governing the loading and unloading of poles, pipes, and so forth, shall be strictly observed in every case.

164. Scaffolds

a. Erection or dismantling of scaffolds shall be performed under the supervision and direction of a qualified person.

b. Only approved scaffolding and planking shall be used. Scaffold planks shall not be used for any other purpose. Planking shall be inspected before use.

c. Scaffolding shall be of sufficient strength and rigidity to support the weight of personnel and material to which it will be subjected.

d. All scaffold work levels 30 inches or higher above the ground or floor shall have guard rail protection.

e. All scaffold work levels 6 feet or higher above the ground or floor shall have a toe board at locations where persons are required to work or pass under the scaffold.

f. Ladders or stairways on scaffolds for access and egress shall be affixed or built into the scaffolds.

165. Unloading Poles from Trucks, Trailers, and Dollies

a. Poles shall be unloaded from trucks, trailers, and dollies by the following methods as circumstances and traffic conditions permit:

   1. By means of a boom, mobile type crane, or skids.

   2. By snaking poles from the end of a load.

   3. By lowering of poles with lines only where conditions require this method.

b. Dumping an entire load from a dolly or trailer is prohibited.

c. When rolling a pole from a load, a bull line or lines shall be used to control its descent. Dropping poles over the side of a truck, trailer, or dolly is prohibited.

d. Employees shall not stand on the unloading side of transporting equipment while unloading a pole.

e. When unloading poles with skids or lines, the load binders and bolster stakes shall not be removed until the skids or lines are in place, and the load binders shall be removed from the side opposite the unloading side when possible.

f. When unloading poles which have been secured with tie wire or straps, only the binding for the layer being unloaded shall be removed.

g. A load shall be properly secured before moving from one location to another.

166. Unloading Poles from Railroad Cars and Vendors' Trucks

a. Before Unloading:

1. The car shall be prevented from moving by chocking and setting the brakes.

2. Car stakes shall be inspected to see that none are broken. If broken stakes are found, the load shall be made secure by placing a minimum of two safety stakes on each side in undamaged stake pockets or by binding the load with a winch line.

3. Stake pockets shall be inspected for broken or loosened bolts, and so forth. If stake pockets are found to be damaged, new stakes shall be placed in adjacent undamaged pockets.

4. Binding shall be inspected for broken intermediate tie wires or straps. If these are found to be broken, employees shall not be allowed on top of the load until it has been secured by an approved method.

b. Unloading:

1. Poles shall be unloaded with crane, derrick, or by other methods approved by the work location management.

2. Only the binders for the layers being unloaded shall be cut.

3. When unloading with a sling, employees shall not be permitted to reach under suspended loads.

4. Employees guiding poles suspended from a hoisting device shall do so only at the ends of the suspended load.

167. Telecommunication Aerial Devices, Operating Procedures, Utilized for Towering Work

a. An aerial device truck shall not be moved when the boom is elevated in a working position with an employee in the platform except when all of the following are complied with:

1. The equipment is specifically designed for this type of operation in accordance with the provisions of ANSI/SIA A92.2015, American National Standard for Vehicle Mounted Elevating and Rotating Aerial Devices.

2. All controls and signaling devices are tested and are in good operating condition.

3. An effective communication system shall be maintained at all times between the platform operator and where applicable, the vehicle operator. The communication system shall be turned on and tested prior to the platform operator going aloft.

4. The route to be traveled is surveyed immediately prior to the work trip, checking for overhead obstructions, traffic, holes in the pavement, ground or shoulder, ditches, slopes, and so forth. For areas other than paved, a survey should be made on foot.

5. The speed of the vehicle shall be in accordance with the manufacturers (towering) recommendations. Under no circumstances will towering be permitted to exceed three miles per hour.

6. Only one employee is in the platform.

7. Both the driver and the elevated employee have been specifically trained for this type of work (towering) in accordance with the manufacturer's recommendations.

8. A "Men Working Sign" is placed at the beginning of the work location.

9. When the work is completed at a work location and the vehicle is to be moved more than two spans to another work location, the employee in the platform shall stow the boom in the cradle and ride to the next work location in the cab with the vehicle operator.

10. When the work is completed at a work location and the platform operator does not need to be in an elevated position to travel less than two spans to another work location, the employee in the platform shall lower the boom to a horizontal position, positioning the platform behind the truck prior to the vehicle operator moving the vehicle.

b. Lift controls shall be tested in accordance with the manufacturers recommendations prior to use to determine that such controls are in safe working condition and documented in the appropriate drivers log.

c. Only authorized and trained employees shall operate aerial devices utilized for towering.

d. Belting off to an adjacent pole, structure, or equipment, while working from an aerial device shall not be permitted.

e. Employee shall not sit or climb on the edge of the platform or use planks, ladders, or other devices to gain greater working height.

f. When elevating personnel in the platform with the vehicle stationary, the braking system shall be set.

g. Wheel chocks shall be installed on two wheels (on the incline side) prior to using an aerial device on an incline.

h. Climbers shall not be worn while performing work from an aerial device.

i. When the platform operator is in the platform, the driver shall not exit the cab of the vehicle until the vehicle is placed in neutral or out of gear and parking brake is set. Upon exiting vehicle, wheel chocks must be set immediately.

j. Lower level controls shall not be operated unless permission has been obtained from the employee in the basket, except in case of emergency.

k. An employee, while in an elevated aerial device, shall be secured to the platform through the use of a body harness equipped with a lanyard.

l. Cell phones shall not be utilized when working or standing in a platform.

m. Non-work-related media devices shall be turned off in the cab of the truck when the platform is occupied.

n. Boom and platform load limits specified by the manufacturer shall not be exceeded.

o. No Qualified Telecommunication Workers shall approach or take any conductive object closer to Exposed Energized Overhead Power Lines and Parts than is outlined in Rule 147.

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SECTION 200
T&D OVERHEAD RULES

201. Reserved

202. Testing of Wood Poles

a. Prior to climbing or working on a wood pole, a thorough visual and sounding inspection for evidence of damage caused by vehicles, decay, or insect infestation shall be conducted. The sounding shall be from ground line to six feet above ground line using a hammer or other device to locate internal decay pockets.

b. If the pole is in doubt, the pole shall be tested as follows:

1. The inspection borings (9/16-inch hole) shall be drilled 90 degrees apart. The first boring should be at least 12 inches below ground line, the second should be at ground line. Drill downward at a 45 degree angle and extend past the center of the pole, but not nearer than 2 inches of the opposite side. The inspection borings should be adjacent to the largest check or other area indicating internal decay. When the pole is set in pavement the above test shall be conducted by drilling the first hole at ground level, 12 inches above ground level for the second boring and 90 degrees apart.

2. Each hole shall be probed with a shell thickness indicator to determine presence and extent of decay.

3. Boring holes shall be plugged with a 5/8-inch treated wood dowel.

c. For the purpose of this rule, a pole stub shall be considered part of the pole and tested accordingly.



NOTE For further reference see Rule 209.

203. Bonds

In addition to bond wires, the term bond, as used in this rule, refers to metal crossarms, metal insulator pins, space bolts, or any other hardware which is attached to insulators supporting energized conductors.

a. Prior to contacting the bonds of energized circuits, the bond shall be grounded or worked with live line tools. Only live line tools shall be used on the bonds of circuits above 20 kV where the conductors are supported on pin or post type insulators.

EXCEPTIONS:

- Rubber gloves may be used on the bonds of circuits 20 kV or less, only when the integrity of the insulators have been inspected and found to be in good condition.
- Circuits above 20 kV, where the circuit consists of all suspension type insulators, rubber gloves may be used on the bonds, only when the integrity of the insulators have been inspected and found to be in good condition.

b. Every insulator on the circuit shall be checked visually for breaks and cracks on the pole being worked on before contact is made with, or work is done on, the bonds of energized circuits.

   1. If a pin or post type insulator is faulty or more than 30 percent of the insulators in a string of suspension insulators are faulty, the conductor must be cleared, or de-energized before any work is done on the bond.

   2. If conditions are such that it is impracticable to clear or de-energize the conductors, the bond shall be worked with live line tools.

c. The following procedures shall be followed if the visual inspection indicates faulty insulators:

   1. If any insulator is suspected to be faulty on circuits supported on single unit insulators, the conductor must be cleared before any work is done on the bond.

   2. When circuits are supported on multiple unit insulators, at least 70 percent of the insulators in each string must be in good condition or the conductor must be cleared before any work is done on the bond.

d. Prior to installing or removing a bonded crossarm within Minimum Approach Distance (MAD) of an energized line the bond shall be removed from insulator pins and/or bolts.

204. Testing Lines and Equipment

Electrical equipment and lines shall always be considered as energized unless they are positively known to be de-energized. Before starting work, preliminary inspection or test shall be made to determine what conditions exist.

205. Pole Top Apparatus

a. All energized cutouts shall be operated with a switch stick or other approved device.

b. Contact shall not be made with ungrounded, energized transformers, capacitors, regulators, automated reclosures, bonds, or other pole top apparatus except when worked upon with approved devices. Contact may be made with case grounded equipment, as long as approach distances can be maintained from all exposed energized conductors.

c. Contact shall not be made with case grounded parts of pole top equipment while performing work on energized conductors.

d. Where work is to be performed at the location of pole top air break switches energized in excess of 7500 Volts, the hardware or base of these switches shall be proved by test to be de-energized immediately preceding each period of work at that location.

e. Automated pole top switches shall be made local and non-automatic before working above or in proximity to the switches. The switching center shall be notified whenever the status of an automated switch is changed.

206. Digging Holes

a. Employees shall stay “in the clear” of the revolving auger of the pole hole digger.

b. Holes dug in advance of line construction shall be covered by a suitable hole cover. The hole cover shall in turn be anchored by a covering of dirt or other suitable means.

207. Energized Lines

a. The term “energized lines,” as used in Rule 207, is defined as any conductor energized above 300 Volts. Neutral conductors of such circuits, series street light conductors, and all current-carrying parts thereof shall also be considered “energized lines.” De-energized conductors which have been grounded to the neutral conductor as provided in Rule 141 are not considered “energized lines.”

b. When work is to be done on or near “energized lines,” all energized conductors, grounded conductors, or guy wires within reach of any part of the body shall be covered with protective equipment, except that part of the conductor or apparatus on which the employee is to work.

c. When working on de-energized lines or equipment, all energized lines and normally energized equipment within reach of any part of the body shall be covered.

d. In applying protective equipment, an employee shall always protect the nearest and lowest wires first, insuring personal protection at all times. In removing protective equipment, the reverse order shall be maintained. Protective equipment shall be applied from a position underneath the conductor when possible.

e. Work shall not be performed on downed overhead lines until they have been proven de-energized and grounded as provided in Rule 141, unless they are being cut in the clear, with live line tools, to protect from personal injury.

208. Four-Wire High-Voltage Circuits

a. The overhead neutral conductor shall be considered the same as a phase conductor.

b. The neutral conductor in the overhead or underground shall not be opened except on authority from the Grid Ops Manager or equivalent authority.

209. Working in Elevated Positions

a. Before climbing poles or structures, employees shall familiarize themselves with the circuits, voltages, apparatus thereon, and any unusual conditions which might present a hazard.

b. Not more than one employee shall ascend or descend a pole at the same time. The first employee shall be in place on the pole or on the ground before the next employee climbs or descends the pole. When it becomes necessary for one employee to work above the other, extreme care shall be exercised.

c. Before climbing poles, ladders, scaffolds, or other elevated structures, or riding span wires, messengers, or cables, or entering cable cars, boatswain chairs, or the like, employees shall first assure themselves that said structure or device is strong enough to safely sustain their weight.

d. Before allowing employees to work on any pole from which supporting wires or guys are to be removed, or on which in any way the stress is to be changed, the employee in charge shall make sure that the pole will stand the change in stress without falling. If it is necessary to test the pole, see Rule 202. When the condition of the pole to be worked on is in doubt or when it is not practicable to test, the pole shall be supported before work is started.

e. Employees shall observe height nail or pole brand to make certain that the pole is set to proper depth. (Manufacturers usually place their pole brand 10 feet from the butt end of the pole on 25-foot to 60-foot poles and 13 feet from the butt on all poles 65 feet or longer.)

f. Employees shall not transfer from aerial buckets or baskets to a pole or structure. Transfer from an open platform to poles or structures are permitted.

g. Climbers shall not be worn while performing work from an aerial lift.

h. Neither the bucket nor boom shall be allowed to contact unprotected energized conductors. This does not preclude the use of attachments to the boom specifically designed to support energized conductors.

i. When using power tools, grounded material or equipment such as wire, cable, personal grounds, electric cords, and so forth, approved for use on erected poles, towers, or structures, the tools and all electric supply lines connected thereto shall be kept a safe distance under the level of circuit or apparatus energized in excess of 600 Volts or shall be adequately guarded or secured in such a way as to prevent their contacting energized conductors.

j. Only approved portable power saws shall be used from elevated positions on erected poles.

210. Working Position

When working on energized lines or apparatus, work shall be done from below when possible.

211. Setting or Removing Poles

a. All persons not engaged in pole setting operations shall be kept out of the work area.

b. No one shall be allowed on a gin pole when it is being used to raise another pole.

c. When setting or removing poles between or near exposed energized high voltage conductors:

1. The pole shall not be allowed to make intentional contact with exposed energized high voltage conductors.

2. Guy wires shall not be installed prior to setting or removing poles between or near exposed energized conductors.

3. A minimum distance of three feet shall be maintained between unprotected conductors energized below 72 kV and portions of the equipment which provide a conductive path to the frame or the body of such equipment. For voltages above 72 kV, maintain clearances specified in Rule 147.

4. Employees handling the butt of the pole shall wear rubber gloves whether or not cant hooks or slings are used.

5. No one shall step on or off the truck or touch any part of the truck from the ground while the pole is being set or until it is secured in such a manner that it could not possibly come in contact with an energized conductor.

212. Personal Fall Protection Systems for Work on Elevated Structures and Poles

a. If a lanyard, or self-retracting lifeline is utilized for a fall arrest system, it shall be rigged such that an employee can neither free fall more than 6 feet, nor contact any lower level, and, where practicable, the anchor end of the lanyard shall be secured at a level not lower than the employees waist.

b. While the use of company-approved wood pole fall restriction equipment is encouraged at all times, employees must use this equipment when ascending, descending and working in elevated positions, whenever there is a possibility of falling two feet or more. The use of body belts for fall arrest systems is prohibited. Employees shall not belt off to adjacent poles, structures, or equipment while working from an aerial lift.

c. An approved Fall Restricting Device System (for example, the Polechocker, or Cynch-Lok, or Buckingham Supersqueeze) must be used when there is a possibility of falling two feet or more. When transitioning over obstruction(s) a secondary safety device must be used. The company-provided Rope Safety is not approved as a work positioning safety device. A double-carabiner safety must be used with the Cynch-Lok system. This is the only approved secondary safety to be used with the Cynch-Lok and may not be used with other wood pole fall restriction equipment.

d. Personal Fall Protection System equipment must be used according to the manufacturer's instructions and shall be inspected prior to each use for wear, damage and other deterioration. Defective components shall be removed from service. See the CHS Fall Protection Standard and Manual for further information regarding additional requirements relating to Personal Fall Protection Systems.

e. Employees may not climb until properly trained on the use of approved wood pole fall restriction equipment.

213. Hot Washing Insulators

a. When hot washing insulators:

1. A minimum nozzle pressure of not less than 400 pounds per square inch shall be used.

2. Water resistivity of less than 500 ohms per inch cube shall not be used for energized lines.

3. Water resistivity of not less than 20000 ohms. inch (50800 ohm.cm) or the conductivity of not more than 20 micro-ohms. centimeter shall be used for substations — and 220 kV and 500 kV Transmission lines.

4. Water resistivity shall be tested by an approved water testing device at each filling of the water container, and when the water has been stored or sitting in the water container for four hours or longer.

b. The following table constitutes the minimum safe working distances from energized conductors when hot washing insulators:

Table 200–1: Minimum Safe Working Distances from Energized Conductors when Hot Washing Insulators

Line Voltage (kV)	Nozzle Sizes 15/64" (ft)	Nozzle Sizes 7/32" (ft)
4	10	4
12	10	5
16	10	5
33	10	6
66	10	7
115	10	9
220	12	12
500	14	14

c. Grounding and bonding requirements when using conductive hoses.

1. When washing with a hand gun or utilizing fixed sprinklers, the wash pumper truck shall be bonded to the same metal structure supporting the insulators being washed.

2. All equipment used in the washing procedure shall be bonded to the metal structure supporting the insulators being washed.

3. During washing operations, employees shall not be permitted to step on and off the truck or metal structure, or touch any part of the truck, conductive hoses or metal structure while standing on the ground.

d. Grounding and bonding requirements when using non-conducting hoses.

1. When a non-conductive hose is used and the operator is in contact with the metal structure, the gun, if conductive, shall be bonded to such metal structure.

214. Wire Stringing

a. When stringing or taking down wires, the number of persons actually handling the wire at any one time shall be held to a minimum. Running lines, hold down lines, and tag lines shall be used and left attached until the wires are in place and properly secured. It is the duty of the employee in charge to see that such means of protection are adopted as are necessary to make the work safe.

b. When stringing or taking down wire along or over streets or highways, the equipment pulling the wires shall be provided with flags, front and rear. Other precautionary measures, such as flagmen, cradles, and barriers shall be used as required.

c. When stringing or taking down wires from above or below unattached energized lines or on poles or towers on which there are attached energized lines of over 600 Volts, precautions shall be taken to adequately insulate the employees from the wire or wire stringing equipment by the use of rubber protective equipment or other approved methods. Employees shall not contact wire stringing equipment in a manner which would permit their bodies to become a parallel path to ground. When conductors being pulled in or out are to be handled by employees on poles or towers, Rule 141 shall apply.

In addition to the above requirements, bare wires (except bare neutrals in multi-conductor cables) shall be pulled over grounded rollers at the first pole or second pole from the payout and takeup equipment and through traveling grounds between the first pole and the payout and takeup equipment. The metal frame of the wire stringing equipment shall be bonded to the traveling ground.



NOTE

Service drops are excluded from the above requirements. When stringing parallel to lines energized in excess of 35 kV, the conductor being installed or removed shall be pulled over grounded rollers at the first structure adjacent to both the tensioning and pulling set-up.

d. Before the stringing or taking down of conductors that are crossing over or within 10 feet under conductors energized in excess of 300 Volts or more, suitable protection or guards shall be installed at the point of crossing.

215. Capacitors

a. Before any work is performed on capacitors of any voltage, the capacitors shall be de-energized using the device approved for this purpose. In addition, one of the following shall apply on voltages above 600 Volts:

1. The jumpers to the fuse holders shall be removed from the line. After waiting five minutes, the capacitor terminals shall be short circuited and bonded to the case using live line tools or,

2. After waiting five minutes, the leads between the open fuse holders and the capacitors shall be grounded, and the capacitor terminals shall be short circuited and bonded to the case using live line tools. High voltage rubber gloves may be used while placing the shorting and bonding jumpers across the terminals of capacitors on voltages up to 7500 Volts. On voltages above 7500 Volts, live line tools shall be used.

b. Before climbing into or through the area of a capacitor installation, automatically switched capacitors shall be de-energized and the controls made inoperative.

c. Contact shall not be made with pole top apparatus as specified in Rule 205 or other metal hardware in the area of an energized capacitor installation.

216. Transformer

No work shall be performed on the high voltage side of a de-energized transformer, normally energized above 600 Volts, until either:

a. The fuses have been pulled and the taps to the fuse holders removed from the line; or,

b. The leads between the open switches or fuse holders and the transformer have been grounded.

217. Banked Secondaries

a. Where secondaries of transformers are banked or there is a possibility of a backfeed, the transformer secondary leads shall be disconnected in addition to pulling primary fuses before any work is done on a transformer.

b. Primary lines sectionalizing devices shall not be located between transformers with banked secondaries.

218. Reserved

219. Metal Ratchet Hoists

Metal ratchet hoists or power pulls shall not be attached to energized conductors. Such hoists shall not be used where conducting parts can come closer than 18 inches to unprotected conductors energized below 600 Volts. For voltages above 600 Volts, see Rule 147.

220. Use of Metallic Hoisting Lines

Metallic hoisting lines shall not be taken above the level of conductors energized in excess of 600 Volts, except when using pole setting equipment with a boom which extends above that level and the conductors are covered with approved devices or spread to prevent accidental contact.

221. Live Line Tools — General

a. All lines energized at 7500 Volts phase to phase or above shall be handled only with live line tools.

EXCEPTION: Employees certified to use rubber gloves up to 17 kv on overhead distribution circuits.

b. All live line tools shall be approved by the Corporate Safety Department before being put into use. No alterations shall be made without approval.

c. Except as outlined in Rule 155, when work is to be performed on energized lines by means of live line tools, two qualified electrical workers shall be assigned to do the work.

222. Use of Live Line Tools

a. When using live line tools, employees shall not place their hands closer than is absolutely necessary to the energized line or the energized metal parts of the tool being used and in no case closer than specified in Rule 147.

b. Metal parts of live line tools or energized conductors shall not be brought into contact with crossarms, poles, associated hardware, or apparatus.

c. Other work shall not be done on a pole or structure upon which live line work is in progress.

d. Employees working with live line tools shall use adequate protective equipment on primary conductors, low-voltage conductors, telephone circuits, and other wires which are within reaching distance.

e. Hold out ropes or live line tools being used to spread or raise conductors shall be securely fastened and shall not be held by employees except as necessary to secure or release them.

f. Live line tools shall not be hung on a conductor. An approved tool hanger or bag shall be used.

g. Breakers or approved link sticks shall be used with ropes when they are considered necessary by the supervisor in charge.

223. Reserved

224. Loading and Transporting Poles on Trucks, Trailers, and Dollies

a. Trailer and dolly wheels shall be securely braked or blocked before loading.

b. While loading a pole, employees shall not stand between the pole pile and the loading or transporting equipment. When a pole is being rolled from the pile or from the ground to trailer or dolly, it shall be done with a line and cant hooks.

c. When poles are loaded on a flat bed, battens, bolsters, or sleepers shall be used beneath the bottom layer, unless special approval has been granted.

d. Bolster-type loads shall be loaded in a pyramidal fashion, each succeeding layer containing one less pole until pay load or a peak of one pole is reached. Each layer shall be securely nested on the one below.

e. When using bolsters with chocks, each layer above the bottom layer shall be secured with straps, tie wire, or other approved means except the top pole, which shall be held in place by the overall tie chain.

f. When hauling poles, a second bolster shall not be used on top of the first layer of poles except for cedar poles 50 feet or less in length.

225. Tree Trimming Safety Lines

a. The safety line shall not be used as a pull rope or as a rope to lower limbs or branches.

b. Employees shall not perform the actual tree cutting or trimming from an elevated position until they have secured themselves by safety belt or safety line.

226. Lowering Branches

When power equipment is required to lower heavy branches, the entire operation shall be in sight of the employee in charge.

227. Rope Safety

When using a chain saw or axe in a tree, a 3/4-inch rope safety which has a 3/16-inch flexible steel cable in the center shall be used, unless a safety line is being used in conjunction with the rope safety.

228. Crotching

a. Safety line shall be crotched around the main trunk to prevent its "working out" on the lateral limb.

b. When working in a multiple trunk tree, the safety line shall be crotched around a main trunk other than the one on which the employee is working.

229. Working Near Energized Conductors

a. When working over wires, the employees shall have their safety line so secured that, in the event of a slip or a breaking limb, they will swing free and clear of the wires.

b. When trimming trees or hedges located under energized lines, employees shall stay below the wires and maintain a safe distance from them.

c. Employees shall not remove tree limbs or branches from above energized conductors while other work is being performed in trees below the conductors in the same span.

230. Climbers

a. Climbers shall be worn only when engaged in work requiring their use.

b. Climbers shall not be used after the gaffs are worn or filed to less than 1-1/4-inches long, measured on the underside of the gaff.

231. Deleted

232. Tree Trimming

a. Before climbing a tree, the employee shall observe its general condition.

1. If the trunk of the tree shows cavities, disease, or gives indications of the presence of wood destroying insects, it shall be assumed that its limbs are also in an unhealthy condition.

2. If it appears the tree will not bear the weight of an employee, he/she shall not attempt to climb it until adequate precautionary measures are taken, such as guying, roping, or crouching an adjacent tree.

b. Rope safeties, safety lines, saddles, and hooks shall be periodically checked.

Figure 200–1: Overhead and Gantry Crane Signals

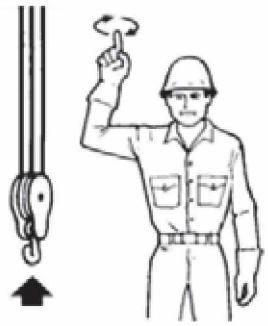
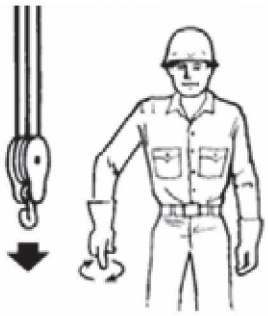
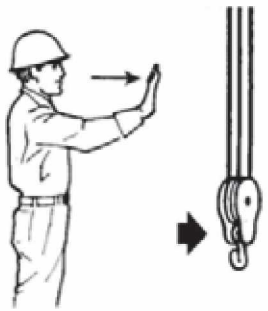
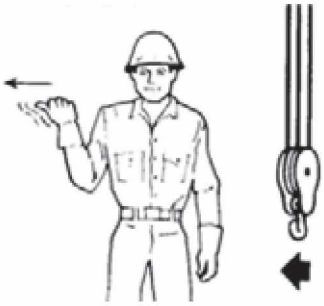
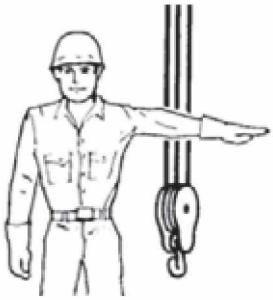
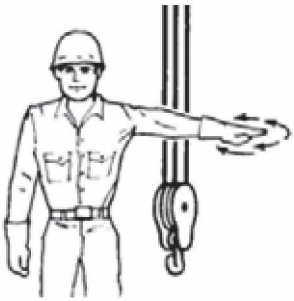
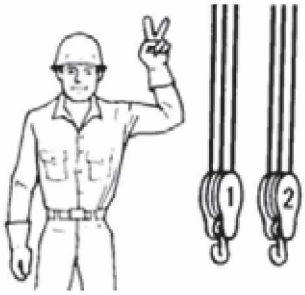
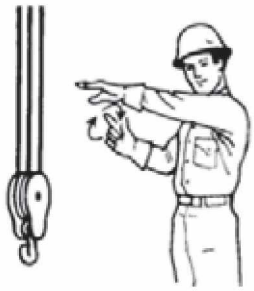
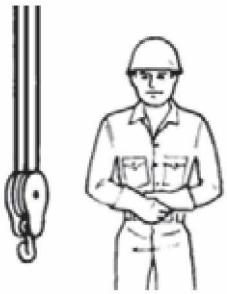
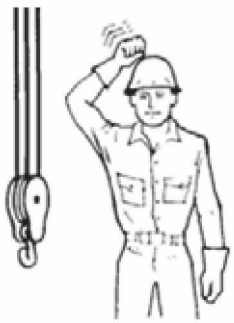
 **HOIST.** With forearm vertical, forefinger pointing up, move hand in small horizontal circle.	 **LOWER.** With arm extended downward, forefinger pointing down, move hand in small horizontal circle.	 **BRIDGE TRAVEL.** Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.
 **TROLLEY TRAVEL.** Palm up, fingers closed, thumb pointing in direction of motion, jerk hand horizontally.	 **STOP.** Arm extended, palm down, hold position rigidly.	 **EMERGENCY STOP.** Arm extended, palm down, move hand rapidly right and left.
 **MULTIPLE TROLLEYS.** Hold up one finger for block marked "1" and two fingers for block marked "2." Regular signals follow.	 **MOVE SLOWY.** Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example.)	 **DOG EVERYTHING.** Clasp hands in front of body.
 **USE MAIN HOIST.** Tap fist on head; then use regular signals.	 **USE WHIPLINE.** (Auxiliary Hoist). Tap elbow with one hand; then use regular signals.	 **MAGNET IS DISCONNECTED.** Crane operator spreads both hands apart — palms up.

Figure 200–2: Standard Signals for Derricks, Cranes, and Distribution and Transmission Trucks Using Boom-Type Equipment

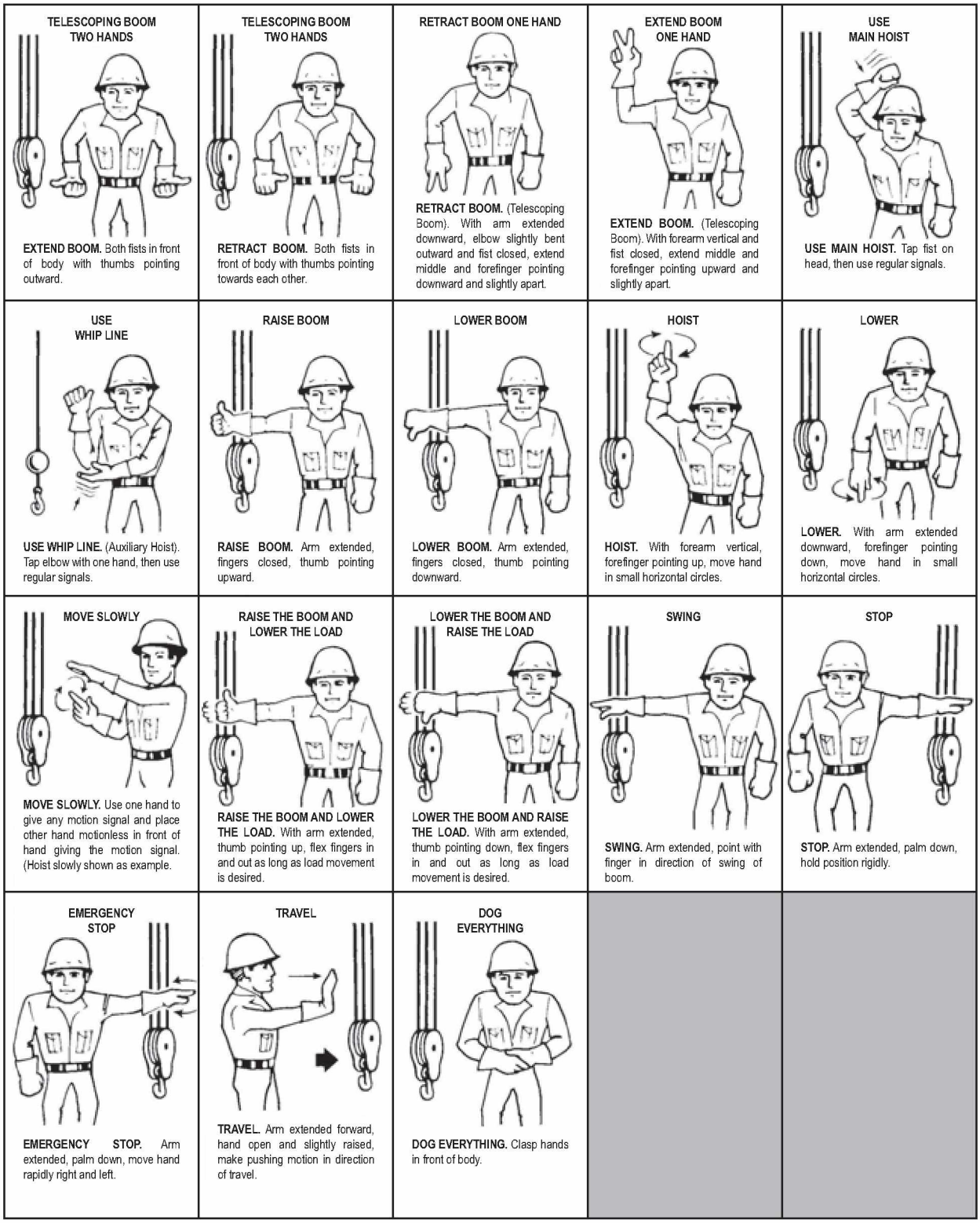
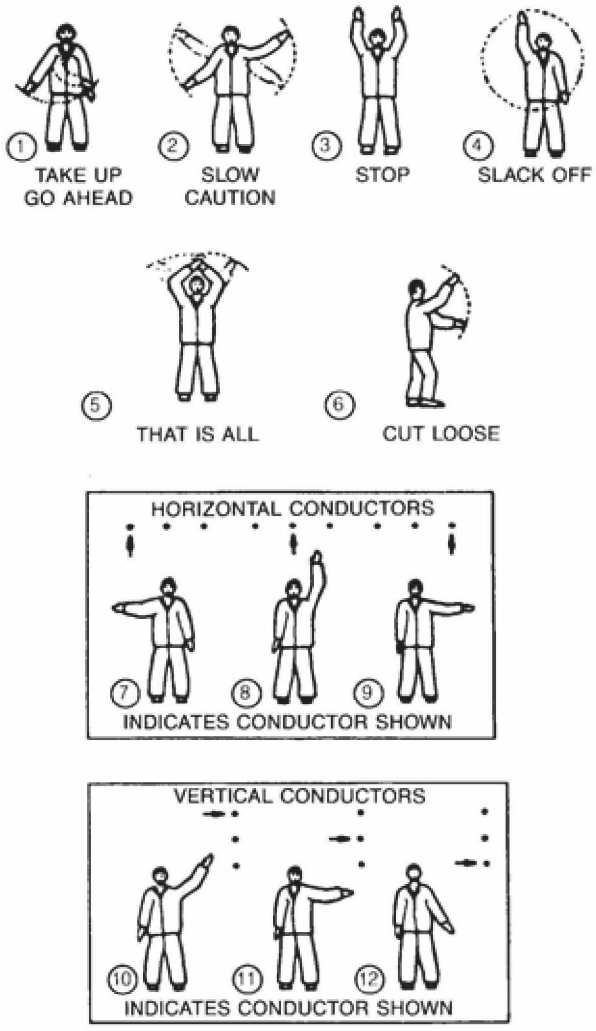


Figure 200–3: Standard Signals for Line Work



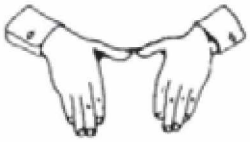
Key Points for Figure "Standard Signals for Line Work"

7–12	This signal is used to indicate the direction of pull. Faster or slower motions of this signal are used to indicate speeds other than caution or slow speeds. Where there is a choice of conductors to be pulled, this signal is given with one of the indicating signals 7 to 12 inclusive.
7–12	This signal always follows either 1 or 4 and is an indication of slow speed for caution. This signal must be given continuously while the pull is being made at slow speed and is to be either giving the 1, 4, (depending on direction) or 3 signal.
7–12	This signal is used to indicate the direction of pull and is used in slacking or lowering as is used for taking up.
7–12	These signals are always used in connection with either or and are given at the same time as either or is given. In using, and, the person's arm on the wire side to pulled is used for the indicating signal.

Figure 200–4: Standard Signals, Auxiliary Equipment, Distribution — Transmission Boom Trucks



TILT UP
POLE GRABBERS



TILT DOWN
POLE GRABBERS



CLOSE
POLE GRABBERS



OPEN
POLE GRABBERS



RAISE
CROSSARM



LOWER
CROSSARM

233. No Test Orders Shall be Taken During Distribution Arc Flash Hazardous Activities

No Test Orders shall be taken during Distribution arc flash hazardous work activities that could cause an Arc Flash when either working at MAD or within the Arc Flash Boundary (AFB). When performing Rubber Gloving or Hot Sticking.

Examples:

Grounding line or cable; Opening or Closing taps; Opening or Closing a switch or disconnect; Energizing or De-energizing transformer(s) or CAP Bank; Energizing or De-energizing wire or section of line and UG cables (pothead); Energizing or De-energizing Lightning Arrestors; Clearing debris from line.

Exception: When performing remote switching outside of AFB.

NOTE

Blocking of the Recloser without issuing the NTO is acceptable only if both the QEW and the Switching Center having Jurisdiction to clear debris from the line(s). For working in an underground structure, see Rule 316.

234. Hot Line Orders Shall be Taken During Transmission Arc Flash Hazardous Activities

Hot Line Orders shall be taken during Transmission arc flash hazardous work activities that could cause an arc flash. See Table 200–2 for the list of arc flash hazardous activities examples. For working in an underground structure, see Rule 316.

Table 200–2: Work Activities — Transmission

Work Activity	Is Employee Exposed to an Arc Flash Hazard?
Testing and Applying first set of grounds near energized lines or equipment on same structure	Yes
Install/Remove Covers with sticks for Climbing through	No
Install/Remove Covers with rubber gloves for Climbing through	Yes
Rubber Gloving and Hot Sticking	Yes
Insulator Washing	Yes
Energized Substation Rack Work	Yes Select Highest AR PPE between Transmission and Substation Arc Flash Manuals.
Underground vault inspection (for example: pumping water, getting into vault, heat gunning)	No
Torquing Tower	No
Tower Retrofit Work	No
Climbing Tower	No
Standing at or beyond Arc Flash Boundary when an arc flash hazardous activity is being performed	No

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SECTION 300
UNDERGROUND RULES

301. Enclosed Spaces (Underground Utility Vaults)

Confined Space and Permit Required Confined Space (see Rule 143).

a. An Enclosed Space is a working space, such as a manhole, vault, tunnel, or shaft, that has a limited means of egress or entry, that is designed for periodic employee entry under normal operating conditions, and that, under normal conditions, does not contain a hazardous atmosphere, but may contain a hazardous atmosphere under abnormal conditions.

b. Underground Utility Vault is defined as a room of fire resistant construction primarily used to house electrical equipment. The underground vaults entry requirements apply to:

   1. Underground electrical vaults

   2. Underground electrical manholes

   3. Telecommunications manholes and unvented vaults

c. Employees, including attendants, shall be trained in the nature of the hazards involved, the necessary precautions to be taken, the use of protective equipment and emergency equipment, the enclosed-space entry procedures, rescue procedures, and safe work practices, including instructions as to the hazards they may encounter.

d. Atmospheric Testing and Monitoring

   1. Test for the presence of combustible gases, toxic gases, and oxygen deficiency and/or enrichment shall be made with approved testing devices immediately prior to an employee entering these space(s). Where practical, initial tests shall be made before access doors are opened or covers removed.

   2. During the time an Enclosed space is occupied atmospheric monitoring shall be continuous. Re-logging of atmospheric monitoring results shall be made at intervals frequent enough (not to exceed four hours). Where normal ventilation is not adequate to provide a safe atmosphere, suitable temporary ventilation to ensure employee safety shall be provided.

      (a). Ensure that:

         (1). The intake is away from traffic to avoid vehicle exhaust fumes.

         (2). If the ventilating equipment is gas powered, the motor exhaust is not being drawn into the air intake.

         (3). The ventilation equipment's intake is at least 5 feet away from the space entry.

(b). All test results shall be recorded in an approved inspection log and retained by the work location for one (1) year.



If the development of dangerous air is imminent or continuous monitoring test results indicate the development of dangerous air, evacuate the space, permit no one to enter the space, and notify your Field Safety Specialist, or Edison Safety.

For additional guidance, please refer to the Edison Safety website located on the Edison Portal.

302. Underground Structure Safeguards

a. Whenever an employee enters a vault or manhole by vertical means, there shall be an employee or other qualified person in attendance at the surface except when:

   1. There are no energized cables or equipment in the structure, and;

   2. A protective device is placed around the opening; and,

   3. Forced ventilation is provided.

b. Whenever the cover is removed from an underground structure:

   1. Warning devices, such as traffic cones or signs, shall be displayed in locations conspicuous to pedestrians and vehicular traffic. These shall not be removed until permanent covers are in place.

   2. Trucks, tool carts, and other equipment shall be so placed as to present the least impediment or hazard to traffic consistent with safe working area for employees. If possible, trucks or equipment shall be placed between the working area and oncoming traffic.

   3. Barriers, such as standard railings on top of the opening or traffic cones with barricade bars set up around the opening to alert employees of the opening, shall be used to guard the opening. If the opening is constantly guarded by a worker who is solely focused on the role of guarding that opening, the guard may serve as a barrier to that opening in lieu of a standard railing or traffic cones with a barricade bars.

c. Prior to and after entering an underground structure or enclosure, and before performing any work, employees shall perform a thermal inspection of all cable and/or equipment energized in excess of 600 Volts.

d. Employees shall not stand on energized cable or equipment while working in BURD enclosures.

e. Automated underground switches shall be made local and non-automatic/solid before working in proximity to the switch. The switching center shall be notified whenever the status of an automated switch is changed.

f. No power saws may be used within 18 inches of energized equipment or cable in energized underground structures, unless safeguards are in place to protect the energized cable or equipment.

303. Energizing Equipment

a. No new piece of cable or switching device shall be energized until it has been positively identified by tags or other approved marking procedures.

b. No piece of equipment shall be energized until all terminals, cables, and positions have been safe ended, end-belled, or otherwise protected in a way that would prevent a short circuit, ground, or personal contact.

c. Employees shall not enter a structure or enclosure where new, rebuilt, or modified high-voltage cable or equipment has been energized for the first time until the cable or equipment has been energized for a minimum of five minutes.

304. Fused Underground Equipment

The fuses in underground equipment shall not be installed or removed until de-energized (this does not apply to fuses designed to interrupt load) and then only with live line tools or after grounding by approved methods.

305. Working on Energized Cables

a. Cables energized at more than 600 Volts shall not be cut or spliced while energized until permission has been granted by the Supervisor in charge.

b. Rubber gloves shall be worn while performing the following work on conductors energized below 7,500 Volts.

1. Cutting or removing metallic sheathing, semiconductor, or shielding;

2. Removing or applying insulation;

3. Working on bare conductor.

c. Before removing a section of metallic sheathing or semi-conductor from cables energized above 600 Volts, both sides shall be bonded together with a metallic jumper.

d. When working on energized underground conductors or parts of energized equipment, adequate barriers or suitable protective covering shall be provided to prevent accidental contact with other conducting surfaces, including grounds.

e. Live line tools shall be used when installing or removing taps between the concentric neutral conductor and any grounding point if the neutral is in service. For the purpose of this rule, the neutral will be considered in service at all times after its initial installation.

f. All work on energized loadbreak components shall be performed by the policies addressed in Rule 312 b..

306. Working on De-Energized Cables

a. Cable or equipment to be worked upon shall be positively identified by tags, duct location, maps or approved testing means before work is started. Work will then be performed as indicated in Rule 306, b., c., d., and/or e., as appropriate.

b. Cable and equipment shall be considered energized and worked with adequate protective devices until it has been tested de-energized with an approved device for indication of voltage and grounded with approved ground devices.

c. Clearances, if required, shall be obtained in accordance with established procedures. After de-energized and before proceeding with the work on all power supply cables normally energized in excess of 600 Volts, all conductors shall be short-circuited and grounded according to Business Unit procedures.

   1. Between the place where the work is being done and each possible source of supply, or

   2. At the work location, or

   3. As close as practicable to the source of supply.

d. Cables normally energized at more than 600 Volts shall be spiked, or grounded at the work location. When cable is to be spiked, it shall be done so all employees are remote from the spiking operation, that is, from outside, an enclosure, walk-in vault, underground structure or excavation. The foregoing procedure shall be followed to prove any normally energized cable is de-energized before opening the sheath.

e. All switches through which it is possible to energize the power supply cable to be worked upon shall be opened and tagged.

307. Moving Underground Cable

a. All in-service cables that are to be moved shall be carefully inspected before and after moving.

b. Cables energized in excess of 600 Volts shall be moved only under the direction of the supervisor or employee in charge.

308. Installing and Removing Underground Cable

a. When installing or removing underground cable in proximity to exposed conductors energized above 300 Volts, adequate precautions shall be taken to prevent accidental contact between the cable or metallic pulling devices and exposed energized conductors. In addition, employees handling cable, reels, and tending reel dolly shall be adequately protected.

b. Ducts shall always be fished in the direction which presents the least hazard. An employee shall be stationed at each end except when the employee in charge determines that no hazard exists.

c. When pulling underground cable at riser poles in proximity to exposed energized conductors in excess of 300 Volts, an approved cable pulling device, based on cable size and type, shall be used. An approved pulling nose shall be used when pulling PILC cables.

d. Pull ropes, fish tapes, and cables shall not be pulled into a duct already occupied by energized conductors.

309. Operating Underground Switches

a. The opening or closing of energized switches or cutouts in an underground vault, manhole, CST enclosure, or similar structure, shall be performed remotely. When switching remotely, employees are required to maintain a minimum of 15 feet between any part of their body and the face the opening of the underground structure, including vent pipes. If remote operation is not possible, the source shall be de-energized by means of an adjacent switch, C.B., and so forth, where remote switching can be accomplished.

EXCEPTION: A switch may be considered de-energized, for the purpose of switching only, when all of the following conditions exist:

1. The switch contains only one circuit and is in a dead section of line as verified through the Switching Center.

2. Rules Rule 309, b., c., d., e., f., and f. have been complied with.



NOTE

See the Electric Distribution Remote Operation of Underground Switches Manual and Maintenance and Procedures Manual for additional operating instructions and approved equipment.

b. Each step of routine or emergency switching shall be verified by two qualified employees at the work location.

EXCEPTION: One qualified electrical worker in a classification that normally works alone, and who is trained in “self-tailboard”, may verify each step of switching and operate energized “above ground” switches such as pad mount or PMH type switches, or other switches located on pads.

c. For automatic circuit recloser operations (see Rule 316).

d. Locate, identify, and mark the position to be switched.

e. Check all the existing positions of the switch and compare to the circuit map, switch schematic, and cable and/or equipment tags to ensure that the switching order will accomplish the desired results.



NOTE

Cable tags are the preferred method. When encroachment is an issue of concern, equipment tags may be used as a secondary method.

f. If switching on a “RAC” type switch, a blocking device or special handle must be used to ensure that the switch is operated only to the desired position.

g. When switching energized underground single-phase fuses or disconnects in live front PMH type equipment, an approved protective shield shall be affixed to the grip-all stick. This also includes switching in single phase padmounted fuse cabinets. This does not apply to equipment where the fuses or disconnects are required to be de-energized (see Rule 304).

h. Switching shall be performed remotely. Employees are required to maintain a minimum of 15 feet between any part of their body and the face of the padmountor the opening of the underground structure, including vent pipes. If a Safe Standoff Distance (SSD) of 15 feet cannot be maintained, the switching would have to move to the next upstream device where the minimum SSD can be maintained.



NOTE

Safe Standoff Distance (SS) is a pre-identified distance that is away from the device being operated and any additional hazards including associated vent pipes. An arc/flash blanket properly secured around the vent pipe may be used to reduce flash hazards from the vent pipe. All S&C and Scott Engineering PMH live-front load-drop fused positions shall have the source to the line side of the fused position de-energized prior to opening the fuse position.

310. Disconnect Switches

Switches, or junction boxes with exposed air break blades, shall not be operated to drop load. This rule does not apply to switches designed to interrupt load.

311. Permissible Work in Live-Front Padmounted Transformers

a. High-Voltage Compartment — Both Lines Energized

1. Operation of switch handles with live line tools.

2. Phasing between lines. Probes of phasing set to be insulated to within three inches radially of probe end.

3. Removal of protective barriers with high-voltage rubber gloves or live line tools.

4. Testing of phasing voltmeter or electrostatic voltage indicator.

b. High-Voltage Compartment — One Line De-Energized

When work is to be performed in the high-voltage compartments with one line de-energized, the following procedure shall be followed in de-energizing and working on the de-energized line.

1. Necessary switching shall be performed to de-energize the lines (with live line tools).

2. Test de-energized line with an approved testing device.

After this procedure has been followed for all sources of supply, a clearance may be obtained. Testing and grounding will normally be required at two locations.

3. Application of approved ground cluster with live line tool.

(a). First ground cluster terminal to be applied to accessible ground wire in high-voltage compartment.

(b). Remaining ground cluster terminals should be placed between bushing terminals and pothead connections.

4. After testing and application of grounds, work may be performed by hand on the de-energized conductors, provided:

c. Ground cluster terminals are between the worker and any possible source of supply.

d. Adequate protective barriers on energized side of compartment are positioned so as to prevent accidental contact by workers or material.

312. Plug-In Terminations

a. Deadbreak Terminations

1. Immediately prior to operating normally energized plug in terminations they shall be tested as de-energized with an approved testing device.

2. Live line tools are required for removing and installing plug in terminations except when applicable sections of Rule 306 are complied with.

b. Loadbreak Components

1. When operating energized loadbreak components, the automatic circuit recloser on the circuit(s) being worked shall be made non-automatic (see Rule 316,).

2. Normally energized high-voltage loadbreak components shall be operated only with live line tools by two qualified electrical workers (see Rule 109, k., PPE requirement).

3. In loadbreak operations, the loadbreak elbow shall be installed on an approved device immediately after removal. The components from which the elbow was removed shall also be safe ended.

4. When it is necessary to ground a loadbreak elbow which has been removed from a source component, the elbow shall be tested de-energized with an approved testing device immediately prior to being installed on a ground component.

5. Energized loadbreak elbows must be operated above ground and outside the structures.

c. Thermal Inspections

A thermal inspection shall be conducted prior to the removal of any capacitive test point cover. If the thermal reading exceeds the allowable temperature levels referenced in the O&M Manual, the component to be worked on shall be de-energized prior to removal of the capacitive test point cover.

d. Removal/Installation and Testing Capacitive Test Points Capacitive test point covers shall be removed and installed only with live line tools or high-voltage rubber gloves. When testing capacitive test points with an approved testing device, the device shall be attached to a live line tool or be held by an employee wearing high-voltage rubber gloves.

313. Use of Wire Rope

a. Wire rope shall not be used to pull cable in a duct already occupied by conductors.

b. Wire rope may be used to raise or lower equipment in a manhole or vault only when:

1. The wire rope is rigged at least six feet from all exposed energized conductors or equipment, or

2. The energized conductors or equipment are adequately covered or protected.

314. Heating Materials

a. The heating of metals, oils, and insulating compounds shall be done in such a manner as to minimize hazard to the employees working in walk-in vaults or underground structures and to vehicular or pedestrian traffic.

b. Furnaces and tanks containing liquefied petroleum gas shall not be placed in walk-in vaults or underground structures.

c. Gloves shall be worn by employees while heating or handling hot insulating compound and metals.

315. Raising and Lowering Materials Into Manhole or Vault

a. Employees shall use equipment provided for lowering material and small tools into manholes and vaults. Approved pot hooks shall be used when lowering solder pots and compound kettle. Solder ladles shall be lowered separately.

b. Before lowering hot metals, oils, or hot compounds into a manhole or vault, those working in the hole shall be warned to stand clear. The employee on the surface shall not lower material until so instructed from below.

316. Automatic Circuit Recloser Operation

a. No test orders will be taken on all circuits in an underground structure whenever the following work activities will be performed:

1. Testing, grounding, cutting, spiking, repairing cable or components normally energized above 600 V.

2. Disassembling cable components normally energized above 600 V.

3. Installing or removing electrical or communication cable.

4. Relocating energized high-voltage underground cable or equipment.

5. Filtering or replacing oil on energized high voltage underground equipment.

6. Operating energized loadbreak components.

NOTE

In addition to the above requirements supervisors in charge may make automatic circuit reclosers non-automatic whenever they deem it necessary for the safety of the employees performing the work or may consult with their manager to determine if a line section or piece of equipment should be de-energized.

7. Immediately following a high-voltage failure.

b. No Test Orders shall be taken during Distribution arc flash hazardous work activities that could cause an Arc Flash. See Table 200-3 for examples of arc flash hazardous activities.

Table 300–1: Work Activities — Distribution

Work Activity	Is Employee Exposed to an Arc Flash Hazard?
Inside an underground structure or walk-in enclosures; Removing/installing test point covers of the Plug-in Terminations for testing, phasing, and/or applying grounds; Disassembling cable components normally energized above 600 V.	Yes See APM and Grounding Manuals
Removing/installing test point covers of the Plug-in Terminations and testing for voltage and phase on above ground structures; Reading a cable label in a switch (PMH) or pad-mounted transformer with a barrier present.	No See APM rules and safety procedures
Reading a cable label in a switch (PMH) or pad-mounted transformer with no barrier present.	Yes
Working on a Live Front Transformer or equipment.	Yes
Rigging a switch; Removing a barrier in a switch (PMH) or pad-mounted transformer.	No

317. Capacitors

a. Padmount Capacitors

The following procedures shall be completed prior to performing work on capacitors of any voltage.

1. The capacitors shall be de-energized using the capacitor switches provided.

2. Visually check the capacitor switches open. If any are closed, open manually with live line tools.

3. Check for elimination of current flow with AMP meter.

4. The source position to the capacitor switches shall be opened, locked and tagged.

5. At the capacitor installation:

   (a). Live front installation: Using live line tools, the primary terminals to the capacitor bank shall be tested de-energized, and grounded.

   (b). Dead front installations:

   Using live line tools, the primary elbows or the capacitor bank shall be tested de-energized, and isolated or grounded.

6. After waiting a minimum of five minutes from de-energizing, the capacitor terminals shall be shorted, and bonded to the case using live line tools.

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SECTION 400
SUBSTATION RULES

401. This Section Shall Apply to Substation Operation and Maintenance.

Rules pertaining to switching and clearances are covered in the Switching and Clearance Section.

402. Reserved

403. Entering or Working in Stations

a. **Attended Substations:** Any personnel (employees, contractors, or visitors) entering an attended substation, except personnel permanently based there, shall report their presence and the purpose to the System Operator in charge, immediately. This information, along with the date and time, shall be recorded in the station's daily general log by the System Operator in charge or in the Visitor Log by a designated member of the visiting party. All members of the visiting party must be logged in by a responsible member of the visiting party, or the responsible member must sign in the number in the party and maintain an accurate list of all personnel in their party and be prepared to present this list on demand. The Visitor Log shall be formatted to record names, the date, and time of arrival and departure, and the purpose of the visit. Personnel shall provide the System Operator with suitable contact information, such as a radio or cell phone, to be used in case of an operating or other emergency. The responsible person shall inform the System Operator when leaving the station.

b. **Unattended Substations:** Any personnel (employees, contractors, or visitors) entering an unattended station control house, shall report their presence and the purpose within (2) minutes to the Switching Center System Operator having jurisdiction and the Acting Operator on site, if applicable. The visiting personnel shall make an entry in the substation log which includes the responsible person's name, the date and time of arrival, and the purpose of the visit. The visiting personnel shall make a second entry stating the time of departure. This responsible person must maintain an accurate list of all personnel in their party and be prepared to present this list on demand. Personnel not allowed access to unattended station control houses, prior to entering the substation, shall inform the Switching Center System Operator having jurisdiction of their intent and purpose for entering the substation. Once inside, they must report their presence to the Acting Operator on site, if applicable. The System Operator shall make an entry in the Switching Center daily general log which includes the responsible person's name, date and time of arrival, and purpose of the visit. This responsible person must maintain an accurate list of all personnel in their party and be prepared to present this list on demand. The System Operator will record the time of departure in the Switching Center daily general log. Personnel shall provide the System Operator with suitable contact information, such as radio or cell phone, to be used in case of an operating or other emergency. The responsible person shall inform the Acting Operator on site, if applicable, and the System Operator when leaving the station.

c. **Hydro Divisions will follow existing Hydro Entry Procedures:** Any personnel (employees, contractors, visitors, emergency personnel) prior to entering any unattended station will call Control Station for stations in Eastern Division or Big Creek 3 for stations in Northern Division.

404. Working Upon De-Energized Conductors and Equipment

a. Clearances are required on conductors or equipment normally energized at a voltage in excess of 600 Volts. They shall be obtained by a qualified person who shall be responsible for determining that the conductors or equipment are disconnected from all sources of supply.

b. After authorized persons have been notified that such conductors or equipment are cleared for work, and/or the proper clearance obtained, tests shall be made to determine that conductors or equipment are de-energized immediately prior to applying personal grounds, in accordance with Rule 141, the Grounding Manual, and/or Business Unit procedures before work is started.

c. Where the working hazard would be increased by the application of grounds, they need not be applied if the supervisor approves this action and all other alternatives have been considered.

405. Clearance on Station Equipment

a. Before beginning work on any equipment or structure at any station, the employee in charge of the work shall ensure that all crew members know the status of the equipment, what part, if any, is energized, location of grounds, limits of the work space, and what open secondaries, circuit breakers, disconnects, or switches isolate the equipment from all sources of supply. If for any reason there is an interruption in the work where personnel leave the job (such as stopping for lunch), before work is resumed the same formality with conditions shall be followed as at the beginning of the job.

b. If the status of equipment on which a clearance is held is to be changed by switching, the clearances shall first be released and then after switching is completed, new clearances shall be issued in accordance with rules in the Switching and Clearance Section.

c. When it is necessary to do any switching in an energized structure where personnel are working, the station operator, system operator, or acting operator shall make every attempt to contact the employee in charge of the work in the structure, via Company radio, phone line, pager, or horn, to notify personnel prior to operation of equipment. Personnel working in the station shall utilize the Company radio, phone, or pager to maintain contact with the system operator. When it is necessary to perform disconnect switching in an energized structure where personnel are working, the station operator, system operator, or acting operator shall notify the employee in charge of the structure, who in turn shall call personnel away from the structure, until the switching has been completed. After disconnect switching is complete, all personnel shall recheck the status of the structure, lines, and equipment before resuming work.

d. The system operator shall keep all applicable system management tools updated such as EMS, OMS, DCMS and Dispatch Board.

406. Reserved

407. Reserved

408. Qualified Checker Required

No person shall perform work or take any conducting object within the area where there exists a hazard of contact with energized conductors by reason of the work being done, unless under the observation of a qualified checker. Each person shall personally discuss with the checker, and agree upon warning and approval signals and checking communications to be adopted for the

individual job. Each person shall receive an approval from the checker before changing location and again after changing location before contacting any apparatus that could be energized. Always stop at working position and receive approval from checker before contacting any equipment.

a. If the supervisor (or authorized representative) in charge shall determine a job to be hazardous because of proximity to energized equipment and shall decide that a checker is necessary to reduce such hazard and prevent accidents, he/she shall designate a qualified checker.

b. Checkers shall be thoroughly instructed and familiarized with all specific hazards before they are allowed to assume the duty of checking.

c. Checkers shall give the personnel under their observation undivided attention and allow no distraction to remove their attention from them.

d. Checkers shall give warning when personnel are approaching energized parts or other hazards and shall repeat this warning when they are near energized parts as often as is necessary to keep the personnel constantly aware of the hazard.

e. Where the nature and extent of the work at any one location is such that one checker cannot adequately watch the movements of all personnel in hazardous areas, additional checkers as necessary shall be used.

f. Workers shall first notify the checker and receive approval before changing from one location to another, and shall designate route to be taken to new location.

409. Working on Energized Disconnect Switches

Work shall not be done on any open disconnect devices of 2.4 kV or over while one side is energized except with the specific permission of the supervisor in charge.

410. Capacitors

Employees shall not work on capacitors until they have been de-energized for a period of five minutes and then grounded.

411. Reserved

412. Warning Blocks

a. The placing and removing of warning blocks will be the responsibility of the operator who will hang the blocks to conform with the clearances to be issued on the equipment being cleared for work. Persons desiring clearance on station equipment will check warning blocks properly in place before taking the clearance. The warning blocks are not to be removed until the conditions for which they were placed no longer exist and then only by or under the direction of the operator.

b. A yellow warning block is to be placed on each open hook-stick operated disconnect blade when the clip is hot or is considered to be hot and a striped warning block is to be placed on each open hook-stick operated disconnect if the blade is hot or is considered to be hot.

c. Where gang operated open disconnects are involved, a yellow block is to be placed on the operating handle when the blades or clips are hot or considered to be hot, and placed in such a manner that it must be removed before the disconnects can be operated.

d. Indoor Equipment. The use of warning blocks on indoor equipment will be left to the discretion of the Supervisor. In most cases, the blocks should not be used because impaired disconnect clearances are such as to create a hazard when hanging and removing blocks. Also, for inside locations where blocks would normally be hung on hot blades, the spacing is not sufficient to prevent a flashover between blocks.

413. Boom Cranes

Boom cranes shall be grounded and a checker provided when working near energized high-voltage lines or buses in stations. Transmission and Distribution overhead line trucks are excluded from coverage herein.

414. Hydrogen-Cooled Synchronous Condensers and Generators

a. There shall be no smoking in or around hydrogen machines, hydrogen equipment, or in the pits of synchronous condensers.

Check first and be sure.

b. Precautions shall be observed on all leaks and repairs made as soon as possible. Periodic checks shall be made of hydrogen usage for an indication of leakage.

c. Valve covers shall be in place on hydrogen cylinders at all times when not in use. Cylinders shall be secured to prevent falling or rolling at all times.

d. When changing oil in bearings with hydrogen in the machines, the oil shall be first drained into open containers.

e. Hydrogen purity must be kept within safe limits.

415. Filling or Evacuating Hydrogen from Synchronous Condensers and Generators

a. Purging and filling a machine with hydrogen shall be done in accordance with detailed written instructions.

b. A qualified employee must be present at all times during the operation.

c. A suitable area adjacent to the machine shall be roped off and “No Smoking” signs posted. No smoking or open flames shall be permitted in this area.

d. Only persons actually required to perform filling or evacuating operation shall be permitted inside of the roped-off area.

e. All hydrogen cylinders shall be disconnected from the header, or the spool shall be removed from the supply line, prior to removing the hydrogen from the machine and shall remain disconnected until completion of the inspection or overhaul and the air has been removed from the machine. Hydrogen or air must be removed from the machine by either purging with CO_2 or vacuum evacuation.

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SECTION 500
HYDRO RULES

501. These Rules Shall Apply to All Hydroelectric Generating Stations

Rules pertaining to switching and electrical clearances are covered in the Switching and Clearance Section. Rules pertaining to electrical maintenance and operation are covered in the Substation Section. These and all other sections that apply to Hydro operation and maintenance shall be followed by Hydro Generation personnel.

502. Primary Operations and Duties

a. Equipment in Service. All equipment shall be considered in service unless properly cleared and tagged.

b. Clearance Procedures. Where applicable, approved written clearance procedures shall be followed before working on or entering station equipment. No employee shall work on equipment that has been cleared for work unless the employee holds a clearance or is working under another employee who holds such clearance.

503. Contract Work

When a contractor is performing work in a station, a qualified employee appointed by the station chief or supervisor shall take necessary clearances and instruct the contractor (or authorized representative) in regard to hazards peculiar to the equipment or work location.

504. Watering or Unwatering Hydraulic Equipment

When filling or draining scroll cases, penstocks, conduits or other hydraulic equipment, Station Operating Instructions shall be followed.

505. Gauge Glasses

Fluid level gauge glasses shall not be replaced until the pressure has been relieved. The glass shall not be put back into operation until guards are in place.

506. Working in Wet Locations

When entering scroll cases, draft tubes, and other wet locations, only approved portable lighting equipment shall be used.

Only air-powered tools or hand tools shall be used in wet work locations, except that properly grounded portable electric tools may be used if special permission has been obtained from the supervisor in charge.

507. Gratings

a. When working on or above open gratings, a canvas or other suitable covering shall be used to cover the grating in order to prevent objects from dropping to a lower level. During transport for work at elevated positions, tools shall be secured to prevent them from falling (i.e., tool bags and backpacks with zippers or drawstrings, lanyards, etc.).

b. When gratings are removed, standard guardrails shall be erected or the opening shall be constantly attended. Toeboards shall be installed where persons may pass underneath or there is moving machinery or equipment with which falling material could create a hazard.

c. Gratings shall be tied off, before removing, to prevent falling.

508. Reserved

509. Reserved

510. Entering a Turbine Scroll Case, Wheel Pit, Relief Valve, Draft Tube or Tailrace

Before entering any turbine water passage, the employee holding clearance shall check to assure that valves on all sources of pressure are closed, and that all drains, vent valves, wicket gates, or needle valves are open. The employee holding the clearance shall check to assure that the governor, controls, and all of the foregoing have been rendered inoperative. Special permission must be obtained from the supervisor in charge to enter wheel pits to inspect for needle valve leakage when a bypass valve is left open to maintain penstock pressure on the needle valve.

511. Entering a Penstock

Before entering a penstock, the employee holding the clearance shall check to assure that the upper penstock valve and all bypasses to the penstock are closed and that the lower penstock valve between the penstock and scroll case, all drain valves, wicket gates, or needle valves are open. The employee holding the clearance shall check to assure that the governor, controls, and all the foregoing have been rendered inoperative. Escape exits and ventilation shall be provided by removing manhole covers. The person holding the clearance shall be held responsible for all persons entering the penstock. Where plants do not have suitable shut-off facilities at the entrance of their penstocks, the water conduits shall be drained before entering the penstocks and Rule 512 shall prevail.

512. Entering a Water Conduit

Before entering a water conduit, the employee holding the clearance shall check to assure that all devices which may admit water to the conduit are closed and all drainage gates and valves are open, and that all of the foregoing have been rendered inoperative. The person holding the clearance shall be held responsible for all persons entering the conduit.

513. Snow Surveys

Snow surveys and other related hydro-graphic work under winter conditions shall be performed by two member parties whenever it is necessary for such employees to be away from their base overnight. They shall follow a predetermined route and shall not separate except in cases of extreme emergency (Also see the Medical Support for Remote Operations Directive).

SECTION 600
STEAM RULES

601. This Section Shall Apply to Steam Generation Station Operation and Maintenance

Rules pertaining to switching and electrical clearances are covered in the Switching and Clearance Section; rules pertaining to electrical maintenance and operation are covered in the Substation Section. These and all other sections that pertain shall apply to Steam Generation station personnel.

602. Working on Equipment

a. Equipment in Service. All equipment shall be considered in service unless properly cleared and tagged or designated as out of service.

b. Clearance Procedures. Where applicable, approved written clearance procedures shall be followed before working on or entering station equipment. No employee shall work on or enter any equipment that has been cleared for work unless the employee holds a clearance or is working under another employee who holds such a clearance.

c. Starting and Shutting Down Equipment. Prior to or during starting equipment, a check shall be made of all equipment, indicating devices and related controls essential to the operation of the equipment. Such equipment shall be operable and in proper adjustment for safe operation.

   Established procedures for starting up and shutting down shall be rigidly followed. Necessary deviations may be made with special permission and shall be recorded.

603. Boilers — Starting Up

a. A pre-firing check shall be made of all instrumentation, equipment, and controls essential to the operation of the boiler. All such equipment shall be operable and in proper adjustment for safe operation.

   There shall be water showing in the boiler drum gauge glasses.

   The boiler shall be thoroughly purged of flammable mixtures in accordance with approved Station Instructions, before lighting fires.

b. An approved torch or ignitor shall be used for lighting fires in a boiler. The person handling the torch shall keep clear of opening into which lighted torch is placed. Ignitors shall be checked and monitored to be burning before burners are placed in service.

   Under no condition shall burners be lighted from hot brick work. In case of unstable fires or loss of fires in a boiler, fuel valves shall be closed and the boiler thoroughly purged before lighting fires again. Continual monitoring of fires shall be maintained until stable fires are assured.

604. Boilers — Operating

a. Loss of fires shall be considered an emergency. The fuel supply to the affected boiler shall be cut off immediately. Before relighting, it must be assured that all combustible gases are purged, in accordance with written established instructions.

b. Before making observations of boiler firesides that involve opening doors or close approach to openings, authorization shall be obtained from the operator in charge, established precautions must be taken, and suitable eye protection used. Sufficient aspirating air shall be applied before opening observation doors on a pressurized furnace.

c. Return and supply valves shall be closed before removing a burner gun.

   Employees handling hot burner guns shall wear clothing with full length sleeves rolled down and buttoned, face protection, and protective gloves, mittens, pads, or other approved protection.

d. Prompt action shall be taken when either abnormally high or low boiler water level exists, and the supervisor shall be notified as soon as practical.

e. Prompt action shall be taken when firing conditions indicate possible burner failure, flame instability, insufficient or excess fuel or combustion air, and shall be reported as soon as practical.

f. Boiler inspections shall be made as frequently as necessary to ensure against formation of clinkers, run backs, and windbox fires.

g. Inspections of fuel oil equipment and adjacent areas thereto shall be made periodically to check for oil leaks and drips. Fuel oil shall not be allowed to soak into heat insulation and cause a fire hazard. Oil spills shall be cleaned up without delay.

605. Boilers — Out of Service

a. Employees shall not enter firesides or watersides of a boiler until a boiler clearance is obtained. Entering the boiler for inspection will not be done until the person holding the clearance is notified or a separate clearance is obtained.

b. Precautions shall, in accordance with approved Division Orders and Operating Instructions, be taken to prevent fuel leaking into a furnace following shut down.

606. Hydrostatic Testing

All waterside clearances shall be released before hydrostatic testing a boiler.

During hydrostatic testing of boilers, only specifically authorized persons shall be permitted to enter the boiler setting. Boilers being tested in excess of normal pressure shall not be entered until test pressure has been attained for 15 minutes.

607. Gauge Glasses

Employees shall not work on gauge glasses until pressure has been relieved. Gauge glasses shall be pressurized carefully, and only when everyone is clear or protected from possible failure.

608. Gratings

a. When working on or above gratings, a canvas or other suitable covering shall be used to cover the grating in order to prevent objects from dropping to a lower level. During transport for work at elevated positions, tools shall be secured to prevent them from falling (i.e., tool bags and backpacks with zippers or drawstrings, lanyards, etc.).

b. When gratings are removed, standard guardrails shall be erected or the opening shall be constantly attended. Toeboards shall be installed where persons may pass underneath or there is moving machinery or equipment with which falling material could create a hazard.

c. Gratings shall be tied off, before removing, to prevent falling.

609. Water or Steam Spaces

a. Before water or steam spaces of equipment are entered, adequate drainage and ventilation shall be accomplished.

b. Only approved lighting equipment shall be used. Electric tools shall not be used for condenser or boiler work, except that properly grounded portable electric tools may be used if special permission has been obtained from the employee in charge.

c. No one shall be allowed to work at the opposite end of condenser tubes being cleaned. While cleaning is in progress, the opposite end of the tubes shall be barricaded and posted to keep personnel clear. No one shall look into tubes immediately after cleaning.

610. Reserved.

611. Pressure Hose

Air and water hoses shall not be used for steam. Pressure shall be released from any hose before disconnecting.

612. Turbine Generators

a. Prior to starting up, all equipment, instrumentation, and controls essential to the operation of the unit shall be checked. All such equipment shall be operable and in proper adjustment for safe operation.

b. Periodic checks shall be made to locate and control lubricating oil leaks. Leaks near the turbine or steam lines shall be considered emergencies, and reported and corrected as soon as practical.

c. Collector ring or exciter brushes shall not be changed with the equipment in service except with permission of the employee in charge, and in accordance with approved station procedures.

613. Control Boards

All control, annunciator, and indicating light circuits in back of control and gauge boards shall be considered as energized.

Employees working in back of these boards shall use precaution to guard against contact with exposed, energized parts.

Caution shall be exercised when disconnecting, blowing down, or draining gauge lines to prevent contact with exposed electrical equipment.

614. Fuel Gas Lines and Regulators

a. All gas lines shall be properly identified. “No Smoking” signs shall be posted around control equipment and in areas subject to gas leakage. Large areas may require “No Smoking” signs where pressure controls use gas for operating power.

b. Gas lines shall be properly purged when practical and the line tested for combustible gases before work is started. Use inert gas for purging. Air shall not be used to purge gas lines. Red and white barrier tape shall surround the area and “No Smoking” signs posted. The line shall be frequently tested as a check that no isolation valves are leaking through.

c. Welding or hazardous work on pressurized gas lines not purged shall be performed in accordance with approved detailed written procedure for the specific job and under the supervision of a qualified person. Tools, buffers, and saws that will not cause sparks shall be used around gas equipment.

d. Gas lines and headers not in use shall be vented in such a manner that a combustible mixture will not accumulate or circulate so the mixture may become ignited and cause an explosion.

e. In the event of a gas fire, it is safer to allow the gas to burn until the source is cut off than to extinguish the flame.

615. Chemical Cleanings

During chemical cleaning, areas where acid is being mixed or vented shall be barricaded and posted, and smoking shall not be permitted. No work shall be done inside the boiler or windbox during chemical cleaning. Work and welding is permissible in well-ventilated areas as determined safe by the person in charge. Suitable procedures shall be established to avoid explosions from evolved hydrogen or injuries from the chemicals.

616. Reserved

617. Station Clearance Procedure

a. The operator in charge shall have the equipment cleared for work by ordering the necessary valves, doors, fuses, switches, and so forth, opened or closed, as the case may be, so that equipment is unwatered, disconnected, depressurized and drained, or otherwise made safe for persons to work.

b. Every source from which steam, water, gas, oil, air, electricity, and so forth, might enter the equipment shall be checked and every such source eliminated.

c. When all valves, doors, switches, fuses, and so forth, have been closed, opened, pulled, or blocked, locks or "PERSONNEL AT WORK" tags shall be properly placed by the operator to ensure that isolation equipment will not be operated. The preceding are the minimum requirements for establishing station clearances. Other procedures and methods may be utilized to further ensure the safety of personnel and equipment.

   Clearances may then be issued when the equipment is drained and at zero pressure.

d. All valving, switching, and other operations performed to clear the equipment shall be specifically stated when reporting to the operator in charge by the person or persons to whom the instructions were given. Equipment used for isolation shall be logged by the operator, with names of persons performing the operations and the time the transaction was completed.

e. When issuing a clearance, the operator shall clearly state to the person receiving the clearance what valves, doors, switches, fuses, and so forth, are open or closed and that the equipment is isolated and/or at zero pressure, drained, and cleared for work. The piece of equipment shall be correctly and definitely specified and shall be given its proper designation, and all points between which clearance is given shall be specifically named. The person receiving the clearance shall carefully and accurately repeat it back so there is a mutual understanding of the status of the equipment and the limits of the clearance. The operator shall log the clearance in red, stating _____ (giving name) has a clearance on such piece of equipment, and the red clearance tag number when used. The person receiving the clearance shall sign the log where possible. When writing up the clearance in the log, always enter the names of all parties on a new line, below those lines used to record the clearances. This will leave room to enter the word "clear," and the time and names, with blue pencil, after the clearance is released. Only the two names will appear under the clearance of the person receiving and the person issuing the clearance.

618. Prior to Restoring Equipment to Service

Before restoring equipment to service, the supervisor in charge or the operator shall ensure the following has been performed:

- ☐ That all clearances have been released.
- ☐ That all "Clearance" and "Personnel at Work" tags have been removed from equipment used for isolation.
- ☐ That a thorough inspection has been made with a statement of all work completed.
- ☐ That tests have been performed where necessary.

619. Red "Clearance" Tags

In addition to the logging procedure as prescribed in Rule 617, a red "Clearance" tag shall be properly filled out for each clearance issued on a particular piece of equipment.

After the operator issuing the clearance has properly filled out the red "Clearance" tag and signed it, the person receiving the clearance shall sign the tag (received by _____).

The person issuing the clearance shall then give the stub to the person receiving the clearance, who shall retain the stub until the clearance is formally released. The operator issuing the clearance shall then place the upper portion of the red "Clearance" tag on the controls of the equipment cleared for work when possible, otherwise, on an appropriate location in the control room.

Red "Clearance" tags shall be serially numbered and each released stub shall be matched both by name and by serial number with its parent tag before the parent tag is removed from the controls. Parent tags shall be removed immediately after the clearance is released, except when a clearance on the same equipment is to be transferred to another person. In this case, the same parent tags shall be used and a new stub made out and stapled to the original parent tag and stub. The same numbers and "Personnel at Work" tags as the original clearance will continue to be used.

No piece of equipment shall be returned to service until all tag stubs have been formally released and matched with their parent tags.



NOTE

"Clearance" tag serial number shall be written in parentheses and inserted in the red clearance log entry.

The preceding are the minimum requirements for establishing station clearances. Other procedures and methods may be utilized to further ensure the safety of personnel and equipment.

620. Red "Personnel at Work" Tags

These tags shall not be confused with the red "Clearance" tags and shall not in themselves constitute a clearance on the equipment.

They shall be used with clearances and permissions and placed at each point of isolation where the operation of a valve, gate, door, switch, and so forth, would permit steam, oil, water, gas, electricity, or other injurious substances to jeopardize personnel (see Rule 617 c.).

All "Personnel at Work" tags shall be removed after all clearances have been released and before the equipment is returned to service.

621. Yellow "Caution" Tag

The yellow "Caution" tag is to be used to mark any equipment such as valves, gates, doors, machines, switches, and so forth, which for some special reason must not be operated or changed except upon specific instructions from the supervisor or operator in charge. This tag shall not be used in place of the red "Clearance" tag or the red "Personnel at Work" tag and does not constitute a clearance on the equipment to which it is attached.

SECTION 700
SWITCHING AND CLEARANCE RULES

701. Scope and Purpose

These rules shall apply in all instances where work is to be performed on lines or equipment as specified in Rule 105.

Personnel issuing or receiving clearances shall be adequately trained and familiar with these switching and clearance rules, as well as other safety requirements that pertain to their assignment.

The purpose of these rules is to establish uniform safe operating and clearance procedures for working on lines or equipment. Clearances are used for protection of personnel only, and not for protection of equipment.

In addition to these rules, System Operating Bulletins pertinent to system operating and clearances shall be followed.

702. System Operating

The operation of the system is done through the Grid Control Center and certain substations designated as Switching Centers.

703. Switching Centers

Each Switching Center is a part of the Transmission/ Substation Division or the Hydro Generation Division, and is under the supervision of the Grid Control Center in matters pertaining to system operation only.

704. Authority and Responsibility of the Grid Control Center, Switching Centers, and Field Personnel

a. Procedures

Except in trouble and emergencies, where it is necessary to maintain service or protect life or property, no water conduit, pipeline, turbine, generator, circuit breaker, synchronous condenser, transmission or distribution line, control channel, power transformer, or similar equipment shall be put in service or taken out of service, nor any switching be done on 2.4 kV or higher voltages, with an exception of a distribution tap line (DTL), without approval having first been obtained from the Grid Control Center, Switching Center, shift supervisor, or the manager (or his/her authorized representative) having jurisdiction. Approval shall be obtained from the Grid Control Center, Switching Center, or shift supervisor before any work is done on any relay, control wiring, or auxiliary equipment which in any way affects, or through an accident or mistake might affect the ability to generate and transmit power; or before making any automatic equipment non-automatic (solid) on 2.4 kV or higher voltages.

b. Expedite Resumption of Service

In order to expedite the resumption of service in time of emergency or abnormal system conditions, all personnel will be subject to orders issued from the Grid Control Center during the period of the emergency. The Grid Control Center may request any supervisor to send any available and qualified person to perform work in other than their own districts, divisions, or departments. Department or division heads shall be notified by the Grid Control Center of any such unusual assignment of personnel.

c. Emergency Operation

Whenever necessary for protection of life or property, or when communication is interrupted, or at times of serious disaster, any qualified worker may have lines or equipment de-activated or de-energized, provided such action is necessary, safe, and in the best interest of the Company or its customers. Such emergency operation shall be reported to the Grid Control Center or Switching Center as soon as possible with all details. The facts and names of all personnel concerned are to be logged in detail.

d. Working, Testing, or Switching in Stations

Approval shall be obtained from the Switching Center, or shift supervisor before any testing, switching, or other work is done in any station enclosure. The manager (or his/her authorized representative) having jurisdiction will determine the necessity of providing a qualified person for checking such work. The Switching Center or shift supervisor shall be notified after the work is completed. In the case of a “supervisory” controlled station, the Switching Center shall keep the controlling station informed.

e. Relationship Between Customer Service Districts and Switching Centers

The district operations superintendent (or his/her authorized representative) is responsible for the operation of all distribution circuits in the district; however, jurisdiction for switching and clearances on distribution circuits is normally delegated by the district operations superintendent (or his/her authorized representative) to the Switching Centers. All switching on distribution circuits and equipment within stations shall be approved by the Switching Centers.

The Switching Centers shall keep the district informed of any change or contemplated change in the status of a distribution circuit which in any way affects the normal operation of a circuit under its jurisdiction. The district shall also inform the Switching Center of any such change or contemplated change.

Where Switching Centers are not assigned jurisdiction of certain distribution lines or equipment, the district organization has the authority and responsibility in regard to switching and clearances on such lines and equipment.

f. Stations

The manager (or his/her authorized representative) having jurisdiction over the division or facility is responsible for the operation of the substations or generating stations in their jurisdiction.

The district operations superintendent (or his/her authorized representative) is responsible for those stations in the district operated and maintained by the district.

705. General Procedures to Clear Electrical Lines and Equipment for Work

a. De-Energizing

The Grid Control Center, Switching Center, or shift supervisor shall have the line or equipment de-energized by ordering circuit breakers, or other devices to be opened by which the line or equipment might be energized.

b. Check Every Source of Supply

Every source from which the line or equipment might be energized shall be checked and every such source eliminated.



NOTE

For substations, this applies to;

- lines with paralleling taps or connections to more than one station,
- transformers and capacitors,
- generators, circuit breakers, buses, potential sources, and similar equipment.

On transmission/distribution circuits, all open field switches, disconnects, and branch line fuses on the line section to be cleared for work shall be visually checked and tagged.

c. Grounding Lines and Equipment in Stations

Prior to grounding, lines or equipment shall be tested for the indication of voltage with an approved testing device at an accessible location. Where such testing is impractical due to inaccessibility, a visual inspection and status confirmation with the Switching Center having jurisdiction shall be made.

When the proper disconnects have been opened, as specified in Rule 710, protective grounds shall be applied to the line or equipment by one of the following methods:

1. Where provided, station-ground disconnects shall be used to ground lines or equipment.

2. Where station-ground disconnects are provided, but are temporarily unavailable, the use of approved temporary grounding devices as station grounds requires approval of the Grid Control Center or Switching Center. On order of the Switching Center having jurisdiction, after proper clearances have been obtained, such grounds shall be applied or removed by a person designated as qualified by appropriate supervision.

3. Where station-ground disconnects are not provided, it is permissible to issue a Clearance on a cleared line or a piece of equipment with the fact stated that no station-ground disconnects are applied.

4. It shall not be permissible to substitute for the use of an approved temporary grounding device by connecting a line or piece of equipment to another ground by closing a circuit breaker or disconnects.

d. Switching Reported and Logged

Switching operations shall be reported to the Grid Control Center or Switching Center by the person to whom the switching orders were given, and logged by the person and by the operators concerned with the exact time of each transaction, and the names of all personnel involved.

When clearances are to be issued on lines, the Switching Center or Grid Control Center shall state to all the station operators concerned, after they report completion of the switching, "There will be personnel at work on the (Line Name)." This will be the authority for the station operator to place "Personnel at Work" signs or tags on the proper switch-handles or controls, and so forth, and enter in red in the log that personnel are working on the designated line. Such signs or tags are not to be removed except on the order of the Grid Control Center or Switching Center, and then only after the Grid Control Center or Switching Center has verified and stated that, "All personnel are clear of the (Line Name)" and this statement has been entered in the log in blue.

e. Whenever a line, line section, or equipment is cleared for work, a clearance shall be issued within a reasonable period of time.

706. Clearances

Definition. A clearance is the formal authorization, officially issued to a qualified person, at that person's request, to work on an electric line or some piece of operating equipment which is inherently too hazardous to work on while in service, and has been de-activated or de-energized, in a prescribed manner and placed in a safe condition to be worked on.

This authority carries with it a statement of the status of the line or equipment and is a guarantee that this status will not be changed in any way which might be detrimental to the safety of personnel.

707. Qualified Personnel

a. Personnel issuing or receiving a clearance shall assure themselves that the line or equipment has been properly de-activated or de-energized. Any person receiving a clearance for work shall familiarize themselves with the line or equipment to be worked on, its surroundings, and any possible hazards.

b. Only qualified personnel shall be issued a clearance on any line or piece of equipment.

c. Except as noted in Paragraph d, the only person qualified to take a clearance for work inside a station is a person who has been designated as qualified by the division manager (or his/her authorized representative) having jurisdiction. Personnel who are to perform work that requires a clearance inside a station shall work under a clearance which has been issued to a qualified person.

d. Local rules for the division to which the station is attached may permit the issuance of a station clearance to a qualified person from another division or department.

EXCEPTION: When construction work is in progress at Steam Generation stations, contractor personnel may be permitted to receive clearances when authorized to do so by the station with approval of the Steam Generation division manager (or his/her authorized representative).

708. Issuing Clearances

a. Formal Statement of Status

When issuing a clearance, the Grid Control Center, Switching Center, operator, or acting operator shall state clearly to the person requesting the clearance, what field switches, circuit breakers, disconnects, and secondary switches, and so forth, are open, where protective grounds, if any, are applied, and that the line or piece of equipment is de-activated or de-energized.

b. Accurate Identification

All lines and equipment shall be identified by the use of their correct name. In the case of a line, it must be given its proper designation, and the terminals between which the line has been cleared for work shall be specifically named.

c. Repeating and Logging of Clearances

The person receiving the clearance shall carefully and accurately repeat it back so as to assure that there is a mutual understanding of all the conditions, limits, and provisions of the clearance as issued. The person issuing the clearance shall log the clearance in red, stating that such person (giving name) has a clearance on the specified line or piece of equipment. Where possible, the person receiving the clearance shall sign the log book entry.

d. Multiple Clearances

As many qualified personnel as necessary may obtain individual clearances on a line or piece of equipment, and each person shall exercise the same precaution and follow the same procedure in obtaining and releasing the clearances as though they were the only one obtaining such a clearance.

e. Clearances to Work at Attended Stations

Any qualified person desiring a clearance for work on equipment inside an attended station shall report to the operator in charge, shift supervisor, or station electrician on duty. After explaining what is to be done, the person shall request and receive the clearance in the prescribed and formal manner.

f. Clearances to Work at Unattended Stations

1. Clearances to work on equipment at unattended stations shall only be issued to qualified personnel.

2. A qualified person desiring a line clearance at an unattended station shall make the request to the Switching Center having jurisdiction of the station. In the case of an unattended generating station, the request shall be made to the supervisor in charge of the station (or their authorized representative). These requests should be submitted at least 24 hours in advance.

3. Clearances shall be formally logged before work is started, and released before the equipment is energized.

709. Releasing and Transferring Clearances

a. Formal Release

Each person holding a clearance shall make a personal inspection of the job location before releasing the clearance, and verify that all personnel working under their clearance have completed their work before releasing the clearance. All clearances shall be released in a formal manner.

1. Releasing "Ready for Service"

Upon completion of work, the person holding the clearances shall remove any personal shorts and grounds, which they attached, or authorized to be attached, to lines or equipment. When this has been done, the person releasing the clearance shall report to the Grid Control Center, Switching Center, station operator, then on shift, wherever the clearance was obtained. Personnel releasing clearances shall first give their name and shall then state what they are clear of (line or equipment) and that all their personal shorts and grounds have been removed, and that the line or equipment "is" ready for service, so far as they are concerned, with a complete statement of work completed.

2. Releasing "Not Ready for Service"

If the line or equipment "is not" ready for service, the person holding the clearance shall remove any personal shorts and grounds, which they attached, or authorized to be attached, to lines or equipment. When this has been done, the person releasing the clearance shall report to the Grid Control Center, Switching Center, station operator, then on shift, wherever the clearance was obtained. Personnel releasing clearances shall first give their name and shall then state what they are clear of (line or equipment) and that all their personal shorts and grounds have been removed, and that the line or equipment "is not" ready for service. A complete statement of its status and condition shall be reported at this time. The complete report shall be repeated back and the release of the clearance, with status, shall be recorded.

b. Direct Personal Release

Any clearance shall normally be released directly by the person to whom the clearance was issued. If at any time this is impossible due to an accident or any other cause, the line or equipment shall be patrolled or inspected, by another qualified person and the clearance released, before it is energized or re-activated. The Grid Control Center, or Switching Center shall be assured that the patrolling or inspection has been adequate, and will thereafter require that the manager (or his/her authorized representative) having jurisdiction verify that it is safe to have the line or equipment returned to service.

c. Changes on Lines or Equipment

Whenever changes of other than routine nature are made on lines or equipment during work under a clearance, the person holding the clearance shall be held responsible for reporting all such changes when the clearance is released. The Switching Center shall then log all such information and notify the Grid Control Center.

d. Transferring Clearances

If a qualified person holding a clearance to work on lines or equipment desires to transfer the clearance to another qualified person, the person holding the clearance shall call the Grid Control Center, Switching Center, or station operator and report that it is desired to transfer the clearance to a second qualified person, giving the second person's name. The second person shall then take a clearance on the line or equipment, after which the first person shall release the clearance. (Personal grounds shall be transferred at the same time if still applied.) The second person shall then be responsible for releasing the clearance on the line or equipment at the completion of the work.

In cases where the Grid Control Center or Switching Center transfers a clearance at an unattended station from one operator to another, both operators shall be notified and the Grid Control Center or switching center shall log the transfer.

710. Clearance Procedures for Lines and Attached Stations Equipment

a. It shall be clearly understood that any line clearance constitutes a clearance on the entire line, line section and attached station equipment.

b. Any station-line work requiring personnel to perform work in a station-rack, cubicle or metal-clad enclosure shall require the continuous presence of a qualified checker as required in Rule 408.

c. A person holding a line clearance may issue authorization to other qualified personnel to work under the clearance, but the person holding the clearance shall be responsible for the line and equipment being clear and ready for service before releasing the clearance to the Grid Control Center or Switching Center.

d. A clearance will not be issued for:

1. sectionalizing, or

2. isolating, or

3. clearing the problem on line

EXCEPTION: With specific approval of the manager or his/her authorized representative having jurisdiction.

The cause of the problem must be located, its nature reported and a crew made available to make repairs before a clearance is issued.



It shall be understood that until a clearance is issued, any line may be energized at any time, and without notice to personnel.

e. Line clearances shall be issued by the Grid Control Center or Switching Center only to qualified personnel. Switching Center operators shall transfer outstanding clearances at the end of the shift.

f. At stations where disconnect switches are provided on the bus-side of the circuit breakers, all line and bus-side disconnect switches shall be opened, and where provided, the station line ground disconnects shall be closed, before a line clearance is issued. Such a clearance will allow work to be performed on the line, line circuit breaker(s) and any equipment attached to the line at the station.

g. At station where bus-disconnect switches are not provided for the circuit breaker, the clearance shall not include the line-circuit breaker(s) and shall be stated and logged when the clearance is issued.



NOTE

In metal-clad or cubicle installations where facilities are provided to "rack-out" the circuit breaker, this operation will be the equivalent of opening disconnects to the circuit breaker.

h. When a line clearance is held which includes the circuit breaker(s), no circuit breaker(s) on that line or line section, shall be operated, nor shall any work be done on the control circuit to such circuit breaker(s) without first obtaining approval from the person(s) holding the clearance.

i. When work is to be performed in a station where a line clearance is required, that is not under the direct jurisdiction of a Switching Center or the Grid Control Center, the following procedure shall apply after the equipment has been cleared for work:

   1. The field crew will open a switch where provided, or taps at a suitable location, such as the pothead pole if an underground circuit is involved, or at the first available pole outside the station if an overhead circuit is involved. A suitable sign shall be posted at the location of the open switch or taps to indicate that work is being performed at the station.

   2. The field crew shall notify the Switching Center concerned of what has been done to clear the line, or line section.



NOTE

See System Operating Bulletin Number 131, 132, and 133 for further information on this rule.

711. Clearance Procedures for Station

Equipment

a. Working on Circuit Breakers

   1. If it is desired to work on a circuit breaker, the Grid Control Center or Switching Center shall order the appropriate disconnect switches opened. The operator shall then issue a clearance on the circuit breaker, and it may be operated as necessary. If bus-side disconnect switches are not provided, the entire bus or section of the bus to which the circuit breaker is connected shall be cleared for work. The operator shall then issue a clearance on the circuit breaker and bus or section of bus cleared. The circuit breaker may then be operated as necessary.

2. On installations where bus-side disconnects are not provided, a clearance shall not be issued to work on the circuit breaker only. Approval may be granted to a person to work on the circuit breaker "CONTROL CIRCUIT," but such approval shall not constitute a clearance on the circuit breaker or approval to operate the circuit breaker.

b. Working on Buses and Their Connected Circuit Breakers

When a bus is to be cleared for work, line, bank, position, bus and/or transfer bus disconnects shall be opened to all positions and ground disconnects closed to the bus where provided.

A qualified person will then issue a clearance on the bus. The clearance shall clearly state those circuit breakers connected to the bus which are included or are not included in the clearance.

c. Work on Station Disconnects

If it becomes necessary to operate station line, bank, position, transfer bus section, or ground disconnects for repairs after the line or equipment has been cleared, grounded, and proper clearances issued, the following shall apply:

1. A complete explanation shall be made to, and authorization obtained from, the Grid Control Center before starting work on all transmission voltages of 33 kV and above. On distribution voltages of 33 kV and below, the Switching Center having jurisdiction is authorized to grant approval after receiving a satisfactory explanation of what is to be done.

2. At the completion of the work, the Grid Control Center or the Switching Center operator shall verify that all sets of disconnects worked on are restored to the same open or closed position they occupied before the work was started, and shall check as removed any temporary grounds which were applied.

3. Where disconnects are to be operated, there shall be at least one set of open disconnects between the disconnect to be worked on and all energized buses, lines, or other equipment.

4. Where station-ground disconnects are to be operated, approved-temporary grounds shall be installed before the station ground disconnects are operated or disturbed. The temporary grounds shall not be disturbed until the station ground disconnects have been reclosed.

d. Telephone Clearance on Station Equipment Under certain special conditions such as testing, where the same equipment is to be energized and de-energized with intervening station clearances issued for adjustments, it is permissible for a qualified person to receive clearances from, and release clearances to the station operator by telephone.

712. Procedures to Restore Lines or Equipment to Service After Completion of Work

a. Lines

After every person holding a clearance on a line has released his/her clearance and reported the line is ready for service, the Grid Control Center, or Switching Center will proceed to return it to service.

1. If the line involved is a transmission line, approval shall be obtained from the Grid Control Center before issuing switching orders to return the line to service.

2. Notify the operator at the station or stations where the switching is to be done that: “All personnel are clear of (Line Name).” The operator will then enter in the log in blue that, “All personnel are clear of (Line Name),” and remove all “Personnel at Work” signs from the line involved.

3. Order all required secondary switches closed, grounds removed, and disconnect switches closed.

4. Order the necessary switching to return the line to service.

b. Station Equipment

After every person holding a clearance on a piece of equipment has reported clear and that the equipment may be returned to service, the station operator shall notify the Grid Control Center or Switching Center having jurisdiction and request approval to perform the necessary switching to prepare the equipment for service. The Grid Control Center or Switching Center having jurisdiction will either order that the equipment be returned to service or be made ready for service, depending upon the system operating conditions.

713. Declaring Out of Service

a. General

In general, no line, section of line, substation, or piece of electrical equipment under the jurisdiction of a Switching Center or the Grid Control Center may be declared out of service until cleared for work, and proper clearances issued. In order to be declared out of service, it will be necessary to open and tie back jumpers or the line otherwise cut at the station deadend rack, in the station yard, or at some convenient location outside the station that will disconnect the line, section of line, substation, or piece of electrical equipment in such a manner that it cannot be energized by normal switching procedures, at which time it may be declared out of service between this point and some other location, such as the end of the line or a field cut (Refer to System Operating Bulletin No. 25 for further explanation of this procedure).

b. Clearances shall not be issued by Switching Centers or the Grid Control Center on lines or equipment which have been declared out of service.

714. Declaring in Service

a. New Lines

A new transmission line, or new distribution line above 2.4 kV shall not be connected to the risers in a station rack, nor connected to an in-service line in the field (except for distribution tap lines), until the line or line section has been released for jurisdiction to the Switching Center or Grid Control Center. The line connections shall then be made under clearance procedures (see Rule b. and System Operating Bulletin No. 25 for further explanation of this procedure).

b. New Stations

Prior to making any line connections which could later be used to energize a new station, the station shall have been released to the jurisdiction of a Switching Center and the Grid Control Center. The line connections shall then be made under clearance procedures. New equipment connections shall not be made within a station where new or out-of-service equipment might be energized by normal switching procedures, until this equipment has been released for Switching Center jurisdiction. Connections shall then be made under clearance procedures (Also see Rule b.).

c. New Equipment

Connections shall not be made within a station where new or out-of-service equipment might be energized by normal switching procedures, until this equipment has been released for Switching Center jurisdiction. Connections shall then be made under clearance procedures (Also see Rule b.).

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SECTION 800
NUCLEAR RULES

801. Personnel Responsibility at Nuclear Generating Stations

a. Exposure Control

1. Personnel exposure to radiation is to be maintained As Low As Reasonably Achievable (ALARA) at all times.

2. Smoking, eating, drinking, gum or tobacco chewing are prohibited in Radiologically Controlled Areas (RCAs).

802. Area Classification and Designation at Nuclear Generating Stations

a. Restricted Area (RA) is an area where access is controlled for the purpose of radiological safety.

b. Radiologically Controlled Area (RCA) is an area where extended controls are specified for the purpose of radiological safety and in which a Radiation Work Permit (RWP) and dosimetry is required for entry.

c. Radiation Area is an area where the dose rate is above 5 mrem/hr, 30 cm from a radiation source.

d. High Radiation Area is an area where the dose rate exceeds 100 mrem/hr at 30 cm from a radiation source.

e. Airborne Radioactivity Areas are normally posted at concentrations of 30% or more of a Derived Air Concentration (DAC).

NOTE

If you work in a 30 percent DAC atmosphere for one year, you will receive 30 percent of the annual dose limit.

f. Contaminated Area is an area where loose surface contamination levels are equal to or greater than 1,000 disintegrations per minute per 100 cm2. Most contaminated areas fall into one of three categories:

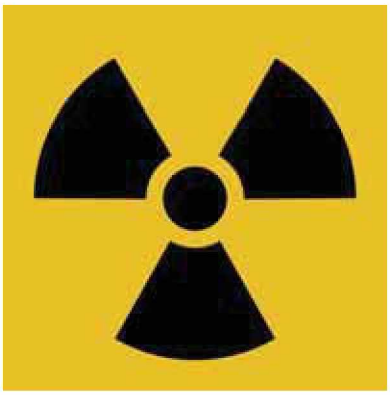
1. General Areas — Defined by rope or tape barriers.

2. Localized Areas — Found on pumps, valves, wall-mounted components and small areas of floors and/or walls.

3. Contaminated Sumps — Posted as “Contaminated area inside sump.”

803. Radiological Warning Signs and Barriers

a. The radiation designation colors are yellow and magenta. This color combination or the color magenta alone, shall be used only in conjunction with the identification and control of radioactive sources or radiation areas.



The radiation symbol is shown above. The symbol is magenta (or purple or black) on a yellow background.

b. Radiation areas shall be conspicuously posted with a sign or signs bearing the radiation symbol and the words:

CAUTION
RADIATION AREA

c. High radiation areas shall be conspicuously posted with a sign or signs bearing the radiation symbol and the words:

CAUTION
HIGH RADIATION AREA

Such areas shall be treated or equipped in accordance with Code of Federal Regulations, Title 10, Part 20.

d. Airborne radioactive areas shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words:

CAUTION
AIRBORNE RADIOACTIVITY AREA

e. Contaminated areas shall be conspicuously posted with a sign or signs bearing the words:

CAUTION
CONTAMINATED AREA

f. Radioactive Material Areas (RMA) are areas or rooms designated for storage of radioactive material(s). RMAs shall be conspicuously posted with a sign or signs bearing the radiation symbol and the words:

CAUTION
RADIOACTIVE MATERIAL(S)

g. There are several types of barriers, depending on the radiological condition. The most common barrier is yellow and magenta plastic braided rope.

h. Radiological barriers and signs shall be erected or removed only by the authorization of Health Physics personnel.

804. Radiation Work Permit

a. Radiological Controlled Areas (RCA) shall be entered only by individuals who have obtained permission in the form of a Radiation Work Permit (RWP).

b. Personnel shall comply with the requirements on the RWP.

c. Personnel shall not deviate from the instructions of the RWP.

805. Personnel Radiation Monitoring

a. Required monitoring devices shall be worn as directed by RWPs, and shall only be removed at the designated location.

b. Personnel monitoring devices shall not be tampered with in any way.

c. If a monitoring device is lost, damaged, or alarms, exit the area immediately and notify Radiological Protection personnel.

806. Personnel Radiological Contamination Events

a. Contamination on any individual shall be removed under direction of Radiological Protection personnel, and in accordance with site procedures.

b. Contamination on personal clothing shall be removed under the direction of Radiological Protection personnel.

c. Personal clothing that cannot be decontaminated will be confiscated and disposed of as radioactive waste.

807. Radiological Protective Clothing and Equipment

a. Protective Clothing

1. Protective clothing shall be worn in Radiological Controlled Areas as specified by the RWP.

2. When leaving the Radiological Controlled Areas, protective clothing shall be removed according to posted instructions, and placed in the containers provided.

3. Protective clothing shall not be worn outside the Radiological Controlled Areas.

b. Respirators

1. Approved respirators shall be worn as designated by the RWP.

2. Before being approved to wear a respirator, each employee must have training, a current physical exam, be clean-shaven in the facepiece-to-face seal area, and have a "fit test" on each type of respirator to be worn.

808. Emergency Plan Overview

a. There are two classifications of emergencies:

1. Unusual Event (UE)

2. Alert

b. If an Alert is declared:

1. Sirens will sound. Unless directed otherwise, personnel shall report as follows:

(a). Emergency Response Personnel should report to their Emergency Duty Stations.

(b). Non-Emergency Response Personnel should report to an assembly area. Use proper Radiological Protection procedures when exiting the protected area. Follow the instructions of security officers and supervisors.

SECTION 900
GAS OPERATIONS — CATALINA ISLAND

901. Scope and Purpose

All work shall be arranged and carried on with a primary view to safety of the employee, customer, customer's property and the public welfare in general.

There follows, herewith, a general set of rules and specifications for this purpose, but which cannot possibly foresee the exact circumstances, which may be met.

To accomplish these objectives, all supervisors, foremen and workers are to be continually watchful and alert.

902. Turning On Gas

a. Gas service shall not be turned on unless the customer or another responsible party is on the premises and advises.

b. Before turning on gas service, house-piping outlets to which appliances are not connected shall be securely plugged or capped. All valves on appliances, which are connected, shall be observed in the "closed" position, except appliance main shut-off valves, which shall be left open.

c. After turning on gas, the meter shall be checked for ability to register a small flow and a meter test for leakage shall be made.

d. If movement of the meter test hand is observed, a soap test for leakage on the meter connection shall be made.

   If the leak is on the customer's side of the meter, the customer shall be notified and the meter turned off until the leak is repaired.

903. Investigation of Leaks

a. In the event of a hazardous leak or a leak suspected to be hazardous, the following procedure shall be followed.

   1. All burners and open flames in the building or where the escaping gas might reach shall be extinguished.

   2. Persons in the building shall be warned not to turn the lights off or on or use the telephone, doorbells, or any other electrical equipment. When possible and safe to do so, the electrical service entrance switch shall be opened or the service disconnected.

   3. All windows and doors which will help dissipate the gas shall be opened and a blower shall be used to dispel it.

   4. All areas where escaping gas will create a hazardous condition shall be vacated.

b. Where the hazardous leak is not repaired or stopped, a qualified employee shall stand by until repairs are made and the area is safe.

904. Pressure Relieving Valves

a. Pressure relieving valves shall be checked by authorized personnel in conformance with established schedules.

b. Valves located ahead of pressure relieving valves, for the sole purpose of enabling the pressure relieving valve to be taken out of service for inspection or repair, shall be locked in the open position.

905. Sources of Ignition or Fire Near Escaping Gas

a. When excavating over or near a leaking gas line, or doing any work which does or may involve escaping gas, except as provided elsewhere, all forms of ignition shall be kept upwind a safe distance. Static electricity as a source of ignition must be considered. Notwithstanding the preceding, backhoes, trenchers, or similar equipment, may be used to excavate near leaking gas when considered necessary and feasible by the Supervisor in charge.

b. Matches, lighters, or other sources of ignition shall not be carried by employees when entering or working in an atmosphere containing combustible gas, except that safety matches may be carried by Servicemen in the performance of their normal work.

c. Whenever a section of metallic gas pipe is to be cut, the line shall be blown down to atmosphere pressure and an approved metallic jumper shall be established across the point where the cut is to be made to prevent a spark or arc from occurring.

EXCEPTION: Plastic pipe or two-inch smaller metallic gas lines, and gas meter swivels may be cut or disconnected without a jumper.

d. Pipe cutters shall be used whenever possible to cut metallic gas lines. When it is necessary to use a hacksaw or file in a gaseous atmosphere on metallic pipe, the tool shall be lubricated and handled carefully to prevent sparks. On plastic pipe, the tool shall be grounded.

e. Gas shall not be blown against the side of an excavation; it must be vented upward.

f. The employee in charge shall insure that bystanders and traffic are not allowed to remain near work in which gas is escaping or likely to escape.

906. "Man on Line" and "Caution" Tags

a. When a section of a main, or line, or piece of equipment involved in conveying gas, oil, steam or high pressure air is shut down or isolated by closing valves, a "Man on Line" tag shall be properly filled out and placed on each closed valve or mechanism which constitutes a clearance point.

b. Prime movers, machines or equipment which are capable of movement, shall be securely blocked or otherwise secured when there is a possibility of hazard to employees working on them. Lockable controls shall be locked in "off" position during repair work. Machines not equipped with lockable controls shall be sealed or disconnected from the source of power, or other steps shall be taken which will prevent the prime mover or machine from being started. In addition, "Man on Line" tags shall be placed at these locations.

907. Ventilation

When a space where gas leakage may be present is ventilated by means of a power driven fan or blower, the motor or engine shall be kept upwind at least 10 feet from the opening unless the motor or engine is explosion-proof. Blowers shall be placed so that they will not pick up exhaust fumes from other equipment or vehicles.

908. Unusual Hazards

a. Jobs involving unusual hazards shall be performed in accordance with specific instructions which shall include policing and frequent checking of such hazards. The exempt Supervisor or designated representative shall be directly responsible for the issuance of such instructions.

b. If the employee in charge determines a job to be unusually hazardous and that an observer will minimize such hazard, a qualified observer shall be checked.

c. Before employees start work, they shall make sure they are on the right equipment; if unusual hazards are involved, they shall insist on being checked.

909. Plastic Pipe Static Charges

Static electrical charges must be removed by grounding the pipe whenever it is squeezed and during hot tapping, purging and emergency repair operations.

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SECTION 1000
FIRST AID RULES

1001. Purpose

First aid is the immediate care given to the victim of an injury or sudden illness until the arrival of qualified assistance. It includes self-help and home care if medical assistance is not available or necessary. In all cases where assistance is summoned to the scene of an accident, it must be done in accordance with the instruction in Policy P-14: What to do When an Accident Occurs.

1002. General Directions

Prompt action must be taken in cases of serious injury or sudden illness while help is being summoned. Give immediate attention to the following first-aid priorities:

a. Begin prompt rescue if the victim is in imminent danger of further injury. Summon Emergency Medical Service 911 or follow site-specific instructions) depending on the work location as quickly as possible — even if that means leaving the victim momentarily.

b. Ensure that the victim has an open airway and perform Cardiopulmonary Resuscitation CPR), if necessary (see Rule 1015 .

c. Control severe bleeding.



NOTE

First aid responders should use universal precautions at all times — meaning that they should presume that exposure to blood or any other bodily fluid is potentially infectious. To avoid direct contact with blood or body fluids, first aid responder should use the appropriate personal protective equipment (PPE) to reduce the risk for exposure. PPE for first aid responders includes nitrile gloves and barriers when providing mouth to mouth resuscitation.

1003. Shock

a. Definition

Shock is a dangerous reduction of blood flow throughout the body tissues that, if untreated, may lead to collapse, coma, and death. The blood vessels become dilated and do not respond to nervous stimuli. If the state of shock continues, it may be fatal or cause permanent damage to essential organs of the body.

Electrical Shock: The result of contact with electrical current. A victim suffering from electrical shock must be removed from contact with the current. The first aid responder must use extreme caution in this procedure to avoid contact with the electrical current. If the victim cannot be safely removed from the source of current, the first aid responder must wait until qualified help arrives to remove the victim from the source of current. Breathing and the heart beat, or both, may cease to function with electrical contact; therefore, Cardiopulmonary Resuscitation (CPR) may be needed (see Rule 1015). Internal or external injuries may also occur.

b. Symptoms

1. The shock victim's behavior may range from a feeling of restlessness or agitation to stupor and unconsciousness.

2. The pulse will be weak or almost absent; its rhythm may be regular or irregular.

3. Other physical symptoms may be:

a). The face may be pale or ashen

b). The skin may feel cool and clammy with increased perspiration

c . Pupils may be dilated or unequal in size and will lack luster

d). Dizziness, nausea and vomiting may occur

e). Unconsciousness may develop

f . Breathing may be shallow or stop

g). The heart may stop beating

c. First Aid

It is vital to the victim that the first aid responder try to prevent or treat shock immediately with the following procedures:

- ☐ Call for Emergency Medical Services (911 or follow site-specific instructions) immediately
- ☐ Maintain an open airway at all times
- ☐ Keep victim as comfortable as possible, lying on back with legs slightly raised (unless leg or back injury is suspected)
- ☐ Cover or uncover victim using clothing or blankets to maintain normal body temperature
- ☐ Do not give liquids or food
- ☐ Turn victim on the side if nausea occurs to prevent choking on vomitus matter
- ☐ Do not move victim unless absolutely necessary
- ☐ Avoid rough handling if victim must be moved
- ☐ Do not let victim see the injuries, if possible
- ☐ Do not discuss the extent of injuries with victim

1004. Wounds

a. Definition

Blood borne pathogens BBP): Microorganisms that are present in human blood and can cause disease in humans.

Infection: Infection of a wound is characterized by tenderness, redness, warmth, swelling in some cases, fever and pus appearing on the wound. If infection develops, seek medical attention immediately.

A wound is a break in the body tissue, either internal or external.

1. Open Wounds: A break in the skin. There are six types of open wounds.

   a). Abrasion: This occurs when the outer layers of the protective skin are damaged by scraping. There is limited bleeding, thus allowing foreign material to remain in the wound.

   b). Incision: A clean cut by a sharp object. The bleeding may be rapid and heavy, cleansing the wound of foreign matter. Incisions are usually deep and may cause damage to muscles, tendons, nerves, and blood vessels.

   c . Laceration: A lacerated wound is a jagged or irregular cut, characterized by a breaking or tearing of the soft tissues. Bleeding may be rapid and extensive with destruction of the body tissues due to the tearing action.

   d). Puncture: A puncture wound is produced by an object piercing the skin, creating a hole in the tissue. External bleeding is quite limited with minor punctures; however, bleeding may be moderate to severe with large puncture wounds. Infection may develop easily, with the possibility of tetanus.

   e). Avulsion: An avulsed wound results when tissue is forcibly separated or torn from the victim's body. An avulsed wound if completely removed is also termed an amputation. An incised or lacerated wound, or both, will usually occur when a body part is avulsed. There will be heavy and rapid bleeding. Any time this situation occurs, the avulsed body part should be sent along with the victim to the hospital. Wrap avulsed part in a cool moist dressing. Do not freeze.

   f). Impaled Objects: When an object protrudes from the wound do not remove it. Stabilize or secure with bandage in place to prevent movement of object.

2. Closed Wounds: Damage to underlying tissues without a break in the skin. Examples of these wounds are:

   a . Contusions: Bruises, black eyes, and so forth.

   b). Internal Hemorrhaging: Not readily evident in most cases. May involve damage to internal organs due to puncture wounds, impaled objects, or a traumatic impact.

3. Chest Wounds: An open or closed injury to the chest.

   a). If you hear air, a hissing noise or see bubbles that is a sign that the chest cavity has been opened or breached. Apply pressure directly to the wound until airtight dressing can be applied (found in the First Aid Kit gauze compress).

   b). If the wound extends into the chest cavity, cover opening with an airtight dressing, preferably the 24 X 72 inch gauze compress found in the First Aid Kit.

   c . Place the victim with the injured side lower to assist breathing.

CAUTION Do not tightly bind the chest, since this may hamper breathing. If patient is conscious, assist in finding the most comfortable position in breathing.

b. Symptoms

Bleeding: There are three types of bleeding the first aid responder will encounter. They are arterial, venous, and capillary.

1. Arterial: Bleeding from a cut artery occurs in spurts. The blood is bright red in color.

2. Venous: Bleeding from a cut vein can be recognized by the dark red color of the blood and the manner in which it wells or flows evenly from the wound.

3. Capillary: Capillary bleeding is the oozing of red blood, generally from an abraded surface. It may be severe, but can be readily controlled.

CAUTION Always use appropriate PPE to prevent exposure to BBP or Other Potentially Infections Material

c. First Aid

Minor Wounds: All minor wounds that do not need medical attention should be treated as follows:

1. Cleanse wound thoroughly with soap and water use antibacterial soap if available, avoid using detergent soap. Otherwise, copious amount of water is sufficient).

2. Apply antibiotic ointment if able to confirm that the victim is not allergic to it.

3. Place bandage or dressing over the wound.

4. Observe wound for signs of infection. If redness, pus, or fever develops, seek medical assistance.

d. Major Wounds: There are three methods used in the control of bleeding and should be used in the following order if possible: direct pressure, elevation, and tourniquet. **The tourniquet is seldom used and only as a last resort.**

1. Direct Pressure: Place a sterile compress directly over the wound and apply pressure. In an emergency, pieces of clothing, rags, or gloved fingers may be used. This method is the only available method to control bleeding on the head, face, and torso.

2. Elevation: Where direct pressure is used on extremities, control of bleeding can be helped by elevating the limb. Do not elevate limb if fracture is suspected or if victim has head, chest, or neck injuries.

3. Tourniquet: Rarely used. May result in loss of limb. A tourniquet may be applied to the arms or legs only. A tourniquet should be applied only when direct pressure on the wound, and /or elevation of the limb fails to stop the bleeding. Once the tourniquet has been applied, it should not be released except on the advice of a physician. Releasing the tourniquet increases the danger of shock, blood clots, and bleeding.

   PROCEDURE: If the tourniquet in SCE First Aid Kit is used, follow the instructions on the box it comes in; if not proceed as follows:

   a). Use a strip of cloth at least two inches wide, such as a folded triangular bandage. Do not use narrow materials such as rope or wire as these may damage the flesh.

   b). Wrap the cloth or bandage tightly twice around the limb close to the wound, between the wound and the heart.

   c). Tie one overhand knot in the bandage. Place a short, strong stick on top of the knot, and then tie two overhand knots on top of the stick.

   d). Twist the stick to tighten a strip of cloth around the limb, until the bleeding is greatly reduced or stops. Wrap and tie in place another strip of cloth around the stick and limb so the tourniquet will not unwind.

   e). Do not cover the tourniquet.

   f . Attach a highly visible note on the victim indicating the location of the tourniquet and the time when applied. Place the note on the victim's clothing by the collar.

e. Caution

   Shock: When moderate to severe bleeding is present, first aid for shock should be started as soon as possible (see Rule 1003 .

1005. Fractures

a. Definition

A fracture is a broken bone. There are two types of fractures common to first aid responders: simple and compound.

1. Simple Fracture: In a simple fracture, the bone is broken but the skin in not broken. This fracture may not be obvious to the first aid responder, but the cause of the injury can be used as a guide. Simple fractures are most common and may be difficult to determine without the assistance of X-ray. If there is doubt, carry out first aid measures for a fracture to prevent aggravation of the injury.

2. Compound Fracture: In a compound fracture, the bone is broken and there is also a connecting wound usually caused by the bone breaking through the skin. Compound fractures carry an added danger of increased bleeding, infection and torn tissue. A fracture may be considered compound without an exposed bone. When an object strikes the skin surface and creates a wound if it is suspected that the underlying bone is broken, the fracture is compound.

b. Symptoms

Information provided by the victim can provide clues to possible fracture locations, such as hearing or feeling the bone break.

1. General symptoms for a simple fracture are:

a). Pain and tenderness in the area of the break.

b . Swelling and discoloration in the area of the break.

c . Deformity of the area.

d). Difficulty moving adjacent joints.

e . General symptoms for a compound fracture are the same as a simple fracture except there may be bleeding and bone protrusi.

2. Fractures of the head, neck, back, and ribs can be very serious if not treated properly. Extreme care must be given to a victim with neck, back, or rib injuries. If you suspect head, neck or back fractures, do not move the victim, unless their life would be in danger otherwise. Fractures of the neck vertebrae should be suspected if the victim has difficulty in feeling or moving either arms or legs.

c. First Aid

1. First aid for simple and compound fractures is:

a). Do not attempt to reduce or set a fracture.

b). Keep the victim lying down and monitor/treat for shock if present and call Emergency Medical Services (911 or follow site-specific instructions immediately).

c). Maintain an open airway at all times.

d . Protect the victim from further injury.

e). Do not move the victim unless there is danger of further injury.

f). Control bleeding in an open fracture before further measures are performed. If bleeding is profuse, direct pressure should not be applied over the protruding bone.

g). In an open fracture, cover the wound area with a large, sterile bandage to reduce chance of infection.

h). Splints are devices applied to the arm, leg, or trunk to immobilize the injured part when a fracture is suspected. Splints should not be used if medical help is readily available. The splint, when used, should be long enough to extend past the joints adjacent to the fracture. Hands and feet should be exposed so the first aid responder can determine whether the splint is too tight by checking for adequate circulation. Splints can be held in place by strips of cloth torn from clothing or other items such as handkerchiefs, neckties, triangular bandages, and so forth. Secure the ties to the splint firmly so there is no movement but be careful not to turn the splint into a tourniquet. Pad the splint for the comfort of the victim.

2. First aid for suspected fractures of the head, neck and back:

a). Call Emergency Medical Services 911 or follow any site-specific instructions and maintain an open airway at all times.

b). Do not attempt to move or transport a victim with head, neck or back injuries without assistance of a trained medical provider.

c . Leave the victim lying down and immobilize the neck and back area to avoid any movement. Place rolled blanket, sand, dirt, or gravel in bags or material around the neck, head, and body of the victim to ensure complete immobilization.

3. First aid for fractures of the rib cage. Fractures of the rib cage can be quite painful. Unnecessary handling of the broken rib could cause a fractured rib to be driven into a lung, causing the lung to collapse. If the victim has difficulty in breathing, gently place him/her in a semi-prone position which should relieve some discomfort. When blood or fluids are draining from the victim's mouth, place the victim on the side to prevent inhalation of the fluids. Place the victim on the injured side to assist with breathing.

4. Fractures are very painful and it is the first aid responders duty to make the victim as comfortable as possible with minimal movement, protecting and removing the victim from further injury, and getting medical help as soon as possible.

1006. Burns

a. Definition

A burn is an injury to body tissue resulting from contact with:

- heat, hot objects, hot solutions or vapors (thermal burns)
- chemicals
- friction
- radiation
- electricity

This section deals with first aid for thermal, chemical and electrical burns. Most burns involve pain. Symptoms of shock may also be present and if so, require immediate treatment (see Rule 1003 .

Depending on the cause of the burn, there may be other injuries as well which will require immediate activation of Emergency Medical Services.

b. Thermal Burns

The objective of the first aid responder attending a thermal burn employee is to; identify and treat for shock, determine if medical attention is necessary, and prevent infection.

Medical attention is needed if the burn has ANY of the following characteristics:

- ☐ Burn is larger than the size of the person's open hand.
- ☐ Burn contains blisters.
- ☐ Burn darkens or breaks the skin.
- ☐ Burn involves the face, hand, foot, genitals, or joints.
- ☐ Burn is not completely clean.
- ☐ Burn causes pain that is not relieved with over the counter pain medication (for example, Acetaminophen) or does not improve within 24 hours.
- ☐ Burned employee may have inhaled smoke or extreme heat
- ☐ Burned employee has other major injuries resulting from the incident.

1. Minor Burns

Medical attention is NOT necessary when no blisters have appeared and burn area is smaller than the size of the person's hand.

Key to effective first aid includes:

- ☐ Apply Water-Jel Burn Dressing to the burned area until pain subsides.
- ☐ In the event there is no Water-Jel Burn Dressing available, immerse burned area in cool water until pain subsides.

2. Major Burns

   Medical attention is necessary when blisters appear, wound is open and/or is greater than the size of the person's hand.

   - ☐ Apply Water-Jel Burn Dressing directly to the affected area, IF BURN AREA IS UNDER CLOTHING APPLY DIRECTLY OVER CLOTHING.
   - ☐ Call Emergency Medical Services (911 or follow site-specific instructions).
   - ☐ If Water-Jel Burn Dressing is not available; cover the burned area with a clean cover or gauze moistened with cool water.
   - ☐ DO NOT APPLY ICE
   - ☐ Do not apply grease or ointment to any burn.

c. Chemical Burns

   Key to effective first aid includes:

   STEP 1. Call 911

   STEP 2. The first principle in chemical burns is to remove the chemical agent. Refer to Safety Data Sheet (SDS) if available. Flush with water and brush away any dry powder that may be present. Do not attempt to neutralize the chemical. CLOTHING CAN SERVE AS A RESERVOIR FOR THE CHEMICAL THEREFORE IT MUST BE REMOVED. Once the chemical has been removed, Water-Jel Burn Dressing can be used to provide wound protection and pain relief.

d. Electrical Burns

   Electrical burns occur when an electric current runs through a portion of the body, usually from either a man-made source or lightning. The outside of the person's body may appear to have only minor injuries, but internal injuries may still be significant. The primary determinant of injury is the amount of current flowing through the body.

   Symptoms of electric shock include:

   1. Severe absence of heartbeat, irregular heartbeat, confusion, hearing loss, and weakness.

   2. Burns are most severe at the points of contact with the electrical source and the ground. The hands, heels, and head are common points of contact.

   3. If the employee is thrown clear of the electrical source, consider the possibility of a spine injury (see Rule 1005 c .

   Key to effective first aid includes:

   STEP 1. Look first and do not touch the employee.

   STEP 2. If employee is near the power source (such as a live wire), do not approach. If possible, separate the employee from the source of the electrical current. The safest way to do so is to shut off the current — for example, by throwing a circuit breaker or switch or by disconnecting the device from an electrical outlet. DO NOT touch the person until the current has been shut off, particularly if high-voltage lines are involved.

   STEP 3. Turn off the power source, if possible, and call Emergency Medical Services (911 or follow site specific instructions .

STEP 4. Utilize the appropriate personal protective equipment PPE) for blood-borne pathogen (BBP) precaution.

STEP 5. Check for signs of responsiveness circulation (breathing, coughing, or movement). If absent, begin Cardiopulmonary Resuscitation CPR) immediately see Rule 1015). An AED may be used if one is available.

STEP 6. If the possibility of spine injury is present, avoid moving the employee. Protect the neck and back from further injury.

1007. Heatstroke

a. Definition

Heatstroke is a response to heat, characterized by extremely high body temperature. This condition is a life-threatening emergency for which first aid is urgently needed.

b. Symptoms

1. There are four primary symptoms:

a . Hot, dry skin.

b). Flushed or red face.

c . Fast, throbbing pulse.

d). Extremely high body temperature of 106 degrees or higher.

2. Other symptoms are:

a . Headache.

b). Dizziness and nausea.

c). Unconsciousness in severe cases.

c. First Aid

Immediate measures should be taken to reduce the body temperature. Temperature reduction should be done quickly, taking care to prevent chilling.

1. Call Emergency Medical Services (911 or follow site-specific instructions immediately) and provide the address and/or directions to the work site or GPS coordinates.

2. Move victim to a cool, shaded area. If they start to shiver or say they are cold, cover the victim to maintain normal body temperature.

3. Keep victim lying down or in a position they find of comfortable.

4. Loosen or remove tight fitting clothes.

5. Apply ice packs or cold packs to the forehead, under the armpits, behind the neck, and knees. Do not immerse victim in ice water. If ice packs or cold packs are not available, dampen the victim with cool or tepid water.

6. Do not give liquids to an unconscious or semiconscious victim. When the temperature goes down, and the victim feels better, liquids can be given in gradual amounts, a sip at a time.

d. Prevention

The following precautions should be taken when working in the sun or extreme heat:

1. Gradually adjust the body to the climate.

a). Generously apply a water-resistant sunscreen with a Sun Protection Factor SPF) of at least 30 that provides broad-spectrum protection from both ultraviolet A (UVA and ultraviolet B UVB) rays to all exposed skin. Re-apply every two hours, even on cloudy days and after sweating.

b). Wear protective clothing, such as a long-sleeved shirt, pants, a wide-brimmed hat and sunglasses, where possible.

c . Seek shade when appropriate, remembering that the sun s rays are strongest between 10 a.m. and 4 p.m. If your shadow is shorter than you are, seek shade.

d). Use extra caution near water, snow and sand as they reflect the damaging rays of the sun, which can increase your chance of sunburn.

2. Eat lighter meals and drink more fluids even if you are not thirsty.

3. Consult with your health care provider to ensure medications you are on do not interact negatively with sun exposure.

1008. Heat Exhaustion

a. Definition

Heat exhaustion is the result of overexposure to excessive heat over a prolonged period of time. It is a response to heat characterized by fatigue, muscle weakness and collapse.

b. Symptoms

1. The primary symptoms are the same as in shock:

a). Pale face.

b). Cool, clammy skin.

c). Rapid, but weak, pulse, regular or irregular rhythm.

d). Profuse perspiration.

2. Other symptoms are:

   a). A normal or slightly lowered temperature.

   b). Dizziness and nausea.

   c). Unconsciousness in severe cases.

c. First Aid

Care for heat exhaustion is similar to first aid for shock.

1. Move the victim, to a cool area with shade and circulating air.

2. Keep the victim lying down with the head level with the body, and loosen tight clothing to allow for better circulation and breathing.

3. Maintain normal body temperature.

4. If conscious, give sips of water to replace lost fluids.

5. If recovery is not prompt and symptoms have not improved within 30 minutes, seek medical attention. If condition worsens, call Emergency Medical Services (911 or follow site-specific instructions).

6. If it is apparent that medical assistance is immediately needed, call Emergency Medical Services (911 or follow site-specific instructions). If emergency medical services is contacted, ensure the following occurs:
   - Provide directions and/or address to the work site or GPS coordinates to emergency medical services
   - If practicable, the victim should be in an accessible area for emergency medical services to provide support

d. Prevention

See the Corporate Health & Safety Heat Illness Prevention Program on the Portal.

1009. Heat Cramps

a. Definition

Heat cramps are painful, brief muscle cramps that occur during activity in a hot environment. Heat cramps typically resolve on their own but may be signs of a more serious condition which requires medical attention.

b. Symptoms

1. Muscle cramping usual occurs in calves, thighs, abdominal muscles, and shoulders.

c. First Aid

1. Move victim to a cool, shaded area and have him/her rest.

2. Stretch the cramping muscles gently to help relieve the spasm/cramps.

3. Drink water to help balance sodium.

4. If recovery is not prompt and symptoms have not improved, the employee or supervisor may contact the Injury Assistance Program for guidance. If condition worsens or it is apparent that medical assistance is immediately needed, call Emergency Medical Services (911 or follow site-specific instructions). If emergency medical services is contacted, ensure the following occurs:

   - Provide directions and/or address to the work site or GPS coordinates to emergency medical services.
   - If practicable, the victim should be in an accessible area for emergency medical services to provide support

1010. Sprains/Strains

a. Description

A collective term for muscle and ligament injuries without dislocation or fracture. A sprain is a joint injury in which some of the fibers of a supporting ligament are ruptured but the continuity of the ligament remains intact. A strain is an over-stretching or overexertion of some part of the musculature.

b. Symptoms

1. Swelling can occur rapidly.

2. Pain, especially on motion.

3. Discoloration develops as blood collects in the joint.

4. Tenderness to the touch.

c. First Aid-RICE

- **Rest** — do not put weight on the injury, total rest for 1–2 days.
- **Ice** — apply ice packs to the injured area for the first 24 to 48 hours.
- **Compression** — wrap injured extremities with elastic (ace) bandage from First Aid kit to reduce swelling, avoid tight wrap. If area below it feels numb, tingles or cool, loosen wrap.
- **Elevation** — prop up the injured area at or above the level of the heart to reduce swelling and bruising.

d. Caution

In some cases, a sprain is accompanied by a simple fracture and medical attention should be sought. Signs of a serious strain/sprain are:

- ☐ Abnormal sensation (numbness, tingling, coolness, and so forth).
- ☐ Severe pain or unable to move limb due to weakness.
- ☐ Pale or blue discoloration, feels colder than skin on the limb not affected.
- ☐ Sudden significant swelling.
- ☐ Hurt limb or joint is out of position, or oddly shaped.
- ☐ Skin over the site of an injury is broken.

1011. Dislocations

a. Description

When a bone is dislocated, it is moved partially or completely out of its normal joint position. No joint is immune from dislocation. If the dislocation cuts off blood supply, a major medical emergency can take place.

b. Symptoms

1. Severe pain, especially upon movement of the joint.
2. Deformity of joint area, slight to severe.
3. Rapid swelling.

c. First Aid

Only a physician should attempt to treat the dislocated joint.

1. Seek medical attention immediately.
2. Keep victim lying down or in a semi-reclined position.
3. Apply cold packs to the injured joint to reduce swelling.
4. Immobilize the injured extremity by applying a sling, a splint, or binding to the body.

1012. Head Injuries

a. Definition

Head injuries may be classified according to the structure involved. Skull fractures are injuries to the bone structure. Concussions are injuries to the brain and its covering. The scalp may be cut, or great areas of it may be torn away. Within the skull, either the coverings of the brain and/or the brain itself may be damaged.

b. Symptoms

A person with a head injury can have many different symptoms, ranging from mild, subtle, and easy to overlook for example fatigue or sleepiness); to severe such as loss of consciousness). Some symptoms include:

- ☐ Headache, dizziness, nausea, vomiting or excessive fatigue may be present.
- ☐ Lacerations which may result in profuse bleeding.
- ☐ A period of unconsciousness.
- ☐ Disturbance of speech, difficulty in breathing and/or coordination, or weakness of or inability move the arms and/or legs.
- ☐ Bleeding from the nose and ears.
- ☐ Dripping of clear fluid from the nose and ears denotes a very serious head injury.
- ☐ Loss of consciousness.

c. First Aid

Treatment depends upon the underlying injury and the person's condition.

- ☐ Protect the head and neck from further movement and injury — Place a rolled blanket, sand/dirt/gravel in bag or material to support neck and head for immobilization (see Rule 1005 c. 2. .
- ☐ Keep head elevated if possible.
- ☐ Monitor airway, breathing, and circulation. and provide CPR when necessary (see Rule 1015 .
- ☐ Keep victim comfortable lying down.
- ☐ Control extensive bleeding from scalp if present without using excessive pressure (use appropriate PPE).
- ☐ Do not stop bleeding from nose or ears.
- ☐ Call for Emergency Medical Services (911 or follow site-specific instructions .

d. Caution

Never minimize the severity of head injuries. A person suffering a head injury should be monitored for at least five to six hours after the injury. Any deviation from normal behavior, such as speech difficulties, increased tiredness, double or blurred vision, recurrent dizziness and nausea, lack of coordination, and memory loss, should be checked by a health care professional as soon as possible.

1013. Eye Injuries

a. Definition

Foreign objects are often blown or rubbed into the eyes. These objects may scratch the surface of the eye or become embedded in the eye. Injuries may occur to the eyelids. Contusions (bruises) can involve tissue around the eye, and in serious cases, the structure of the eye may be torn or ruptured. Penetrating injuries to the eye are extremely serious and can result in blindness.

b. Symptoms

- ☐ Red and irritated eyes.
- ☐ Burning sensation.
- ☐ Pain, which may be quite severe.
- ☐ Excessive tear production.
- ☐ Headache.
- ☐ Blurred, partial, or complete loss of vision.

c. First Aid

First aid for eye injuries is minimal due to the sensitivity of the organ. Keep the victim from rubbing the eye. Do not attempt to remove a foreign object from the eye. Keep injured victim calm.

1. If chemical exposure, rinse the affected area with large amounts of water — because chemicals can continue to inflict damage long after first contacting the skin, rinsing should continue for at least 15 to 30 minutes.

2. Presence of a foreign object:

   a). Seek medical attention immediately.

   b). If dust, immediately and thoroughly flush the eyes with large amounts of warm water for at least 15 minutes, occasionally lifting the lower and upper eyelids.

   c . If discomfort remains after flushing, the object may be embedded in the eye:

   - Put a raised object, such as a cup, over the injured eye.
   - Apply a clean, sterile dressing over the other eye and secure both in place.
   - This limits movement of the eye which could cause further damage.
   - Seek medical attention immediately

3. Lacerations near the eye:

   a). Apply direct pressure gently over the wound to control bleeding (use appropriate PPE).

   b). Apply a sterile dressing and bandage in place

   c). Seek medical attention.

4. Contusions around the eye:

   a). Apply cold packs to reduce swelling.

5. Penetrating injuries of the eye:

   a). Seek medical attention immediately — This is an extremely serious injury and blindness could result.

   b . Do not attempt to remove or wash out the object.

   c). Apply a raised object such as a plastic cup over the injured eye and a clean or sterile dressing over the other eye to reduce movement.

   d). Keep victim calm.

d. Caution

   Eye injuries can be very serious. After first aid is applied, the victim should seek medical attention as soon as possible.

1014. Mouth-to-Mouth Resuscitation

a. Introduction

   Mouth-to mouth resuscitation is the skill or process of providing ventilation to a victim who shows no sign of breathing, but who does show signs of circulation (pulse). Mouth-to-mouth resuscitation shall ONLY be delivered by those personnel who have received advanced training in the technique. For all other responders, if a non-breathing victim is encountered, they should immediately institute Cardiopulmonary Resuscitation (CPR) (see Rule 1015 .

b. Symptoms — Respiratory Arrest

   1. The victim's color may be abnormal, such as: pale, ashen, bluish in appearance or, in the case of carbon monoxide poisoning, cherry red (this is a rare late sign .

   2. No rise or fall of the chest cavity.

c. Mouth-to-Mouth Resuscitation

   1. Call Emergency Medical Service (911 or follow site-specific instructions).

   2. Perform mouth-to-mouth resuscitation as follows:

      STEP 1. Opening the airway: Put one hand under the victim's chin and the other hand on the victim's forehead. Gently pull the chin away from the back of the throat without closing the mouth. When this is done, the jaw and tongue are drawn forward and the air passage is cleared.

      STEP 2. With the heel of your hand resting on the victim's forehead, bring your thumb and forefinger across to pinch the nose. Pinch the nose and breathe into the victim's mouth or nose. Pinching the nose will prevent the rescuer's air from escaping.

STEP 3. After opening the airway and pinching the nose, you are now ready to breathe into the victim's mouth. Remember, you are breathing for two people, so take a deeper breath than normal. Open your mouth wide enough to encircle the victim's mouth. Air is blown into the victim's lungs until the chest expands visibly. Remove your mouth and take another breath of air while you see or feel the victim exhale.

STEP 4. Each inhalation and exhalation is termed a cycle. The rhythm is 12 cycles per minute. Every five seconds, you should give the victim one breath of air. Count 1001, 1002, 1003, 1004, breathe.

3. If the victim's mouth cannot be opened, use the mouth-to-nose technique:

STEP 1. Seal the victim's lips with your thumb so no air can escape

STEP 2. Take an even deeper breath and blow into the victim's nose

STEP 3. After approximately five to ten breaths, the victim's muscles may relax. If so, begin mouth-to-mouth which is the more desirable method of resuscitation.

d. Caution

1. If the stomach balloons or expands, air is not being delivered to the lungs. The cause of this is often the speed with which the rescuers breath was forced into the lungs.

   Take a full 1 to 2 seconds for each breath. Release the air by applying gentle pressure with the heel of your hand on the stomach during the exhalation stage.

2. After the victim has recovered, they should be placed on their side in case they become ill and vomit. If they were to remain on their back, they could choke on vomitus matter. Clear vomitus from mouth and maintain open airway.

e. Alternate Method:

In rare cases, mouth-to-mouth/mouth-to-nose resuscitation cannot to be performed due to severe bleeding from the mouth, fractures of jaw, and so forth. Therefore, the back pressure arm-lift or Holger-Nielson Method should be used.

1. A rescuer kneels at the victim's head, placing hands in the middle of the victim's back. The heels of the hands should be placed at an imaginary line between the victim's armpits, with the thumbs touching and the fingers pointing downward. Be careful not to open the hands too widely.

2. Rock forward, keeping the arms straight, exerting pressure on the victim's back. Release the pressure, then grasp the victim's elbows, applying enough lift to feel resistance. Release the elbows and continue this procedure at a rate of 12 times a minute.

3. Periodically, monitor the victim's mouth to see that it is clear of all foreign matter. After recovery, place victim on the side, cover, and treat for shock until medical help arrives.

1015. Cardiopulmonary Resuscitation (CPR)

a. Description

If breathing or heartbeat stop, the brain, which is the most sensitive tissue of the body, may be seriously damaged or death may occur. CPR is an emergency procedure in which the heart and lungs are made to work by manually compressing the chest and providing mouth-to-mouth resuscitation. CPR is used when a victim is not breathing or only gasping.

b. Symptoms — Unresponsive individual with no breathing or no normal breathing.

c. Cardiopulmonary Resuscitation — Technique for Adult Victim

When performing CPR on an adult victim, use the following steps:

1. Check responsiveness

STEP 1. Tap and shout “Are you all right?”

STEP 2. If the victim responds, CPR is not necessary. Check for absent or abnormal breathing (no breathing or only gasping) by looking at or scanning the chest for movement (for no more than 5–10 seconds).

2. If unresponsive and no breathing, or no normal breathing detected — Activate the emergency response system and get **Automated External Defibrillator** AED) if available.

a). If only a solo responder is available:

- Activate Emergency Medical Services (call 911 or follow site specific instructions) if there is immediate access to a telephone and obtain an AED if easily accessible.
- Perform 30 compressions with two hands.

b). If two responders are available:

- One should immediately activate Emergency Medical Services (call 911 or follow site-specific instructions) and retrieve the AED if it is available.
- The other should follow steps listed under Circulation.

3. Circulation

- Provide chest compressions at the rate of 100–120 beats per minute at a depth of 2 inches. “Push hard and push fast”
- To be most effective:
  - — Place the victim on a firm surface, flat on the back — kneel beside the victim’s chest.
  - — Place the heel of one hand on the middle of the victim’s chest (lower half of sternum) and the heel of the other hand on top of the first, so that the hands are overlapped and parallel with fingers pointing up.

a). Be sure that your hands are on the lower half of the sternum and not on the fleshy area.

b). Do not place your hands flat on the victim's chest. Damage may occur to the ribs and pressure will not be applied where it is needed.

- Apply pressure to the victim's chest — the rescuer is compressing the heart between the sternum (breastbone) and backbone, forcing the blood out of the heart and into the body circulation.
- With your shoulders directly over the victim's chest, and your hands in the proper position, lock elbows, keeping your arms straight — if you bend your elbows with each compression, you will tire more easily.
- Push the chest hard, at depth of 2 inches, and allow complete chest recoil after each compression.
  - — Minimize interruptions in compressions (10 seconds or less).
  - — Switch providers about every 2 minutes to avoid fatigue.

4. Breathing

   a). After 2 minutes — Tilt head and lift chin to open airway. Listen for breath sounds. (Do not move the neck if you suspect a head or neck injury has occurred .

   b). Optional — If victim is not breathing, and you are comfortable in providing mouth to mouth resuscitation, provide 2 breaths after every 30 chest compressions have been completed (referred to as the 30:2 ratio). Give each breath over one (1 second – ensure that the chest rises with each breath. If the chest does not rise, reposition the victim to open the airway.

5. Continue CPR

   a). Continue performing CPR until medical services arrive and are ready to take over.

   b). If available, change rescuers every 5 cycles (2 minutes) to avoid fatigue.

6. Defibrillation

   If an AED is available:

   a). If the victim is unresponsive, attach the pads.

   b). If another rescuer is available, continue to provide CPR until the AED is applied and ready to be used.

   c . Follow the instructions provided by the AED.

   d). Press analyze and provide a shock if instructed to do so by the AED. Ensure no one is in contact with the victim when the shock is delivered.

   e . Continue to provide CPR when instructed by the AED.



NOTE

Cardiac Arrest may be caused by a severe allergic reaction (anaphylaxis) to insect bites, stings or bites, foods, drugs and other allergens. Such reactions may occur within minutes after exposure. The EpiPen auto-injector is intended for immediate self-administration by a person with a history of anaphylactic reaction. It is designed as emergency supportive therapy only and is not a replacement or substitute for immediate medical or hospital care. Rescuers with training on the use of the EpiPen may offer to provide assistance, if the victim is still conscious.

Please Note — these instructions pertain to CPR performed by lay rescuers. CPR is performed differently by trained healthcare providers.

1016. Transfer

a. Definition

   Emergency rescue and transfer deals with the movement of victims away from hazardous locations and the use of protective methods to support a victim's body during emergency transfer.

b. Objectives

   Emergency rescue and transfer is limited to situations in which professional help is not available or if there is an immediate danger of further injury to the victim.

   Keep in mind, you should never jeopardize your own safety. At all other times, the victim should be left where found.

   If a person becomes ill or injured to the extent that will require transporting to a medical facility, the first decision to be made by the first aid responder is whether it is necessary for the victim to be relocated. If it is not necessary to immediately extract the victim from a serious hazard, they should not be relocated until such life-threatening problems as respiratory or cardiac arrest are cared for.

   It should be recognized that more harm can be done through improper rescue and transfer than through any other measure associated with first aid. In most situations, rescue from confinement should be carried out by ambulance or rescue personnel. Pending their arrival, the first aid provider should gain access to the victim, give emergency care, reassure, and avoid ill advised attempts at rescue that might jeopardize the safety of the victim as well as that of the first aid provider.

If victims must be pulled or dragged to safety, they should be pulled in the direction of the long axis of the body. They should never be lifted by the head, pulled upward by the belt, or pulled sideways. The victim's entire body should be kept in a straight line and moved as a unit, when possible.

Emergency transfer can be accomplished by one of two methods:

1. Shoulder Drag: Grasp the victim under the arms, bring your arms together so that the victim's head is resting on the inside of your arms. Then pull the victim to safety in a steady motion.

2. Ankle Drag: Grasp the victim by the ankles and pull to safety, avoiding, whenever possible, jerking and jarring motions.

Prior to handling or transporting, observe the victim to determine the extent of injuries. Leave the victim in the position found, if at all possible. If conscious, ask if they will be more comfortable in a different position, providing it does not cause further injury. Remember, improper handling of an injured person may cause additional injury or aggravation of the existing injury.

1017. Sudden Illness

First aid responders often encounter situations that are not related to injury, but arise from either sudden illness or worsening of a chronic illness. Many persons suffering from heart disease, stroke, epilepsy, or diabetes carry an identification card or bracelet that contains information about the type of illness and the steps to be followed if they are found unconscious. Search the victim for such identification once breathing and heartbeat are restored.

a. Heart Attack

Heart attack often involves a clot in one of the blood vessels that supply the heart. The attack is sometimes called a coronary since there is a loss of blood supply to a portion of the heart muscle. A heart attack may or may not be accompanied by a loss of consciousness. If the attack is severe, the victim may die suddenly. The victim may have a history of heart disease or the attack may come with little or no warning. The pain or pressure that accompanies a heart attack can range from mild to severe. The degree of pain is not a good indication of the seriousness of the attack.

1. Symptoms

- ☐ Persistent chest pain or pressure lasting two minutes or longer, usually under the sternum (center of the chest). The pain/pressure may radiate to one or both shoulders, arms, back, neck, jaws, and teeth. Some patients have pain only in the jaw or teeth.
- ☐ Gasping or shortness of breath.
- ☐ Extreme paleness or bluish discoloration of the lips, skin, and fingernail beds.
- ☐ Extreme fatigue.
- ☐ Clamminess.
- ☐ Nausea and/or vomiting.
- ☐ Unconsciousness.

2. First Aid

a). Call for medical assistance (911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator immediately.

b). Place the victim in a calm and comfortable position. This is usually a sitting position leaning back at a 45 degree angle. This position will allow the victim to breathe easier. Perform CPR if the victim is not breathing and unresponsive (see Rule 1015 .

c . If alert and able to swallow, offer one aspirin by mouth (to be chewed without water). Check to make sure there are no allergies prior to offering.

d). If the victim is awake and has prescribed nitroglycerin, help them take it.

e). Do not give any liquids or food.

f). Do not transport the victim without medical advice unless there are absolutely no other alternatives.

b. Stroke

A stroke usually involves a spontaneous rupture of a blood vessel in the brain or a formation of a clot that interferes with circulation. In a major stroke, a large blood vessel to the brain is involved.

1. Symptoms of stroke:

- ☐ Unconsciousness or any subtle/overt changes with mental behavior.
- ☐ Paralysis or weakness on one side of the body.
- ☐ Difficulty in breathing, swallowing, or speaking.
- ☐ Loss of bladder or bowel control.
- ☐ Pupils may be unequal in size.
- ☐ Headache — severe or mild.

2. First aid for a major stroke:

- ☐ Call for medical assistance (911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator immediately.
- ☐ Provide moderate covering; treat for shock as needed (see Rule 1003). Reassure victim.
- ☐ Maintain an open airway.
- ☐ Perform CPR if needed (see Rule 1015 .
- ☐ Place the victim on the affected side so that secretions will drain from the mouth.
- ☐ Do not give any liquids or food.
- ☐ Maintain victim's dignity.
- ☐ Remember that the victim can usually hear and understand what you are saying, even if they are having trouble talking to you.

c. Fainting

Fainting is a partial or complete loss of consciousness due to a reduced blood supply to the brain for a short period of time. The victim collapses suddenly, with or without warning. Recovery of consciousness almost always occurs quickly. However, injury may occur from the fall. To prevent any injury from fainting, a person who feels weak or dizzy should lie or be assisted to the ground or bend over with the head at knee level. If a person bends over to put their head at the knee level, make sure there is support so they do not fall off a chair and cause further injury.

1. Symptoms

- ☐ Extreme paleness.
- ☐ Cool, clammy skin.
- ☐ Dizziness and nausea.
- ☐ Numbness and tingling of the hands and feet.
- ☐ Possible disturbance of vision.

2. First Aid

- ☐ Help or encourage the victim to lie down.
- ☐ Maintain an open airway. Perform Head-tilt chin-lift maneuver (see Rule 1015 .
- ☐ Loosen any tight clothing and provide adequate ventilation.
- ☐ If the victim is nauseous, roll the victim as a unit onto their side to prevent inhalation of the vomitus matter if it should occur.
- ☐ Do not pour water over the victim's face. Wipe the face gently with cool damp cloths and treat for shock.
- ☐ Do not give any liquids until the victim has completely revived. Consider sips of liquids.
- ☐ Examine the victim for injuries suffered if they have fallen. Unless recovery is prompt, seek further medical assistance. Call for medical assistance (911 or follow any site specific instructions regarding when and how to call the 911 emergency operator) immediately.

d. Seizures

If the normal functions of the brain are interrupted by disease, infections, or injuries, the electrical activities of the brain can malfunction. The malfunction can cause seizures by bringing on sudden changes in sensation, behavior, or movement. Seizures are not a disease, but a sign of an underlying disease. Epilepsy is the best known condition that causes seizures. Epilepsy is only one of many conditions that may cause seizures. Some other causes of seizures include low blood sugar, brain tumors, birth defects, high fevers, poisons, trauma, and infections.

1. Symptoms

- ☐ Rigidity of body muscles, usually lasting from a few seconds to perhaps half a minute, followed by violent jerking movements.
- ☐ The victim may stop breathing, and bite the tongue (if not breathing, maintain airway by Head-tilt chin-lift maneuver).
- ☐ The victim may lose bladder and bowel control.
- ☐ The victim may foam at the mouth or have heavy drooling.
- ☐ Mild seizures may appear as staring spells or repetitive purposeless behavior.

2. First Aid

   - ☐ Assist to the ground to prevent harm and injury
   - ☐ Do not force anything into the mouth and do not give anything by mouth.
   - ☐ Protect the victim's head by placing something soft under it.
   - ☐ Do not restrain the patient.
   - ☐ Reassure the patient (they may still hear you).
   - ☐ Allow the patient to rest after the seizure is over and provide re-orientation.
   - ☐ Following the seizure, you may turn the victim on their side to allow fluids to drain from the mouth.
   - ☐ Call for medical assistance (911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator immediately.

1018. Snake Bites

a. Definition

The rattlesnake is the only poisonous snake found in our service territory. It is important to be able to identify the snake if a bite occurs. Victims have been known to go to great extremes for treatment when the snake was not even poisonous.

b. Symptoms

All reactions from snakebites are aggravated by acute fear and anxiety. Rattlesnake bites may show some of the following symptoms:

- ☐ Extreme pain at bite location (with the exception of the Mojave Rattlesnake .
- ☐ One or more puncture wounds from the fangs.
- ☐ Rapid swelling.
- ☐ Discoloration of the skin.
- ☐ General weakness, numbness or tingling.
- ☐ Rapid pulse and shortness of breath.
- ☐ Nausea and vomiting.
- ☐ Blurred vision.
- ☐ Shock.

c. First Aid

Immediate care is absolutely necessary.

Call Emergency Medical Services (911 or follow site specific instructions) immediately, to secure transportation to the nearest hospital as soon as possible.

1. Keep the victim lying down and immobilized, if possible. Remove any constricting jewelry such as rings, bracelets to reduce complications that could arise if rapid swelling occurs.

2. Do not apply ice or any other cooling agent to the bite.

3. Wash the bite with soap and water, if available.

4. Use a pen to mark the time and border of advancing edema swelling) every 15 minutes to help medical personnel estimate the severity of the bite.

5. Do not give any liquids or food.

6. Treat the victim for shock. If possible, keep the bitten area lower than the level of the heart.

7. Comfort the victim until the arrival of trained medical personnel. If you must transport the victim, be sure the victim is transported with the bitten area immobilized. Keep the victim in a comfortable position, lying on his/her back if possible. Position injury at level of heart and further movement should be directed by a physician.

8. Snakebite kits are no longer recommended by leading authorities on snake bite care and should not be used.

9. Attempt to identify or obtain specific characteristic description of the snake, if you can do so without endangering yourself or the victim.

1019. Insect Bites

a. Definition

Stings from scorpions, ants, bees, wasps, hornets, and yellow jackets may cause severe pain and localized swelling. A more severe reaction is almost always due to acute allergic reaction or multiple stings. Some types of bees are much more aggressive and are likely to give multiple stings, but the first aid is the same. Bites from insects such as fleas, mosquitoes, lice, gnats, chiggers, and so forth, produce local pain and irritation and may transmit disease to the victim. Some ticks also carry Lyme disease and adhere tenaciously to the skin. Bites of the black widow spider and the brown recluse (or violin) spider can be very painful and serious.

b. Symptoms

1. Minor Bites

- ☐ Localized pain.
- ☐ Irritation and swelling.
- ☐ Nausea, vomiting, and other symptoms of shock if there is an allergic reaction.

2. Black Widow Spider Bites

- ☐ Pain and swelling at the site of the bite.
- ☐ The pain spreads throughout the body.
- ☐ Profuse perspiration.
- ☐ Nausea and abdominal cramps.
- ☐ Difficulty in breathing and speaking.
- ☐ Possible development of convulsions.
- ☐ Ringing in the ears and headache.
- ☐ Pupils are dilated and reflexes are overactive.

3. Brown Recluse (Violin) Spider Bites

   - ☐ Mild, transitory stinging at the time of the bite. Very little early pain, only after two to eight hours. The pain varies from mild to severe.
   - ☐ After several days, an open ulcer may form at the site of the bite that progressively enlarges.
   - ☐ Development of chills, fever, joint pains, nausea, and vomiting.
   - ☐ Possible development of generalized rash within from 24 to 48 hours.

4. Scorpion Stings

   - ☐ Excruciating pain where stung with little inflammation or swelling.
   - ☐ Acute restlessness and drooling of saliva.
   - ☐ Abdominal muscles become rigid and contraction of arms and legs may occur.
   - ☐ Temperature may reach 103 to 104 degrees.
   - ☐ Skin may gradually turn blue and respiration may become difficult.

5. Bee Stings

   Mild reaction:

   - ☐ Instant, sharp burning at the sting site.
   - ☐ A red welt at the sting area.
   - ☐ Slight swelling around the sting area.

   Severe Allergic Reaction:

   - ☐ Skin reactions, including hives and itching and flushed or pale skin.
   - ☐ Difficulty breathing.
   - ☐ Swelling of the throat and tongue.
   - ☐ A weak, rapid pulse.
   - ☐ Nausea, vomiting or diarrhea.
   - ☐ Dizziness or fainting.
   - ☐ Loss of consciousness.

   Call 911 or other emergency services if you're having a severe reaction.

c. First Aid

1. Minor Bites

   a . Immediate application of antibiotic ointment after checking to ensure the victim is not allergic to the product.

   b). Cold compresses.

   c . If symptoms increase, secure medical assistance.

2. Major Bites (Spiders, Scorpions, Bees, etc.) and Severe Reaction to Minor Bites

   a). Call for medical assistance (911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator immediately.

   b). Provide Cardiopulmonary Resuscitation (CPR) if needed (see Rule 1015 .

   c . Treat and anticipate for shock symptoms, if necessary.

   d . Keep affected part below the level of the victim's heart.

   e). Apply an antibiotic ointment to the bite area after checking to ensure the victim is not allergic to the product.

   f). Apply cold packs to the bite area.

   g). In case of a bee sting: Have someone stay with the victim to be sure that they do not have an allergic reaction. Remove the stinger and venom sac, being careful not to break or squeeze the sac. One of the best ways to remove the stinger is to scrape it off using some plastic or stiff paper. Watch where the stinger goes, as it still has the poison in it and can affect others. Apply ice to reduce swelling. Do not scratch the sting as this may increase swelling, itching, and risk of infection. Watch for signs of infection for 48 hours, blistering pain, and pus.

1020. Animal Bites

a. Definition

Injuries produced by any animal, wild or domestic, may result in an open wound. Dog and cat bites are common. A dog bite may cause more extensive tissue damage than a cat bite, although the cat bite may be more dangerous because of the wider variety of bacteria that is usually present in the mouth of a cat. Some wild animals, especially bats, raccoons and rats transmit rabies. Rabies can be transmitted when a rabid animal licks an open wound on a human or another animal. Tetanus is an added danger to animal bites. There is a great risk of infection from an animal bite. Human bites can also cause serious infections.

b. First Aid

1. A bite on the face or neck requires immediate medical attention. Call for medical assistance (911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator) immediately.

2. Thoroughly wash the wound with soap and water. Apply antibiotic ointment after checking to ensure the victim is not allergic to the product and a dressing.

3. Obtain a description of the animal and the geographical location where the bite occurred. Keep in contact with any suspected rabid animal so that it can be kept under observation to determine whether or not it develops the final stage of rabies. Do not kill the animal unless absolutely necessary.

4. Report the incident to local health authorities and follow their advice.

5. When animal bites break the skin, the victim must be taken to a physician.

1021. Poison Oak

a. Definition

Western poison oak usually grows in shrub and sometimes vine form. It is found in California and parts of adjacent states. The most distinctive features of poison oak are the leaves, which are composed of three leaflets each. The plants also have greenish-white flowers and berries that grow in clusters. Contact with the oil on the plant causes the allergic reaction associated with poison oak.

b. Symptoms

- ☐ Itching with blister formation.
- ☐ Redness.
- ☐ A rash begins within a few hours after exposure. It may be delayed as long as 10 days.

c. First Aid

1. Remove contaminated clothing. Wash all exposed areas thoroughly with soap and water.
2. Apply medication as directed by a health professional to the affected area.
3. Seek medical advice if a severe rash occurs.
4. Call for medical assistance (911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator immediately, for any severe allergic reaction involving the respiratory system, such as severe shortness of breath.

d. Prevention

1. Learn to identify the poisonous plants in locations where you live and work.
2. Avoid contact with noxious plants.
3. Stay away from plants that are being burned — the smoke may contain active substance.

1022. Aerial/Poletop Rescue

a. Description

Aerial/Poletop rescue is used whenever a person is incapacitated while in an elevated position. The purpose in rescuing a person is to clear the victim from any imminent danger, administer first aid, and lower the victim to the ground. The lowering techniques are divided into two separate categories: the lineman's body belt method and the fast rope tie.

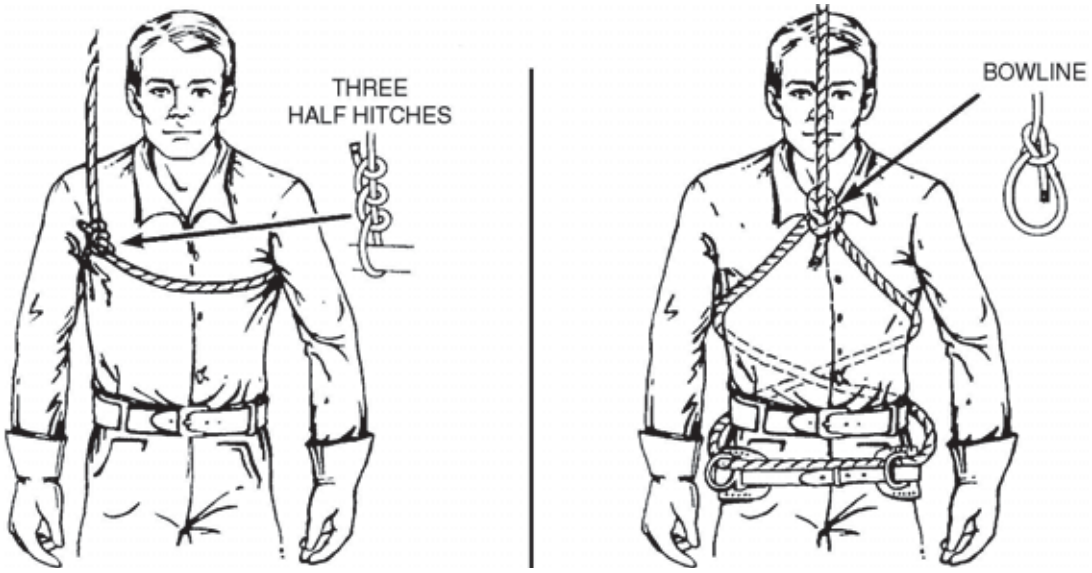
1. The Lineman's Body Belt method can be used when lowering a victim from an elevated position.
2. The Fast Rope Tie method should be used only in the event of a cardiac arrest when it becomes necessary to lower the victim to the ground immediately so that CPR can be given while the victim is in a horizontal position; a position that is infeasible to attain while on a pole or structure.
3. Rope with a safe work load rating equal to approved 1/2-inch hand line material shall be used when lowering a person from a pole or elevated position.

b. Aerial/Poletop Rescue

1. If the victim has no pulse, immediately lower the victim to the ground and call 911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator.

2. After the victim has been lowered to the ground, institute CPR (see Rule 1015) and continue until the arrival of an ambulance or other rescue personnel.

Figure 1000–1: Lowering Techniques for Aerial Rescue



1023. Frostbite

a. Definition

Frostbite is the most common injury resulting from exposure to cold elements. It occurs when tissues of the nose, cheeks, ears, fingers, and toes freeze. The effects are more severe if the injured area is thawed and then re-frozen Frostbite can leave permanent damage to tissues. A person with frostbite may also be subject to hypothermia (see Rule 1025 .

b. Symptoms

- ☐ Just before frostbite occurs, the affected skin may be slightly flushed. Frostnip is the first stage, fingertips or exposed patches of skin will appear shiny.
- ☐ As frostbite develops the skin changes to white or grayish-yellow in appearance.
- ☐ Pain is sometimes felt early but subsides later as nerve endings become numb (often there is no pain).
- ☐ Blisters may appear later.
- ☐ The affected area feels intensely cold and numb.
- ☐ The victim frequently is not aware of frostbite until someone tells him/her or he/she observes the pale, glossy skin.

c. First Aid

1. The objectives of first aid are to protect the frozen area from further injury, to warm the affected area rapidly, and to maintain respiration. Check for hypothermia and treat those symptoms first (see Rule 1025 .

2. Procedure

STEP 1. Bring the victim indoors or to a warmer place and shelter from the cold.

STEP 2. Call for medical assistance (911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator) immediately.

STEP 3. Provide extra clothing and blankets and remove wet or damp clothing.

STEP 4. Give the victim a warm drink if the victim can tolerate it (Do not give caffeinated beverages).

STEP 5. Cover or loosely bandage the frozen areas.



CAUTION

Rewarming of frozen body parts should be done by medical professionals to prevent further trauma to the victim. If emergency medical assistance is not available, rewarm the frozen part quickly by immersing it in water that is warm (102°–105°F) but not hot, when tested.



NOTE

If the affected part has been thawed and refrozen, it should be warmed at room temperature (70°–74°F).

1. If warm water is not available, wrap the affected area gently in a sheet and warm blankets.
2. DO NOT rub or massage the area; rubbing may cause gangrene.
3. DO NOT apply heat lamps or hot water bottles or allow the victim to bring the affected area near a hot stove.
4. DO NOT break the blisters.
5. In case of minor exposure only, once the affected area is re-warmed, have the victim exercise it.
6. Since severe swelling develops very rapidly after thawing, discontinue warming as soon as the affected area becomes flushed.
7. If fingers or toes are involved, place dry, sterile gauze between them to keep them separated.
8. Keep injured areas elevated.
9. Obtain medical assistance as soon as possible.

d. Prevention

1. Prevention involves limiting, if not avoiding, the duration of exposure to cold.

a). Wear protective clothing (Layers are best) and cover the head, face, ears, and extremities.

b). Recognize early symptoms of the onset of frostbite.

c . Remove yourself from such exposure.

d). Avoid smoking while working or playing in cold temperatures.

1024. Underground Structure Rescue Procedure

In the event of an incapacitating injury or illness to an employee working in an underground structure, the following procedure shall be followed:

a. Communicate the situation and request assistance as outlined in Policy P-14.

b. Call 911 or follow any site-specific instructions regarding when and how to call the 911 emergency operators to secure trained medical responders as quickly as possible.

c. Insure that the structure is safe to enter, as outlined in Rule 143.

d. After meeting the requirements of safe entry, enter the structure and administer necessary first aid.

e. Wait for the arrival of qualified assistance and follow their direction for the rescue and transportation of the victim (see Rule 1016 .

1025. Hypothermia

a. Definition

Lower than normal body temperature, due to a cool and wet, or cold environment. Water, wet clothing, and wind accelerate heat loss. This can be a life-threatening condition.

b. Symptoms

- ☐ Shivering.
- ☐ Weakness and loss of coordination.
- ☐ Difficulty in performing tasks.
- ☐ Makes poor decisions.
- ☐ Loss of consciousness.
- ☐ Breathing and heartbeat slow or absent.

c. First Aid

1. Monitor breathing and circulation.

2. Prevent further heat loss, shelter patient from wind and water.

3. Replace wet clothing with dry. Cover patient's head.

4. If mild signs/symptoms, you may add heat to the neck, armpits, and groin. If moderate to severe symptoms, prevent further heat loss and call for medical assistance 911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator) immediately.

5. Do not give tobacco or caffeine to the victim.

6. Take care not to burn patient if you add heat to the body.



CAUTION

Patient's judgment may be impaired. You will need to make decisions for him/her. Also, there may be injuries. If patient is responsive, perform an injury assessment to identify injuries. If patient is unconscious, monitor breathing and heartbeat and control bleeding.

1026. Poisoning

a. Introduction

A poison is any substance that can harm the body. In the United States there are more than a million cases of poisoning reported each year. While some are suicide or even murder attempts, most are caused by accidental exposure. These accidents usually involve common substances such as cosmetics, medications, petroleum products, and pesticides. Surprisingly most chemicals in everyday use contain substances that are poisonous if misused. While we usually think of chemicals around us when poisoning is mentioned, there are other sources as well. Mushrooms and other common plants can be poisonous if eaten. Bacterial contaminants in food may produce deadly diseases such as botulism. Some poisons may have a much greater effect on one person than another. Some may be far more serious to children or the elderly. Poisons may enter the body by injection, absorption, inhalation, or ingestion.

b. Injected poisons

1. Symptoms

- ☐ Noticeable stings or bites on the skin.
- ☐ Puncture marks.
- ☐ Blotchy skin.
- ☐ Pain or itching at the site.
- ☐ Swelling or blistering at the site.
- ☐ Burning sensation at the site followed by pain spreading throughout the body.

2. First Aid

   a). Remove jewelry from affected limb to reduce problems caused by swelling.

   b). Keep the affected limb lower than the heart to limit swelling.

   c . Call 911 or local emergency assistance number.

c. Absorbed poisons

   1. Symptoms

      - ☐ Skin Reactions (burns or rashes).
      - ☐ Itching.
      - ☐ Irritation of the eyes.
      - ☐ Headache.
      - ☐ Increased skin temperature.
      - ☐ Abnormal pulse or respiration rates.
      - ☐ Allergic reactions.

   2. First Aid

      a). Remove the person from the source of the poison being careful not to get it on you also.

      b). Remove all remaining poison from the skin.

      c . Remove all contaminated clothing.

      d . Call 911 or local emergency assistance number.

d. Inhaled Poisons

   1. Symptoms

      - ☐ Dizziness.
      - ☐ Shortness of breath.
      - ☐ Coughing.
      - ☐ Irritated or burning eyes.
      - ☐ Burning sensations in the mouth, nose, throat, or chest.
      - ☐ Severe headache.
      - ☐ Nausea and vomiting.
      - ☐ Changes in skin color (usually bluish).
      - ☐ Excessive mucus or tearing.
      - ☐ Blood tinged saliva.

2. First Aid

a). Remove person from the source of the poison.

b). Maintain an open airway.

c . Call 911 or local emergency assistance number.

d). Give artificial respiration if the victim is not breathing, use a CPR mask if available to keep from contacting the poison yourself.

e. Ingested Poisons

1. Symptoms

- ☐ Burns or stains around the mouth.
- ☐ Unusual breath odors or body odors.
- ☐ Abnormal breathing or heart rates.
- ☐ Enlarged or constricted pupils.
- ☐ Excessive sweating.
- ☐ Excessive drooling or foaming at the mouth.
- ☐ Pain in the mouth or throat, or problems in swallowing.
- ☐ Abdominal pain or tenderness.
- ☐ Nausea, retching, or vomiting.
- ☐ Seizures.
- ☐ Altered state of conscious.

2. First Aid

a). If the person is unconscious

1). Call 911 or local emergency assistance number.

2 . Do not give anything by mouth if the person is unconscious.

3). Look around the area and try to figure out what poison the person ingested. Look for open containers, spilled contents, or residue on the face and hands.

4). Maintain an open airway.

5). If the person stops breathing give rescue breathing (use a CPR mask if one is available).

6). Position the person on their side so that if they do vomit the vomitus does not enter the lungs.

(b). If the person is conscious

1 . Try to figure out what poison the person ingested. Look for open containers, spilled contents, or residue on the face and hands.

2). Ask the person what they took and how much they ingested.

3). Call the local poison control center or activate emergency medical services system (call 911 or local emergency assistance number). Follow instructions provided by the poison control center.

4). Do not give anything by mouth if the person is having seizures.

5). Have the person sit in a comfortable position and monitor them closely.

1027. Obstructed Airway

a. Introduction

Obstructed airways are the cause of death in thousands of people each year. You may witness someone choking on food, or find someone who is unconscious and after determining that they were not breathing, find you can't inflate their lungs with rescue breaths. In order to restore spontaneous breathing, you need to clear the victim's airway from the obstruction.

b. Conscious Victims

If the victim is coughing you should just encourage them to cough up the obstruction. Watch the victim closely while they try to clear their airway. There may be high pitched noises, very weak coughing, or they may have extreme difficulty breathing. Ask the person if they can still breathe. If they cannot breathe tell them that you can help.

1. Call Emergency Medical Services (911 or follow site-specific instructions).

2. Look for universal sign of distress see Figure 1000–2 .

Figure 1000–2: Universal Sign of Distress



3. Stand behind the victim and wrap your arms around their abdomen.

4. Make a fist and place the thumb against the victim's abdomen or chest if victim is pregnant or obese.

5. Place the second hand on top of the first and press firmly into the abdomen with a quick upward thrust. Repeat the thrusts until the object is expelled or the victim becomes unconscious.

6. If the employee becomes unconscious, assist him/her to the ground, shout for help (someone call 911) and start CPR (see Rule 1015 .

c. Unconscious Victims

1. If you find someone who was choking and became unconscious and not breathing, provide rescue breaths. If unsuccessful, re-tilt the head and try again.

a). If you are alone with the victim, start the steps of CPR. Otherwise, send someone to Call 911 or follow any site-specific instructions regarding when and how to call the 911 emergency operator.

b). Every time you open the airway to give breaths, open the victim's mouth wide and look for the object. If you see an object, remove it with your fingers. If you do not see an object, keep giving sets of 30 compressions and two breaths until the victim starts to move, or trained help takes over.

1028. Heat Syncope

a. Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

b. Symptoms

- Fainting (short duration
- Dizziness
- Lightheadedness during prolonged standing or suddenly rising from a sitting or lying position

1. First Aid

a). Move victim to a cool, shaded area and have him/her rest. If employee is unresponsive, call Emergency Medical Services (911 or follow site-specific instructions).

b). If victim is responsive, provide water or fluid that contains electrolytes to help balance sodium.

c . If recovery is not prompt and symptoms have not improved, the employee or supervisor may contact the Injury Assistance Program for guidance. If condition worsens or it is apparent that medical assistance is immediately needed, call Emergency Medical Services (911 or follow site-specific instructions). If emergency medical services is contacted, ensure the following occurs:

- Provide directions and/or address to the work site or GPS coordinates to emergency medical services.
- If practicable, the victim should be in an accessible area for emergency medical services to provide support.

SECTION 1100
OFFICE SAFETY

1100. Office and Clerical Work

a. Chairs, wastebaskets, cords, or other articles shall not be left where they create tripping hazards.

b. Desk, file drawers, or cabinet doors shall not be left open unless attended.

c. Floors, landings, and stairs shall be kept free of debris.

d. Approved ladders shall be used to reach material in elevated positions.

e. Bottom file cabinet drawers shall be filled prior to top drawers. Top drawers shall not be overloaded in a manner which would cause the file cabinet to tip over when opened. Only one file drawer of the file cabinet shall be open at the same time.

f. Electrical outlets shall not be overloaded.

1101. Electrical Safety

Ensure that unsafe electrical conditions and practices are promptly reported to your supervisor.

1101.1 Extension Cords

a. **DO NOT** use extension cords as a substitute for fixed wiring in the building.

b. Use extension cords only when necessary, and only on a temporary basis.

c. Extension cords are permitted only with authorized portable appliances and fixtures, and must be in accordance with the following:

1. Only one extension cord (cord/plug only) can be used to temporarily service one appliance or fixture and it must be removed after use. The extension cord maximum length is 12 feet.

2. Extension cords cannot be linked together when being used.

3. Only Underwriters' Laboratories (UL) listed extension cords are allowed. The certification label is permanently attached on the cord near the plug.

4. The cord shall be maintained in good condition without splices, deterioration, or damage.

5. Extension cords shall be equipped with a ground (grounded).

6. Cords placed where they may be damaged by foot or wheel traffic must be protected; for example, with a cord guard.

7. Extension cords shall neither be affixed to building structures, nor extend through walls, ceilings, floors, under doors, or under floor coverings.

8. Extension cords shall never be connected to multiple outlet storage/power strips and shall be plugged directly into a wall receptacle.

1101.2 Surge Protectors/Power Strips

a. Use only power strips and surge protectors that are equipped with a circuit breaker (fuses are not acceptable).

b. Make sure that the power strips and surge protectors are marked with the manufacturer's name, amperage rating, and an independent testing lab (such as Underwriters Laboratories UL).

c. Only surge protectors that have been installed by SCE's Information Technology (IT) Department may be used with computer equipment.

d. Plug the connecting cord directly into a wall receptacle. **DO NOT** connect multiple surge protectors/power strips. This practice is called "daisy chaining" or "piggybacking."

e. Power strips may only be used for authorized appliances and equipment. Authorized examples include computer terminals, calculators, sharpeners, and chargers. Unauthorized examples include coffee pots, electric heaters, fans, copy machines, and refrigerators.

f. Power strips and connecting cords, where exposed to damage by foot or wheel traffic, should be off the floor and attached to desks, and so forth, or otherwise protected.

g. **DO NOT** overload power. Ensure that appliances and equipment connected is of a rating that will withstand applied current and voltage. Most power strips are rated for 15 amperes.

1101.3 Personal Appliances

Personal appliances are not permitted unless authorized by Corporate Resources or the Corporate Medical Department and provided through the company. Reference the Portal for Company policy (Non-Electric Facility Personal Work Area).

EXCEPTION: Personal radios may be used if they do not hinder productivity or interfere with coworkers and they can be plugged into an independent outlet without using an extension cord.

The following are not permitted in the work space:

- TVs/DVDs/VCRs, unless directly related to your core job responsibilities
- Refrigerators (not properly "built-in" to an office and approved by Facilities Management
- Personal coffee and tea makers
- Personal coffee cup and tea cup warmers
- Hot plates/pots
- Microwave ovens
- Toasters/toaster ovens
- Blenders

- Popcorn poppers
- Water coolers with refrigeration or heating elements
- Irons/clothes steamers

Each facility has break rooms, crew rooms, or kitchen areas where appliances such as coffee makers, microwave ovens, and refrigerators are allowed.

If you own the item, or you received the item as a gift such as through an SCE reward program, the item is your personal property. You should disconnect it immediately and take it home.

If your department or the company paid for the item, or you were reimbursed by your department for the item, it is company property. You need to send the item to Facilities Management, or email Facility Management to arrange for pick-up.

1. Plug the connecting cord directly into a wall receptacle. **DO NOT** connect multiple surge protectors/power strips. This practice is called “daisy chaining” or “piggybacking.”

2. Power strips may only be used for authorized appliances and equipment. Authorized examples include computer terminals, calculators, sharpeners, and chargers. Unauthorized examples include coffee pots, electric heaters, fans, copy machines, and refrigerators.

3. Power strips and connecting cords, where exposed to damage by foot or wheel traffic, should be off the floor and attached to desks, and so forth, or otherwise protected.

4. **DO NOT** overload power. Ensure that appliances and equipment connected is of a rating that will withstand applied current and voltage. Most power strips are rated for 15 amperes.

1102. Reserved

1103. Office Lighting

There are a number of measures that can be used to prevent and control poor lighting conditions in the work environment:

a. Ensure that office lighting is adequate and available.

b. Replace burned out light bulbs, and have additional lighting installed, as necessary.

c. Adjust task lighting/lamp so that it is not in the field of vision. Any natural light can be adjusted by drawing drapes or blinds.

d. Lighting around computer workstations should illuminate the work area without obscuring the video display terminal (VDT) or causing glare. Position computer screens, draperies, blinds, and pictures to reduce glare during work hours (for example, place the VDT screen at a right angle to the window).

e. Task lamp/lighting are very effective in supplementing general office lighting for those who require or prefer additional lighting. Contact your Safety Representative or supervisor.

1104. Office Equipment Safety

a. Only use office machines and equipment that you know how to operate. Never attempt to operate unfamiliar equipment without reading the machine instructions or receiving directions from a qualified employee. In addition, follow these guidelines to ensure equipment safety:

1. Secure office equipment that tends to move during operation.

2. **DO NOT** place office equipment near the edge of a table or desk.

3. Ensure that office equipment with moving parts are guarded to prevent accidents. **DO NOT** remove these guards.

4. Unplug defective office equipment and have them repaired or replaced immediately. Defective equipment shall be labeled, indicating the problem.

5. **DO NOT** place anything on top of office equipment.

6. Some items can be very dangerous when worn around office equipment with moving parts. Avoid wearing the following items around office equipment with unguarded moving parts:

   - Loose belts
   - Jewelry and other dangling accessories
   - Loose items of clothing (for example, sleeves, scarves, ties)
   - Lanyard or company badges

Long hair should be tied back to keep it safely out of danger (pull up or tie up hair .

Copy Machines

When using copy machines, the following safety precautions need to be considered:

- Be cautious when working with copy machines. If you have to open the machine for maintenance, repair, or troubleshooting, remember that some parts may be hot.
- Always follow the manufacturer's instructions for troubleshooting.
- Copy machines should be positioned in adequately ventilated areas.
- Copy machines should not be used when the lid is open.
- Try not to move or reposition a copy machine on your own.

Shredders

When using shredders, the following safety precautions need to be considered:

- **DO NOT** place fingers inside the shredder.
- Turn off the power supply before clearing blockages or emptying bags.
- Unplug power cord from outlet before conducting maintenance, repair or troubleshooting.
- Be aware that loose clothing can catch in the shredder, be especially careful of ties and loose sleeves.

Paper Cutter

When using paper cutters, the following safety precautions need to be considered:

- **DO NOT** use paper cutters for extensive periods.
- Never operate a guillotine paper cutter that does not have a tension spring. The tension spring is attached to the back of the blade and is engineered to prevent the blade from rushing down when the handle is released. If the paper cutter does not have a tension spring, place the paper cutter in a safe and secure location until the tension spring can be replaced. The paper cutter shall be labeled as broken or not suitable for use.
- If any tingling in the fingers, hands, or arms occurs, then stop use immediately. If tingling does not cease, contact your supervisor.
- Always ensure that the guard is in place when using a paper cutter. **DO NOT** operate if guard is missing.
- Always return the cutting arm to a 'safe' position when not in use (the position in which the blade is not exposed).

1105. Preventing Cuts and Puncture Wounds

Cuts and punctures happen when people use everyday office supplies without exercising care. Follow these guidelines to help reduce the chance of cuts and punctures:

- When sealing envelopes, use a liquid dispenser, a wet sponge or towel not your tongue.
- Be careful when using kitchen knives, scissors, staplers, letter openers, paper cutters and box cutter knives. Any of these items could cause a painful injury. Always cut away from your body.
- Avoid picking up broken glass with your bare hands. Wear gloves and use a broom and dustpan.
- Place used blades or broken glass in a rigid container, such as a box, before disposing in a wastebasket.
- If there is a large amount of broken glass, secure the area and contact Facilities Management for cleanup and disposal.

1106. Conference Room Safety Checklist

The first minutes after an injury or medical crisis frequently are the most important. You can make a difference by knowing what to do, remaining calm, and making a decision to act.

Knowing who will handle certain tasks in advance can save time in the case of an injury/emergency.

Conference Room Safety Checklist

Prior to the start of the meeting, the host/coordinator shall review the following conditions inside the Conference Room.

- ☐ Does any of the furniture hinder the opening and closing of the conference room door?
- ☐ Is there sufficient aisle space for attendees to enter/exit the conference room safely?
- ☐ Is there any debris (such as boxes or presentation materials) on the aisles or blocking the door?
- ☐ Are there any other tripping hazards (for example, electrical extension cords, mini blind cords, chairs not pushed all the way in) that should be removed?
- ☐ Are all the chairs in good working condition?
- ☐ Do the tables/desks have any sharp corners?
- ☐ Does the phone work?
- ☐ Do the lights work?
- ☐ Do refreshments (if any) pose an electrical hazard or a possible slip/trip hazard?
- ☐ Is the carpet flat and free of holes that may cause a possible slip/trip hazard?
- ☐ Is there a sign in sheet/roster?
- ☐ Is the number of people appropriate for the room size?

The meeting host is the responsible party for coordinating the evacuation of attendees and evaluating situations that require contacting Security.

As guests arrive to the meeting, the designated host shall review the below items with all attendees.

- ☐ Require all attendees to sign a roster.
- ☐ Review exit strategy in the event of a fire or other emergency.
- ☐ Review location of first aid kit.
- ☐ Review situations that require contacting Security (for example, person fainting, difficulty with breathing, fire, any event beyond first aid).
- ☐ Assign an attendee to take safety responsibility role in the event the host is incapacitated.
- ☐ Review conference room location:

Address of building:

_____

_____

_____

_____

Phone #:

_____

_____

SECTION 1200
FIRE RULES

POLICY

FRP-1. Purchase and Replacement of Fire Extinguishers

Only Operational Services/Corporate Real Estate/Facilities Asset Management shall be permitted to purchase fire extinguishers to be installed or used on company facilities or vehicles. Exchanging of fire extinguishers with different brands and/or models shall be at the discretion of Operational Services/Corporate Real Estate/Facilities Asset Management.

FRP-2. Education

Where the employer has identified an employee to use firefighting equipment as part of an emergency action plan, the employer shall provide portable fire extinguishers for the employee to use in the workplace. The employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.

FRP-3. Training

The employer shall provide identified employees, training required in FRP-2) upon initial assignment, and at least annually thereafter.

FRP-4. Responsibilities

The Corporate Real Estate Facility Manager shall have overall responsibility for ensuring the implementation of this policy at their site. Responsibilities may be delegated to appropriate personnel for performing specific tasks. Corporate Real Estate Facility Managers shall:

a. Ensure that the fire control equipment and systems are properly maintained according to manufactures' specifications.

b. Maintains appropriate inspection records.

c. Ensure that the individuals performing maintenance work are properly trained.

   The site Environment Health and Safety (EH&S) Manager has ultimate responsibility for implementation of EH&S team. The site EH&S Manager helps to coordinate EH&S activities across all SCE organizations located at the site.

d. Ensures that a site Fire Prevention Plan is developed, implemented, and maintained as required.

FRP-5. Employee Responsibilities

Employees are responsible for:

a. Maintaining work areas in a neat, clean, and orderly condition at all times, including clearing trash and other combustibles from work area regularly.

b. Reporting fire extinguishing equipment that is missing, damaged, discharged, or in poor condition to supervisors.

GENERAL RULES AND REGULATIONS

1200. Governmental Standards

In addition to these Fire Prevention Rules and Practices, the company and its employees are subject to regulations of various governmental agencies including federal, state, county, and city. Supervisors shall comply with all applicable provisions of governmental regulations.

1201. General

a. All employees shall be alert to existing or potential fire hazards on company property and shall take steps to eliminate them immediately. Each location shall have a method for reporting hazards and making repairs.

b. Good housekeeping and a sense of responsibility by every employee will help to prevent the occurrence of fires. It is impractical to give specific instructions for all good housekeeping methods, however, the following rules will serve as a guide. Each location shall provide specific guidelines and assign responsibility for additional housekeeping requirements. (Also see Policy P-19, and Section 100 General Rules .

c. The use of candles or any other open-flame devices are prohibited within SCE facilities.

EXCEPTION: When preapproved and permitted by the Facility Manager, for ceremonial occasions or for food warming for catered events.

1202. No Smoking Area

a. Smoking (including e-cigarettes) will not be allowed in areas indicated as danger zones, or areas closed to smoking by federal, state, county, city ordinances, or by company policy.

b. "No Smoking" and/or "No Open Flame" signs shall be posted in such places as paint or oil houses, electric storage battery rooms, areas near gasoline pumps, pole treating plants, garages, wooden cooling towers, and areas where flammable gases for example, hydrogen, propane, methane are present either in operation or storage and other areas where smoking or an ignition source could cause a fire hazard (see Rule 110 and Rule 415 .

Figure 1200–1: No Smoking Area



1203. Trash, Rubbish and Vegetation

a. Approved receptacles shall be used for holding rubbish, waste materials, paper, oily rags, and other combustibles.

b. Brush, leaves, grass, and weeds shall be removed from around buildings, pole yards, switch structures, and poles when they present a fire hazard, and/or in accordance with governmental regulations.

1204. Combustible Materials

Rags, litter, and packing material such as straw, burlap, and paper, except those packed in unbroken bales, are a fire hazard. When stored in or adjacent to a building, such material must be kept in covered metal containers. Rags which have been used for cleaning machinery or equipment, or for painting operations, when not in actual use, shall be kept in UL-listed or FM-approved metal waste cans with self-closing covers and away from any source of ignition.

1205. Evacuation of Buildings

a. Upon notification, employees shall immediately evacuate the building and report to a predetermined safe area.

b. The primary concern in the event of a fire is to get everyone out of the building as quickly as possible. To do this, occupants must be prepared in advance for a quick and orderly evacuation. A trained group will act more calmly under emergency situations, thereby dispelling panic, which has caused more casualties than fire itself. Slow evacuation and panic account for the large majority of all fatalities in fire.

1. Fire drills are arranged and supervised by the Business Resiliency/Facility Manager with the cooperation of the local fire department (when available) and Corporate Security.

2. The date and time will be scheduled when most occupants are in the building.

3. Corporate Security or a designated person will activate the fire alarm.

4. After evacuation, occupants shall proceed to a predetermined location and wait for the instruction from emergency personnel to re-enter the building.

5. Corporate Security or a designated person shall silence and reset the fire alarm panel when everyone has evacuated the building.

6. Fire drills will be monitored for effectiveness and documented by the Business Resiliency/Facility Manager.

7. Fire drills will be held at least annually or per the authority having jurisdiction.

8. Elevators are not to be used to evacuate during an emergency.

Figure 1200–2: Evacuation Map



1206. Means of Egress

a. Fire and smoke rated doors shall not be blocked open.

b. The self-closing devices shall not be disconnected or rendered inoperable.

c. For special situations that the door must be held open for movement of furniture, equipment or other large items, the person responsible for the move will provide an individual at the door to ensure the door is not left open, if the building is evacuated.

d. Door chocks or foot stops may not be installed on any fire rated door. Additionally, furniture, appliances, and so forth, may not be used to hold the door open.

e. Obstructions that will prohibit fire and smoke rated doors from closing and latching without human intervention are not permitted.

f. No corridor, aisle way, stairwells or component of a means of egress may be obstructed.

g. Furniture in lobbies must not obstruct the minimum width of egress and be arranged so there is a direct path through the lobby to the EXIT.

h. Exit doors must remain unlocked during the hours in which the building is occupied.

i. Furniture, artwork, wall hangings, statues, and so forth, which protrude from the walls must not obstruct the minimum width, nor present a tripping, injury or other safety hazard.

j. In the event a fire should occur, it is critical that emergency responders are able to access the building, or location of the emergency. Fire lanes and emergency access routes have been provided for this purpose and shall not be blocked or obstructed.

1207. Fire Equipment Locations

a. Operational Services/Corporate Real Estate/Facilities Asset Management shall indicate types, sizes, and locations of portable fire equipment on company property.

b. Signs, approved by Operational Services/Corporate Real Estate/Facilities Asset Management, shall identify the locations of all fire equipment. Ready access to this equipment must be maintained at all times. Where there are several fire equipment locations, each location should be given a unique number for identification and a record should be kept of the equipment at each work location.

c. Fire extinguishers having a gross weight of up to 40 pounds shall be hung on brackets or placed in cabinets so that the top of the extinguisher is not more than five feet (60 inches) above the floor. Extinguishers having a gross weight of more than 40 pounds shall be hung on brackets or placed in cabinets so that the top of the extinguisher is not more than three and one half feet (42 inches) above the floor.

d. Extinguishers carried on vehicles shall be mounted with an approved vehicle mounting bracket for the extinguisher involved and fastened to the vehicle.

1208. Fire Protection During Construction or Reconstruction

Construction or reconstruction jobs may present fire hazards and interfere with regular firefighting equipment. Where necessary, additional firefighting equipment shall be provided and adequate precautions taken to reduce potential fire hazards.

1209. Fire Protection Equipment Labels

All portable fire protection equipment shall be plainly labeled, designating its specific use, and have a current inspection tag

1210. Fire Equipment Colors

a. Fire extinguishers, except water type shall be painted with red enamel. Portable fire equipment shall only be painted under the direction of Financial and Operational Services/Corporate Real Estate/Facilities Asset Management. Extinguisher valve assemblies, nameplates, operating instruction plates, or hoses shall not be painted.



NOTE

Special purpose extinguishers (Class D) are painted with yellow enamel.

b. All aboveground hydrants and plate coverings of underground hydrants in Edison yards shall be painted yellow in color when practical. Unless the local fire authority requires a different color.

1211. Inspections and Inspection Reports

a. An annual inspection of all portable fire protection equipment shall be made by Financial and Operational Services/Corporate Real Estate/Facilities Asset Management's inspector or by personnel otherwise qualified and authorized to do so, in accordance with applicable governmental regulations. Reports shall be made of conditions found, corrections needed, with recommendations for fire equipment changes and for eliminating fire hazards.

b. Monthly portable fire extinguisher inspections and documentation shall be made by local personnel. The site Manager may designate this task to qualified persons. Inspection consists of a visual check verifying that the extinguisher has an annual inspection tag, the extinguisher has proper charge and has not been actuated or tampered with, the seal has not been broken, and that there is no other obvious damage to prevent its proper operation. The monthly inspection should also verify that the extinguisher is mounted properly in its designated location, and that there are no obstructions to inhibit access.

   1. The tag on the extinguisher shall be initialed and dated monthly by the person performing the inspection, verifying the inspection has been completed and the equipment meets the requirements. A record of the inspection shall be kept for 12 months after the last inspection date on the inspection card.

   2. Personnel making inspections shall keep records for one (1) year for those extinguishers that were found to be in need of repair or replacement and shall notify the Notification Center, 800-600-6363 or PAX 12222 as soon as possible to obtain a replacement extinguisher.

c. Inspections and maintenance of fixed systems shall be completed and documented in accordance with Title 19, California Code of Regulations. Reports from a state certified inspector shall be sent to Financial and Operational Service/Corporate Real Estate, Notification Center for central filing.

1212. Spontaneous Ignition (Combustion)

a. In general, spontaneous combustion may occur when combustible matter, such as hay or coal, is stored in bulk. It begins with a slow oxidation process (as bacterial fermentation or atmospheric oxidation) under conditions not permitting ready dissipation of heat — for example, in the center of a haystack or a pile of oily rags. Oxidation gradually raises the temperature inside the mass to the point at which a fire starts. Materials susceptible to this action are: fibers such as cotton when coated or saturated with drying or oxidizing oils (for example, linseed oil), especially if contaminated with certain metallic oxides or rust; sawdust and wood if exposed to moderate temperatures, as from steam pipes, heating ducts, or boiler flues; borings or filings of iron, aluminum, or magnesium, when saturated with oil; charcoal, lamp black, and accumulations of dust are especially dangerous.

b. Conditions from which spontaneous ignition could produce a fire, must never be allowed on company property.

1213. Sources of Ignition

Precautions shall be taken to prevent the ignition of flammable vapors. Sources of ignition include but are not limited to:

- Open flames
- Lightning
- Smoking
- Cutting and welding
- Hot surfaces; frictional heat
- Static
- Electrical and mechanical sparks
- Spontaneous ignition including heat-producing chemical reactions
- Radiant heat

1214. Flammable and Combustible Liquids

a. Class 1 liquids shall not be dispensed by gravity from tanks or drums. Drums containing these liquids shall be stored in a vertical position and shall be equipped with pumps for the withdrawal of the contents. Drums and pumps shall be electrically grounded and a bond installed to metal containers being filled with Class 1 liquids.

b. Class 2 liquids may be dispensed by gravity from tanks and drums provided they are equipped with self-closing valves. Class 2 liquids may not be dispensed by gravity from tanks and drums inside a building without local fire department approval. All combustible liquid storage must be in compliance with local code and ordinance requirements.

c. Flammable solvents and paint removers shall not be used in rooms, generator pits, tanks, or other enclosed areas unless adequate ventilation is provided, and shall never be used in locations where electric sparks may occur or where unguarded electric lamps are used. Only chemicals approved by EHS may be used.

d. All areas where Class 1 and Class 2 liquids are being used, approved “No Smoking” signs shall be posted.

e. Gasoline and other low flash point chemicals shall not be used for cleaning purposes.

f. Flammable liquids shall be stored in accordance with all local, state, and federal codes and ordinance requirements.

g. All containers shall be plainly labeled to identify the contents. See the Hazard Communication and Chemical Management Program.

h. Flammable and combustible liquids shall not be permitted to flow or to be poured into any waste water drains.

i. Liquids for maintenance and operation of equipment, in all occupancies; quantities of flammable and combustible liquids in excess of 10 combined gallons, used for maintenance purposes and the operation of equipment shall be stored in flammable liquid storage cabinets. Quantities not exceeding 5 gallons are allowed to be stored outside of a cabinet when in Factory Mutual (FM) or National Fire Protection Association (NFPA) approved containers. (see definitions for Class 1, Class 2, and Class 3 liquids)

1215. Flammable Liquid Cabinets

a. Cabinets shall be listed in accordance with UL 1275.

b. Cabinets shall be labeled with a conspicuous label in red letters on a contrasting background which reads: “FLAMMABLE — KEEP FIRE AWAY”.

c. Doors shall be well fitted, self-closing and equipped with a three-point latch.

d. The bottom of the cabinet shall be liquid tight to a height of at least two inches.

e. The combined total quality of liquids in a cabinet shall not exceed 120 gallons. A maximum of 60 gallons of the 120 gallons may be Class I and Class II Liquids.

f. Not more than three cabinets may be located in a single control area. Except in an industrial occupancy, additional cabinets may be located in the same fire area if the additional cabinet, or group of not more than three cabinets, is separated from any other cabinets or group of cabinets by at least 100 feet. A combined total for all cabinets may not exceed 120 gallons for any one fire area.

g. Although the cabinets are usually referred to as “flammable liquids” storage cabinets, combustible liquids are allowed to be stored in them as well. The liquids stored in a cabinet should be mutually compatible. Cabinets are designed and constructed for liquid storage only. They are not intended for storing small cylinders of compressed or liquefied gases, especially those that are flammable. Likewise, incompatible materials, whether liquid or solid, should not be stored in these cabinets.

1216. Gasoline Storage

a. If allowed by Local Fire Code, occupancies may store up to five gallons inside, if stored in approved FM or NFPA safety cans or containers.

Figure 1200–3: Gasoline Storage



1217. Paint, Varnish, and Thinner Storage

a. Paint, varnish, thinner, and similar material shall only be stored in approved FM or NFPA approved flammable and combustible liquid cabinets in accordance with NFPA 30.

b. When not in use, partly used cans of paint, and so forth, shall always be kept to a minimum and stored appropriately.

1218. Grinders

Where bench grinders are installed on wooden benches, a metal sheet shall be installed between the bench grinder and the bench. No flammable material shall be permitted near operating grinders.

1219. Motor Vehicle Shops and Garages

a. No petroleum products except cleaning solvents having a flash point of 100°F or higher and approved for use in enclosed areas shall be used for cleaning motor vehicle parts.

b. Do not start any equipment or vehicle indoors in the vicinity of a gasoline spill. Wipe up spill or push vehicle to safe place before starting the engine.

1220. LP Gas (Liquefied Petroleum Gas — Butane and Propane) (Rule 121)

a. LP gas is heavier than air and will seek the lowest level if there is a leak or it is released into the atmosphere. When certain gas-air concentrations are reached, it is explosive.

b. LP gas is highly flammable. LP gas fixed storage vessels must be plainly marked “Flammable” on each side. The letters must be at least 1/12 of the diameter of the fixed storage vessel in height, except that it need not be more than 1-1/2-inches high on tanks of 500 gallons or less, or more than four inches high on larger tanks.

c. Signs reading “No Smoking or Open Flame Permitted Within-Feet” must be posted on or near the fixed storage vessel in letters at least 1-1/2-inches high. For the correct minimum distance, use those shown in Rule 1220 d.

d. Each individual fixed storage vessel shall be located with respect to the nearest important building or group of buildings, or line of property adjoining which may be built upon, in accordance with the following table:

Gallons	Minimum Distance (ft)
< 500	10
501 to 1,200	25
> 1,200	50

e. A person filing LP gas cylinders shall be trained and qualified to perform this function.

f. Cylinders shall be stored in an upright position or positioned so that the pressure relief valve is in direct contact with the vapor space of the cylinder.

1221. Static Electricity

a. Static is generated when liquids move in contact with other materials. This phenomenon commonly occurs in operations such as flowing through pipes, and in mixing, pouring, pumping, spraying, filtering, or agitating. Under certain conditions, particularly with liquid hydrocarbons, static may accumulate in the liquid. If the accumulation of charge is sufficient, a static arc may occur. If the arc occurs in the presence of a flammable vapor–air mixture, an ignition may result.

b. Anti-static additives may be added to a liquid to increase the conductivity of the liquid, preventing the accumulation of static potential, and thereby preventing static sparks.

c. As practicable, vessels to be filled with flammable or combustible liquids should be purged with inert gas such as nitrogen or carbon dioxide (fuel tanks in some cases may be purged with natural gas) to remove oxygen, and the purging agent should then be displaced by the liquid, or the vessels should be “vacuum filled.” This is especially important when filling from the top, or filling in any other manner which results in splashing of the liquid. It is considered safe to add flammable or combustible liquids to partially filled unpurged vessels by maintaining the inflow at a point below the vessel liquid level, controlling the inflow to prevent splashing.



NOTE

Filling gasoline tanks which are in use is relatively safe since the positive vapor pressure of the gasoline results in air being purged from the tanks. A gasoline tank which has been completely emptied for repair or other purpose must be purged with inert gas or filled with water to prevent a possible fire or an explosion.

d. Bonding to prevent differences in potential between hoses or pipes and tanks is required.



NOTE

Grounding the fill pipe or filling through a grounding screen does NOT prevent static discharge inside the tank.

1222. Electrical Wiring and Equipment

a. The fundamental cause of electrical fires is arcing or overheating due to overloading, or improper installation of circuits.

b. Fuses and circuit breakers are the safety valves of electrical systems. They must be properly installed and maintained at all times. Bypassing of breakers and fuses is prohibited.

c. Electrical equipment shall be connected only to those circuits designed to accommodate them. Flexible cords shall not be spliced and shall be replaced if worn or frayed.

d. All portable electrical appliances, extension cords, and hand tools shall be of the proper conductor size for which they are used.

e. All electrical wiring shall be installed and maintained in accordance with local ordinances and standards.

1223. Stoves and Heaters

a. Only Operational Services/Corporate Real Estate/Facilities Asset Management approved space heating stoves and heaters shall be used. When installed, suitable clearances shall be maintained on all sides. Proper care shall be exercised when filling reservoirs with oil or kerosene. Care shall be exercised to assure adequate ventilation.

b. Gasoline-fueled stoves and drum fires are prohibited.

1224. Chimneys and Flues

a. Chimneys and flues must be kept clean and inspected annually, preferably at the beginning of the heating season. When it is necessary to close stove pipe holes in chimneys, only approved insulating material shall be used. All local ordinances, rules and regulations which are applicable shall be observed. This also applies to the use of chimney spark arresters.

1225. Classification of Fire

The National Fire Protection Association (NFPA) classifies fires as Class A, B, C, D, and K. These designations are used to facilitate the use of the proper equipment. Most currently manufactured extinguishers are labeled with a classification system so that users may quickly identify the class of fire for which a particular extinguisher may be used. The classification system gives the applicable class symbol(s) with supplementary words to recall the meaning of the letters. Color coding is also used. Fire extinguisher markings indicate classes of fires on which they should be used. Color coding is part of the identification system. The triangle (Class A) is colored green, the square (Class B) red, the circle (Class C) blue, and the five-pointed star (Class D) yellow. There is no color coding or symbol for Class K.

a. Class “A” Fires

Fires involving ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics.

b. Class “B” Fires

Fires involving flammable, combustible liquids, flammable gases, greases, some plastics, and similar materials.

c. Class “C” Fires

Fires involving energized electrical equipment such as motors, electrical control cabinets, transformers, circuit breakers, vaults or compartments enclosed electrical buses or equipment, high voltage lines, cables, house wiring, and similar apparatus.

d. Class “D” Fires

Fires involving combustible metals such as magnesium, titanium, zirconium, zinc, sodium, Lithium and potassium.

e. Class “K” fires

Fires involving cooking appliances that involve combustible cooking media (vegetable or animal oils and fats).

FIRE TYPES AND EXTINGUISHMENT

1226. General

a. Fire is a chemical reaction, which happens when a combustible material unites with oxygen, so rapidly that it produces a flame. Fire burns because three elements are present; heat, fuel, and oxygen. The fuel must be heated to its ignition temperature, starting a chemical reaction, before it will burn.

Combustion will continue until one or more of the following takes place:

1. The combustible material is cooled to below its ignition temperature (remove heat).
2. The combustible material is consumed or removed (remove fuel).
3. The oxygen content is lowered to below the concentration necessary to support combustion (remove oxygen).
4. The flames are chemically inhibited (stop the reaction).



b. There are very few fires which cannot be easily extinguished if they are discovered in their incipient stage (beginning), and suitable extinguishing equipment is readily available. The first few minutes are more valuable than any other period. Therefore, it is essential that those employees, who have current training, use available fire protection equipment at their work location.

1227. Extinguishing Various Classes of Fires

a. Class A Fires (see Rule 1225 c. when energized equipment is nearby). Class A fires are best extinguished by the use of water hose lines, using a nozzle with fog, or a straight stream to break up or separate piled fuel. In the absence of a water hose, extinguishers using water, Halon, or dry chemicals may be used. Hand extinguishers are used when it is apparent that the fire is so small that it can be extinguished by such method, or to keep it under control or retarded until other equipment can be used. Water from hose lines, and the contents of hand extinguishers should be, in general, directed to the fire from the windward side (wind at your back), at the base of, and along the outer edges of the burning area, with a slow back and forth sweeping motion.

b. Class B Fires (see Rule 1225 c. when energized equipment is nearby).

Class B fires are most effectively extinguished by the use of dry chemical, water fog, foam, carbon dioxide (CO_2) gas, or Halon. The contents of all extinguishers should be projected on the fire from the windward side whenever possible and directed at its base or outer edge until the blaze is extinguished.

c. Class C Fires

Class C fires involve energized electrical equipment shall be considered energized until it is positively known to be de-energized and will not become energized without the knowledge of all personnel concerned. When a fire occurs and the electrical equipment cannot be de-energized, the following types of extinguishers shall be used: carbon dioxide (CO_2); halon or dry chemical; (Use of CO_2 or Halon is preferred). These three types of extinguishers are nonconductors of electricity and therefore can be used safely on energized equipment of any voltage. When the electrical equipment involved in a fire can be de-energized, it should be done immediately; then if another type of fire extinguisher is used inadvertently, there will be no hazard.

When fires are fought adjacent to energized electrical apparatus, only Class C approved extinguishers should be used until the equipment is de-energized. Specially designed fixed systems using water fog or spray where the piping is grounded may be safely used to extinguish fires on essential energized electrical equipment; other electrical equipment should be de-energized automatically. CO_2 or Halon extinguishers should be used on fires involving electrical equipment with control or protective relay components, such as combustion and burner control cabinets, computer or telecom rooms, or in locations containing relay protection devices. Dry chemicals will infiltrate equipment and may cause erroneous functions by contamination of contacts, or corrosion.

d. Class D Fires

Class D fires require a heat-absorbing extinguishing medium not reactive with the burning metals. Class D fire extinguishers are only effective on the type or types of metals listed on the extinguisher data plate.

Examples:

1. **Met-L-X:** A sodium chloride-based dry powder for use on most Class D fires involving combustible metals such as magnesium.

2. **Met-L-KYL:** A sodium bicarbonate-based agent specially designed for suppressing fires involving most metal alkalis (pyrophoric liquids which ignite on contact with air), such as triethylaluminum.

3. **Lith-X:** A graphite-based dry powder blended for use on lithium fires. Lith-X agent is also effective on fires involving high melting point metals such as zirconium, titanium, and sodium potassium.

4. **Na-X:** A sodium carbonate-based dry powder for use on most Class D fires involving sodium, potassium and sodium potassium alloy (NaK) materials. Na-K agent is recommended wherever stress corrosion of stainless steel must be kept to an absolute minimum.

e. Class K Fires

Class K fire extinguishers shall be provided for hazards where there is a potential for fires involving combustible cooking media (vegetable or animal oils and fats). The maximum travel distance shall not exceed 30 feet, from the hazard to the extinguisher.

NOTE

Some fire extinguishers are of primary value on only one class of fire; some are suitable on two or three classes; no fire extinguisher is suitable for all five classes of fire.

Figure 1200–4: Fire Class Chart



Class A extinguishers put out fires in ordinary combustible materials such as cloth, wood, rubber, paper, and many plastics.





Class B extinguishers are used on fires involving flammable liquids, such as grease, gasoline, oil, and oil-based paints.





Class C extinguishers are suitable for use on fires involving appliances, tools, or other equipment that is electrically energized or plugged in.





Class D extinguishers are designed for use on flammable metals and are often specific for the type of metal in question. These are typically found only in factories working with these metals.





Class K fire extinguishers are intended for use on fires that involve vegetable oils, animal oils, or fats in cooking appliances. These extinguishers are generally found in commercial kitchens, such as those found in restaurants, cafeterias, and caterers. Class K extinguishers are now finding their way into the residential market for use in kitchens.



1228. Fighting Specific Types of Fires

a. Forest, Brush, or Grass Fires (Class A). These should be reported to the local fire department and the Switching Center and/or Grid Control Center as soon as possible. The fighting of forest fires is always done under the supervision of a trained fire department. Backpack water pumps are an efficient method; Shovels, rakes, garden or fire hoses are usually available and are satisfactory equipment to use as well. The most effective work can be done on the windward side (wind at your back). With a rake, prepare a fire break a short distance in advance of the fire by raking material away from the fire. A shovel can be used as a rake or to throw dirt onto the fire. If possible, several furrows can be plowed around property to be protected, to prevent the fire from reaching the property.



NOTE

Electrical poles should be inspected as soon as possible after grass or brush fires have burned past as a deep-seated fire smoldering in crevices of the poles may damage them to the extent that it will be necessary to be replaced.

b. Clothing Fires (Class A). A person's clothing may catch fire from an electrical flash or by accidental contact with fire, or by being covered with burning oil. All cases of burning clothing are very dangerous and calls for calmness on the part of both victims and rescuers. Remember to Stop, Drop and Roll. If a person's clothing is on fire, and there are no serious injuries, he/she should call for help, lie down and roll to smother the fire. He/She should never run, as that will fan the fire. Those assisting should try to smother the fire with any available article, such as a coat or blankets. Water or a fire extinguisher can also be used if available.

c. Pole Top Fire (Possible Class A, B, and C). A pole top fire may effectively be extinguished by properly using a portable A-B-C rated dry chemical extinguisher, Halon extinguisher, or water when it can be done safely on de-energized equipment. The operator should position him/herself in order that the flames can be knocked down from the base of the fire upward. Pay close attention to deep-seated embers which may reignite causing further damage to pole and equipment.

HOW TO USE A FIRE EXTINGUISHER

1229. General

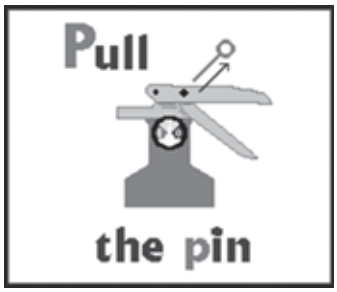
Only those employees who have been identified by the company and have current training may use fire extinguishers.

a. Do not fight the fire unless all of the following apply:

- The building is being evacuated (fire alarm is pulled) (Rule 1205)
- The fire department is being called (dial 911 or follow site specific instructions)
- The fire is small, contained and not spreading beyond its starting point
- The exit is clear, there is no imminent peril and you can fight the fire with your back to the exit
- You can stay low and avoid smoke
- The proper extinguisher is immediately at hand. You have read the instructions and know how to use the extinguisher

IF ANY OF THESE CONDITIONS HAVE NOT BEEN MET, DO NOT FIGHT THE FIRE YOURSELF. CALL FOR HELP, PULL THE FIRE ALARM AND LEAVE THE AREA.

b. How to Use a Fire Extinguisher. Even though extinguishers come in a number of different sizes, they all operate in a similar manner. Here's an easy acronym for fire extinguisher use: P A S S — Pull, Aim, Squeeze, and Sweep.



P Pull the pin at the top of the extinguisher that keeps the handle from being accidentally pressed.



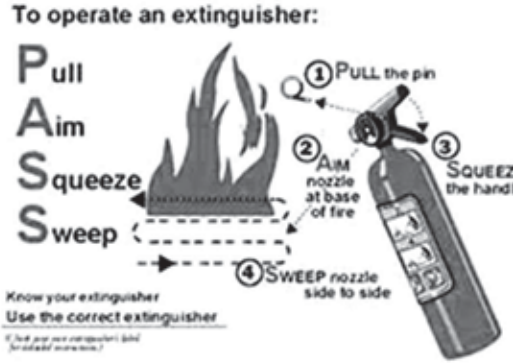
A Aim the nozzle toward the base of the fire. Stand about eight feet from the fire.



S Squeeze the handle to discharge the extinguisher. If you release the handle, the discharge will stop.



S Sweep the nozzle back and forth at the base of the fire. After the fire appears to be out, watch it carefully since it may reignite!



Whenever possible, use the “Buddy System” to have someone back you up when using a fire extinguisher. If you have any doubt about your personal safety, or if you cannot extinguish a fire, leave immediately and close off the area (close the doors, but DO NOT lock them). Leave the building, but contact a local security officer or firefighter to relay whatever information you have about the fire. Do not walk on an area that you have “extinguished” in case the fire reignites or the extinguisher runs out! You usually cannot expect more than 10 full seconds of extinguishing powder from a typical fire extinguisher.

Contact Corporate Real Estate (PAX 12222) to have any discharged extinguisher immediately removed from service and recharged after use. If you discharge an extinguisher (even just a tiny bit) or pull the pin for any reason, the extinguisher must be serviced.

HYDRANTS AND FIRE HOSE SYSTEMS

1230. General

All emergency equipment shall be in good operating condition at all times to prevent failure at a time when it is needed most. Maintaining fire equipment stations and firefighting equipment in top condition is merely a matter of good housekeeping and adequate routine inspections. Successful firefighting is largely dependent upon adequate equipment in first-class condition.

1231. Fire Hydrants

a. All fire hydrants shall be inspected for leaks, corrosion, and operating condition on an annual basis. Repairs, and/or replacements shall be made immediately.

b. Locations susceptible to freezing conditions shall protect hydrants and standpipes by keeping standpipes dry and/or using proper insulating methods to prevent freezing.

c. Standard hydrant and hose line hardware is sized at 2-1/2 and 4 inch equipped with American National Fire Hose Connections screw threads. This thread size can be used by local fire departments when necessary. Protective caps shall be placed on hydrant outlets when not in use.

d. Hydrants declared out of service for maintenance or repair, shall be marked accordingly, to prevent the hydrant from being confused with other in-service hydrants. Appropriate portable fire suppression equipment shall be made available at that location until the hydrant is returned to service.

e. A three foot clear space shall be maintained around the circumference of the fire hydrant.

f. Items shall not be placed or kept near fire hydrants or fire department inlet connections (FDC) in a manner that would prevent such equipment or fire hydrants from being immediately discernible and from gaining immediate access to the fire protection equipment or fire hydrants.

1232. Fire Hose Cabinets

Hands-on training shall be provided for those designated employees who may be required to use a fire hose.

a. Fire hose shall not be used for any purpose other than fire suppression. After a fire hose has been used, it shall be inspected and tested by a certified Fire Equipment Inspector. Hose couplings should not be dropped or dragged, as this will result in mashed threads, jammed swivels, or other damage.

b. Physical inspection of hose shall determine that the hose, couplings, and any nozzle have not been vandalized, are free of debris, and exhibit no evidence of mildew, rot, or damage from chemicals, burns, cuts, abrasion, and vermin.

c. Fire hose shall be inspected and hydro tested three years after the initial purchase and at five-year intervals thereafter by a certified Fire Equipment Inspector.

d. All fire hoses shall be visually inspected annually and cleaned as needed.

e. Reverse the fold of hose when replacing onto reels or hose carts.

FIXED EXTINGUISHING SYSTEMS

1233. General

a. Various fixed fire extinguishing systems exist throughout the Edison system. These systems may be activated manually or automatically by heat and/or smoke. Normally an automatic system can also be activated manually.

b. Each fixed system is designed and installed for protection against specific fire hazards.

c. All systems require inspection, testing, maintenance, and documentation by qualified personnel specially trained for this procedure to assure proper operation at all times. Inspections and maintenance shall be completed in accordance with the NFPA, local Fire Code and manufacturer requirements.

d. After discharge, fixed systems shall be serviced and placed back in operation as soon as possible.

e. Painted sprinkler heads or cover plates are prohibited unless painted at the factory.

1234. Automatic Sprinkler System

Automatic water sprinkler systems are installed in warehouses, garages, office buildings, and other applicable locations. The sprinklers have fusible links which melt at about 150°F and, when in operation, effectively wet everything below within a diameter of 15 feet or more depending on pressure and type of head.

a. Maintenance or alterations of sprinkler systems shall be done by properly qualified personnel, under close supervision, and in accordance with the special rules governing the manipulation of valves, posting of “caution” signs, procedure for restoring to normal operation, and so forth. Unless being serviced, systems shall be maintained in full operative condition at all times.

b. Painted sprinkler heads or cover plates are prohibited unless painted at the factory. If painted by accident they cannot be cleaned and must be replaced.

c. Decorations, coat hangers, or other items shall not be hung from sprinkler heads.

1235. Halon 1301 and FM-200 (Total Flooding Fixed Systems)

a. Halon 1301 is a clean and effective fire extinguishing agent that does not leave residue upon evaporation. It is a colorless gas, has a low toxicity, and does not displace oxygen. Halon 1301 will suppress a surface burning fire for Class A, B, and C materials. Discharge of Halon 1301 will not impede a safe and orderly evacuation of personnel. If the Halon 1301 system is activated employees shall evacuate the area immediately.

b. FM-200 (Heptafluoropropane, HFC-227ea) is a clean and effective fire extinguishing agent that does not leave residue upon evaporation. It is a colorless gas, low in toxicity, non-conductive, noncorrosive and compatible with other materials. FM-200 is heavier than air and will displace the oxygen available for breathing and may cause suffocation. Rapid evaporation of the liquid may cause frostbite. FM-200 will suppress a surface burning fire for Class A, B, and C materials. If the FM-200 system is activated employees shall evacuate the area immediately.

c. FM-200 and Halon 1301 systems used throughout the Company are individually engineered for each location. Detailed information is available at each installation covering the following: Alarm Systems, Manual Controls (Activate — Deactivate), Evacuation, and Re-Entry. Personnel, who are required to work in protected area (s), will be trained, and familiar with the system, its operating procedures and necessary PPE.

d. All automatic closing devices to openings shall be maintained in a readiness condition. Doors, dampers, and ventilation ducts are not to be blocked open or tampered with.



NOTE

Where personnel are required to remain in an area after total flooding, self-contained breathing apparatus shall be available and used by such personnel.

1236. Carbon Dioxide (CO_2) Fixed Systems

The principal extinguishing effect of carbon dioxide is to displace oxygen. Buildings or areas protected by an automatic CO_2 system shall have a warning sign posted at each entrance. "Important: This Building Is Protected by an Automatic CO_2 Fire System." Before entering any building, room, switch cell, or other compartment where automatic CO_2 equipment is plumbed for fire protection, the CO_2 equipment must be made non-automatic unless the station and/or division manager expressly authorizes suitable safeguards to ensure prompt evacuation of and to prevent entry into such atmosphere should the system discharge. Suitable safeguards shall include personnel training, predischarge alarms, discharge alarms, and warning signs.

There are two systems in which carbon dioxide is used. The high-pressure system and the low-pressure system:

a. Fixed high-pressure system for the protection of large rotating apparatus such as synchronous condensers and large generators. There are also a few installations for protecting rooms of various kinds.

   Some installations are provided with time delay units so arranged that a predetermined number of cylinders can be discharged initially, followed by the remainder in a sequence calculated to make more efficient use of the remaining extinguishing medium.

   The system is activated by strategically located heat detectors in the protected area. The agent may also be discharged manually from outside release stations. Detailed information is on hand at each location where CO_2 systems are installed giving data about the time delay, sequence of discharge, alarms, and operating procedures specific to that location.

b. Fixed low-pressure systems are used to extinguish fires in larger enclosed areas, such as unattended substations or office buildings, where the fire can be confined.

c. **WARNING!** No employees may remain in a carbon dioxide protected area after the alarm, or enter after discharge, unless they are qualified (trained) and wearing an approved self-contained breathing apparatus or until the area has been thoroughly ventilated and tested with an approved oxygen deficiency tester.

   Carbon dioxide, when released, smothers and cools the area. This, along with eliminating visibility, created by its initial cloud, creates a deadly condition for anyone inside. The greatest danger is from suffocation. This is initially accompanied by extreme cold. In a matter of seconds, after the discharge, the atmosphere is totally uninhabitable, becoming a frozen, opaque mist deficient of oxygen. The cloud is composed of carbon dioxide particles and frozen moisture. Upon warming, the carbon dioxide particles melt and the moisture condenses out or returns to the air. However, even though the atmosphere is clear in appearance, it is still hazardous and uninhabitable until the carbon dioxide is replaced with air.

1237. Dry Chemical Fixed System

Dry chemical fire extinguishing systems (dry chemical systems) shall be engineered for the particular application. Dry chemical systems shall not be changed or altered or the dry chemical type changed without approval from the local fire authority. Dry chemical systems are not suitable for electronic equipment or electrical machinery in general because of the effects of the residual deposits on performance and corrosion. Dry chemical upon exposure to temperatures in excess of 250°F or relative humidity in excess of 50 percent form deposits on surfaces which stain, corrode, and are difficult to remove. Dry chemical systems are not suitable for deep seated or burrowing fires in ordinary Class A combustibles.

In automatic dry chemical systems a pre-alarm shall be provided prior to discharge giving employee's sufficient time to evacuate the area (location). Suitable equipment must be provided adjacent for prompt rescue of any trapped personnel including respiratory equipment. Pre-alarm may be deleted, if required, by providing all personnel entering the area (location) with pressurized breathing apparatus.



CAUTION

A personnel hazard exists with discharge of large amounts of dry chemical. Personnel may suffer reduced visibility and temporary breathing difficulty or choking. Dry chemical is less hazardous than carbon dioxide extinguishing systems, but more hazardous than Halon 1301 gas extinguishing systems.

1238. Storage and Housekeeping

a. Storage shall be maintained two feet or more below the ceiling in non-sprinklered areas of buildings and a minimum of 18 inches below sprinkler head deflectors in sprinklered areas of buildings.

b. Combustible materials shall not be stored in front of exit routes or exit enclosures.

c. Combustible materials shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms.

d. A working space of not less than 30 inches in width, 36 inches in depth shall be provided in front of electrical service equipment (panel). Where electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment.

e. See Section 1100 Office Safety.

1239. Hot Work

a. See the SCE Hot Work Program found on Portal

b. See Rule 160, Welding, Metallizing, Soldering, and Use of Open Flames

1240. Heliport Fire Protection

a. All heliports must contain a fire extinguisher, located in the designated spot specific to each heliport.

b. If the fire extinguisher is missing, contact the CRE Facility Manager who will work with both Aircraft Operations and the CRE Fire Services Manager to determine the optimum location of the fire extinguisher.

c. Each heliport must contain a minimum of two 10 pound hand-held fire extinguishers or one 50 pound wheeled fire extinguisher.

d. If a heliport is located in a remote area and a fire extinguisher can not be maintained on the heliport due to vandalism, it can be mounted on the inside of the fence of the adjacent SCE site. A sign must be posted at the heliport indicating that fire extinguishers are located at the adjacent facility. In addition, a tag or label must be attached to the fire extinguishers indicating they are for the heliport.

e. Wheeled fire extinguishers must not have a cover as the "rotor-wash" from the helicopter can blow the cover off and cause damage to the rotor system of the helicopter.

f. Fire extinguishers shall be visual inspected monthly by the Site Manager or designated staff.

g. Fire extinguishers shall receive an annual service as required by State Fire Marshal.

h. For issues, concerning an Air Ops site, contact Aircraft Operations at PAX 11606 or 11691 or the Edison Operator at 626-302-1212.

1241. Miscellaneous

a. All vehicles will, when an emergency vehicle approaches from any direction, immediately pull over to the right sides of the road, when safe to do so, to allow the emergency vehicle to pass.

1242. Work Restrictions During Fire Weather Conditions

SCE has developed procedures to restrict or delay field work during fire conditions to reduce the risk of SCE personnel causing an ignition during the normal course of their work when the weather and fuel conditions are more susceptible to fire ignitions. Please refer to the Work Restrictions During Fire Weather Conditions document.

DEFINITIONS

Accessible Location

A location which can be safely reached by an employee standing on a floor, platform, runway, or other permanent working area.

Adequate Measures

All necessary steps or procedures required to perform the job safely.

Adequate Ventilation

Ventilation which, under normal operating conditions, is sufficient to keep the concentration of a hazardous gas, vapor, mist, fume, or dust below the amount which will produce harmful effects, or below 20 percent of the lower explosive limit, whichever is lower, and the oxygen concentration above 19.5 percent by volume.

Aerial Lift

A mechanical device used to raise employees to an elevated position.

Affected Employee

For the purpose of Rule 106 (Lockout/Tagout), an employee whose job requires them to operate or use a machine or equipment on which cleaning, repairing, servicing, setting-up or adjusting operations are being performed under lockout or tagout, or whose job requires the employee to work in an area in which such activities are being performed under lockout or tagout.

AHJ

Authority Having Jurisdiction.

Approved

Referring to products, materials, devices, methods, systems, or installations that have been approved, listed, labeled, or certified as conforming to corporate or applicable governmental or other nationally recognized standards.

Approved Containers

A container designed for the specific material involved.

Approved Testing Device

A device used to confirm the status or condition of electrical conductors, apparatus, or equipment to be worked on.

Attached Grounds

This refers to grounded conductors permanently attached to or installed on the surface of wood poles. This includes grounded guy wires, telecommunication and aerial messengers, shy lines and conductors used for the purpose of grounding lightning arresters, potheads, primary and secondary neutrals, apparatus cases or frames, and other equipment.

Attachment Device

A device such as a seal, or cable tie, which is non reusable, attachable by hand, self locking, non releasable with a minimum unlocking or breaking strength of no less than 50 pounds.

Authorized Employee or Person

For the purpose of Rule 106 (Lockout/Tagout), a qualified person who locks out or tags out specific machines or equipment in order to perform cleaning, repairing, servicing, setting-up, and adjusting operations on that machine or equipment.

Authorized Person

A qualified employee designated to perform specific duties under the conditions existing.

Authorized Representative

An employee that has been designated, by reason of training and experience to represent SCE.

Automated External Defibrillator (AED)

A portable electronic device that automatically diagnoses the life-threatening cardiac arrhythmias of ventricular fibrillation and ventricular tachycardia in a patient, and is able to treat them through defibrillation, the application of electrical therapy which stops the arrhythmia, allowing the heart to re-establish an effective rhythm.

Automatic

A state in which equipment will operate when required without manual aid.

Automatic Circuit Recloser

A self-controlled device for automatically interrupting and reclosing an alternating current circuit, with a predetermined sequence of opening and reclosing followed by resetting, hold closed, or lockout operation.

Backfeed

A source of supply from the load side of the electrical system to a de-energized section of line, apparatus, or equipment.

Balaclava

A close-fitting, knitted cap that covers the head, neck, and face.

Barricade

A physical obstruction such as tapes, screens, or cones, and so forth, intended to warn and limit access to a hazardous area.

Barrier

A physical obstruction which by design, is intended to prevent accidental contact with exposed energized lines or equipment, or other hazards.

Belt (body)

A simple or compound strap with means for securing it about the waist and for securing a lanyard to it.

Belt (lineman's)

A leather or web (cotton or nylon) belt designed specifically for employees working on poles or structures. It consists of a waist belt, with a front buckle, and two D ringers for attaching a safety strap.

Block

To make automatic equipment inoperative, non-automatic, or solid.

Bonding

The joining of metallic parts to form an electrically conductive path which will assure electrical continuity and the capacity to conduct any current likely to be imposed.

Bracket Equal Potential Grounding

This refers to grounding method where the shorting and grounding of de-energized conductors is performed with sets of personal grounds located on each side of the work area, between the work area and all electrical sources. A pole band is used on the pole where the work is to be performed and is located below the standing position of the lineman. The band is connected by jumpers to the conductors worked upon. The pole band is also bonded to any attached grounds that may be in the workspace. This creates an equal potential work zone.

Bracket Grounding

This refers to a grounding method where the shorting and grounding of de-energized conductors is performed with sets of personal grounds located on each side of the work area, between the work area and all electrical sources. These grounds may be located several spans away if necessary.

BURD Enclosure

Precast transformer enclosure made of either concrete or fiberglass. This enclosure typically houses single phase Buried Underground Residential Distribution transformers or switches (single or three phase). For further explanations, refer to the Distribution UG Construction Standards manual.

CCR

California Code of Regulations

Class 1

Flammable liquids with flash points below 100°F; for example, gasoline, alcohol, acetone, and naptha.

Class 2

Combustible liquids with flash points at or above 100°F and below 140°F; for example, kerosene, solvents, and thinners.

Class 3

Combustible liquids with flash points at or above 140°F; for example, lube oil, transformer oil, and fuel oil.

Clearance

The formal authorization, officially issued to a qualified person, at that person's request, to work on an electric line or some piece of operating equipment which is inherently too hazardous to work on while in service, and which has been de-activated or de-energized, in a prescribed manner and placed in a safe condition to be worked on (see Rule 706).

Clearing Trouble

Temporary work that requires isolating a damaged section of electrical lines or equipment from the remainder of the circuit, so as to eliminate any hazard.

Combustible Liquid

A liquid having a flash point at or above 100°F. (37.8°C).

Conductive Object

A wire, cable, or other conducting material capable of carrying current.

Control Area

Spaces within a building where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, dispensed, used or handled.

CST Enclosure

Precast Surface Operable Parkway Enclosure that commonly houses underground distribution transformers, switches, and cables. (CST was an acronym for Customer Subsurface Transformer). For further explanations, refer to the Distribution UG Construction Standards manual.

Cutout

An assembly of a fuse support with either a fuseholder, fuse carrier, or disconnecting blade. The fuse holder or fuse carrier may include a conducting element (fuse link), or may act as a disconnecting blade by the inclusion of a nonfusible member.

Dead-Front

So designed, constructed, and installed that no energized parts are normally exposed on the front.

Defective

Any characteristic or condition which tends to weaken or reduce the electrical/mechanical strength or safety of a tool, machine, object, or structure of which it is a part.

Designated Employee

An employee who is not a member of a fire brigade, but who has been properly trained to use portable fire extinguishers or small hose lines to fight incipient stage fires in the employee's immediate work area.

Distribution Tap Line

A line normally energized above 600 Volts having but one source of supply which has been disconnected from this source at a field location. Not included in the above is a line which has been disconnected from its single source of supply at a substation or generating station.

Drop Zone

An area below work that is being performed, where there is the potential for suspended loads, tools, equipment, waste, or other items to fall and create a hazard.

Electric Line Truck

A truck used to transport workers, tools, and material, and to serve as a traveling workshop for electric power line construction and maintenance work. It is sometimes equipped with a boom and auxiliary equipment for setting poles, digging holes, and elevating material or workers.

Emergency

An unexpected situation or occurrence that may result in serious personal injury or property damage, including: fire, explosion, environmental release or other event.

Emergency Escape Route

The route that personnel are directed to follow in the event they are required to evacuate the site.

Employee in Charge

Any employee who is responsible for work procedures and accident prevention.

Enclosed

Surrounded by a fence, wall, case, or housing which will prevent employees from accidentally contacting exposed electrical wiring, equipment, or energized parts.

Enclosed Facility

Any company facility that is or can be closed to the outside is considered an “enclosed” facility. Examples include administrative offices, private offices, meeting rooms, break-rooms, elevators, restrooms, lunchrooms, cafeterias, stairways, hallways, control rooms, locker rooms, showers, storage rooms, machine shops, electric shops, computer rooms, warehouse vaults, and similar facilities. Energized Conductors/Lines or Equipment Conductors or equipment which are connected to an energized electrical source.

Engulfment

The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry

The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant’s body breaks the plane of an opening into the space.

Equal Potential Grounding

This refers to a grounding method where the shorting and grounding of de-energized conductors is accomplished on the same structure where the work is to be performed. A pole band is used below the standing position of the lineman and is connected to the personal shorts and grounds. The pole band is also bonded to any attached grounds in the workspace. This procedure creates an equal potential work zone.

Equipment (electrical)

A general term which includes fittings, devices, appliances, fixtures, apparatus, and the like, used as part of, or in connection with, an electrical power transmission and distribution system, or a communication system.

Exposed (as applied to energized parts)

Energized parts that can inadvertently be touched or approached nearer than a safe distance by employees. Parts not suitably guarded, isolated, or insulated.

Exit Route

A continuous and unobstructed path of exit travel from any point within a workplace to a place of safety.

Eye Protection

Eye protection devices are intended to shield the wearer's eyes from a variety of hazards. These devices include spectacles, face shields, and goggles. Spectacles are commonly used to provide primary protection from impact and optical radiation. Face shields are generally intended to shield the wearer's face, or portions thereof, in addition to the eyes, from certain hazards. Face shields are secondary protectors and shall be used only with primary protectors. Goggles are primary protective devices intended to fit the face immediately surrounding the eyes in order to shield the eyes from a variety of hazards. Goggles commonly are available in two styles: eyecup, to cover the eye sockets completely; and cover, which may be worn over spectacles.

Face Shields

Protective devices generally intended to shield the wearer's face, or portions thereof, in addition to the eyes, from certain hazards. Face shields are secondary protectors and shall be used only with primary protectors (spectacles or goggles).

Ferroresonance

An electrical condition which can occur when the capacitive reactance of the conductors is approximately equal to the inductive reactance of the transformer.

First Aid

The recognition of, and prompt care for, injury or sudden illness prior to the availability of medical care by licensed health care personnel.

Flagger

An employee who has been properly instructed in the fundamentals of flagging traffic and the use of approved flagging equipment.

Flammable Liquid

A liquid having a flash point below 100°F (37.8°C), that is, gasoline.

Free Climbing

For the purpose of Rule 212 (Safety Straps and Lanyards), an employee ascending or descending while on a wood pole without the use or aid of a safety strap(s).

Ground

A conducting connection between an electrical circuit or equipment and earth, or to some conducting body which serves in place of the earth.

Grounded Effectively

Permanently connected to earth through a ground connection of sufficiently low resistance and having sufficient capacity that ground fault current which may occur cannot build up to voltages dangerous to personnel.

Grounding Conductor, Equipment

The conductor used to connect non-current-carrying metal parts of equipment, raceways and other enclosures to the system grounded conductor at the service and/or the grounding electrode conductor or at the source of a separately derived system.

Grounding Medium

Approved means in the proper order of priority by which something may be used for grounding.

Guarded

Covered, shielded, fenced, enclosed, or otherwise protected by means of suitable covers or casings, barriers, barricades, rails or screens, mats, or platforms intended to prevent or impede the approach of persons or objects to a point of danger.

Hazardous Substance

One which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritant, or otherwise harmful is likely to cause injury.

High Voltage

A sustained voltage of more than 600 Volts, phase to phase.

Incipient Stage Fire

A fire that is in the initial stage and can be controlled or extinguished by portable fire extinguishers or other fire suppression equipment without the need for protective clothing or breathing apparatus.

Insulated

Separated from other conductive surfaces by a dielectric substance (including air space) offering a high resistance to the passage of current.

Insulated Aerial Device

An approved insulated mechanical device used to raise employees to an elevated position.

Insulated Tools

An approved tool designed with an insulating value great enough to protect the employee from exposed energized conductors or equipment.

Kill Switch

Remote mechanism used to stop the operation of a piece of equipment.

Lanyard

An approved flexible line used to secure the wearer of a safety belt or harness, to a drop line, lifeline, or fixed anchorage.

Lifeline

A horizontal line between two fixed anchorages, independent of the work surface, to which the lanyard is secured, either by tying off or by means of a suitable sliding connection.

Line Clearance Tree Trimming Operations

Operations which include the trimming, repairing, chemical treatment, or removal of trees, brush, and miscellaneous vegetation, performed in the vicinity of exposed energized overhead conductors and equipment.

Live Line Tools

Approved tools which are especially designed for work on exposed energized high-voltage lines and equipment.

Local

When a selector switch of a Remote Controlled Switch (RCS) is in the “local” position, the remote radio command operation is disabled.

Machine

The driven unit as distinguished from the driving unit which is defined as a prime mover.

Maximum Rated Load

The total of all loads including the working load, the weight of the employee, and such other loads that may be reasonably anticipated.

Neutral Conductor

A conductor which carries only the unbalanced current from other related conductors of the same circuit.

Nominal Voltage

The actual voltage at which a circuit operates. Can vary from the nominal within a range that permits satisfactory operation of equipment.

Non-automatic

A state in which equipment which normally operates without manual intervention has been made temporarily non-responsive. Make solid.

NPCS

Non Permit Required Confined Space.

Obstructions

For the purpose of Rule 212 (Safety Straps and Lanyards), when obstructions make it impracticable to utilize the safety strap(s) around the wood pole.

Operational Support/Corporate Real Estate/Facilities Asset Management

The organization within the Operations Support charged with purchase, inspection, and maintenance of company portable fire equipment.

Oxygen Deficient Atmosphere

An atmosphere containing oxygen at a concentration of less than 19.5 percent by volume.

Permission

The authorization issued to qualified persons, at their request, to work on a piece of equipment, only when the equipment cannot be de-activated.

Personal Grounds

Portable, flexible copper conductors with clamps which are of suitable design and configuration for the temporary shorting, shunting and grounding of de-energized line and apparatus on which work is to be performed

Personal Protective Equipment

Approved equipment designed to eliminate, preclude, or mitigate personal injury.

"Pin On" Platform

A removable work platform which attaches to an aerial lift.

Platform

An elevated working area or surface used for supporting personnel, materials, and equipment.

Powered Industrial Truck

A mobile power-driven truck used for hauling, pushing, lifting, or tiering materials where normal work is normally confined within the boundaries of a place of employment. As used in this definition, industrial trucks include unmanned automated or semi-automated transport vehicles which utilize wheels and run on guide rails or narrow gauge rail tracks and can be operated by either remote control (that is, a hand held pendant) or radio communication.

Practicable

Capable of being accomplished by reasonably available and workable means.

PRCS

Permit Required Confined Space.

Prime Mover

An engine or motor whose main function is to drive or operate other mechanical equipment.

Properly Trained Personnel

An employee who has demonstrated that he/she knows the correct methods and procedures required to safely perform a specific task.

Protective Equipment

All approved safety equipment used to protect employees from a known hazard.

Proximity

A specific distance where an employee may be accidentally or inadvertently exposed to a hazard.

Qualified Checker

A person who is thoroughly trained and is familiar with all specific hazards of the job, qualified by Edison Company management.

Qualified Electrical Worker

A qualified employee who by reason of a minimum of two years training and experience with exposed high-voltage circuits, and equipment, and who has demonstrated by performance familiarity with the work to be performed and the hazards involved.

Qualified Line Clearance Tree Trimmer

An employee who has completed a minimum of 18 months related training and on-the-job experience and is familiar with the special techniques and hazards involved in line clearance tree trimming operations.

Qualified Line Clearance Tree Trimmer Trainee

Any employee regularly assigned to a line clearance tree trimming crew and undergoing on-the-job training who, in the course of such training, has demonstrated the ability to perform the assigned duties safely at that level of training.

Qualified Person/Employee

An employee who by reason of experience or instruction is familiar with the operation to be performed and the hazards involved.

Reasonable

What an employee, exercising prudence and good judgment, would do under similar circumstances.

ROPS

Roll-Over Protective Structure.

Safety Can

An approved container, of not more than 5 gallons capacity having a spring-closing lid and spout cover so designed that it will relieve internal pressure when subjected to fire exposure.

Safety Factor

Ratio of the ultimate breaking strength of a member or piece of material or equipment to the actual working stress or safe load when in use.

Safety Line

A vertical line from a fixed anchorage, independent of the work surface, to which the lanyard is affixed.

Safety Strap

A web strap designed specifically for use in conjunction with a lineman's body belt to secure an employee to a pole or structure in a manner that permits work with both hands.

Shall

Mandatory.

Shoring System

A temporary structure for the support of earth surfaces formed as a result of excavation work.

Should

Recommended.

Solid

Inoperable; non-automatic.

Sources of Supply

Electrical lines and equipment capable of energizing, de-energized lines or equipment. This would include, open switches, open taps, open fuses, potheads (made up), induction, energized high-voltage lines crossing over a de-energized line, unprotected energized lines which cross under a de-energized line, and backfeed.

Static Electricity

An imbalance of electric charges within or on the surface of a material.

Spiking

The intentional short circuiting, with approved devices, of a normally energized high-voltage conductor to prove it de-energized.

Suitable

Capable of safely performing the particular function specified.

Suitable Clothing

Appropriate for the job being done to reduce or eliminate any hazards.

Tag

A system or method of identifying circuits, systems, or equipment for the purpose of alerting employees that the circuit, system, or equipment is being worked on.

Thermal Inspection

To utilize an approved heat-sensing instrument to measure the temperature of conductors, apparatus, or equipment.

Third Party

Any non-employees.

Towering

Utilization of an aerial device specifically designed to be a mobile towering unit for the purposes of stringing strand and cables along utility pole lines. This work process allows a person to be driven along a pole line while aloft in the platform.

Underground Structure

Any structure installed below grade used to house electrical cables or equipment.

Wet Location

Facilities subject to saturation from water or other liquids, and locations exposed to the weather.

Within Reach

Where an employee can touch an unprotected energized conductor from an immediate work position with any part of their body.

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*This Subject Index is provided as a guidance document enabling employees to quickly locate common safety/work rules associated with their job classification, and **is not intended** to be an "all-inclusive" source of information. Each employee of the Company shall be provided access to the APM and shall be required to know and understand those sections which apply to the work being performed (APM Policy 4 — Knowledge).*

Appendix D.
COVID-19 Temporary Workplace Wellness and Physical Distancing Policy

COVID-19 Temporary Workplace Wellness and Physical Distancing Policy

POLICY		
	Effective Date	May 15, 2020
	Supersedes	N/A – New Policy

POLICY SYNOPSIS

The following temporary workplace wellness and physical distancing requirements are instituted by Edison International and Southern California Edison (collectively, the "Company") in response to the COVID-19 pandemic to reduce the spread of the virus and protect the health and safety of all employees, supplemental workers, visitors, vendors, and members of the public who engage with Company personnel. Following this policy will have a direct impact on the safety of your colleagues and our families.

1.0 APPLICABILITY

This policy applies to all Company employees whenever conducting work for the Company regardless of location. All visitors and supplemental workers at Company-facilities also are expected to follow this policy. Edison Energy employees should refer to the Edison Energy COVID-19 Policy for equivalent guidance.

The Company may amend, supplement, or cease this policy at any time in response to business needs and workplace reentry requirements determined by federal, state, and local health authorities. If you find any conflict between this policy and local law, notify your supervisor/manager, the Edison HelpLine, or the COVID-19 Hotline of the conflict as soon as possible.

If you see or become aware of situations where physical distancing, face covering requirements, or other practices stated in this policy are not being followed, please speak up immediately and notify your supervisor/manager, the Edison HelpLine at (800) 877-7089 or www.EdisonHelpline.com, or the COVID-19 Hotline at (800) 500-4723.

2.0 POLICY DETAIL

2.1 Coming into the Workplace

2.1.1 Self-Symptoms Check

Before coming to work, you are responsible to self-monitor for symptoms of COVID-19 and recognize possible exposure to others who may have COVID-19. COVID-19 symptoms include but are not limited to:

- **a.** Cough
- **b.** Shortness of breath or difficulty breathing
- **c.** Fever
- **d.** Chills
- **e.** Repeated shaking with chills
- **f.** Muscle pain
- **g.** Headache
- **h.** Sore throat
- **i.** New loss of taste or smell

If you are experiencing any COVID-19 symptoms, do not come to work, and notify your supervisor/manager. You or your supervisor/manager must complete the COVID-19 Exposure Questionnaire and Edison Safety will contact you with instructions.

For the most current list of COVID-19 symptoms, refer to the CDC website. Do not discount existing conditions or allergies that may mask COVID-19. These symptoms should be closely observed. When in doubt, please contact your medical provider or Teladoc, (800)-Teladoc (835-2362). Teladoc is available 24/7 at no additional cost to Company employees and their covered family members.

If you cannot come into work because you show symptoms of COVID-19, you may be asked to telework. If you cannot telework, refer to the Temporary COVID-19 Related Leave Guidelines regarding available paid time off.

2.1.2 Entering a Company Facility or Reporting to Your Worksite

Before you enter a Company facility or worksite, you must perform a self-symptom check. If you notice or suspect that you have any COVID-19 symptoms, do not enter the facility or report to the worksite and notify your supervisor/manager of your symptoms. You or your supervisor/manager must complete the COVID-19 Exposure Questionnaire, and you must return home immediately. Edison Safety will then contact you with instructions.

Even if you believe you have no COVID-19 symptoms, you may be required to have your temperature taken before entering a Company facility or reporting to a worksite. If your temperature exceeds a prescribed limit, your supervisor/manager will instruct you to go home. You or your supervisor/manager must complete the COVID-19 Exposure Questionnaire. Edison Safety will then contact you with instructions.

2.1.3 Showing Symptoms of Illness While at Work

If you start experiencing COVID-19 symptoms at work, stop work, and notify your supervisor/manager. You or your supervisor/manager must complete the COVID-19 Exposure Questionnaire, and you must return home immediately. Edison Safety will then contact you with instructions.

If you must leave work because you show symptoms of COVID-19, you may be asked to telework. If you cannot telework, refer to the Temporary COVID-19 Related Leave Guidelines regarding available paid time off.

2.1.4 Protecting Employee Identity

During the declared COVID-19 pandemic, if you are exposed to or test positive for the virus, the following personal information may be shared with your supervisor/manager, the highest-ranking officer of your OU, Edison Safety, and the EIX Managing Committee:

- **a.** Employee name
- **b.** Date of positive test/date of exposure
- **c.** Last work location
- **d.** Fact of positive test

To communicate with those potentially exposed to COVID-19 in the workplace, the Company may release the following:

- **e.** Location(s) you visited
- **f.** Last date you were on-site

Your name will not be disclosed when communicating with others potentially exposed at work.

2.2 Report Exposure or Potential Exposure to Others with COVID-19 Symptoms

Employees who come to work at a Company facility, or plan to have in-person interactions with other employees, customers, or any member of the public for business purposes, must report any exposure or potential exposure to COVID-19 by completing the COVID-19 Exposure Questionnaire as soon as possible. Edison Safety will contact you with instructions upon receiving the COVID-19 Exposure Questionnaire.

Exposure means you have tested positive for COVD-19, have COVID-19 symptoms, or become aware that you have been less than 6 feet away from an individual who:

- **a.** Has COVID-19 symptoms
- **b.** Tested positive for COVID-19
- **c.** Was told by a health care professional that he/she may have COVID-19
- **d.** Developed symptoms of COVID-19 or tested positive for COVID-19 within 14 days after contact with you

In addition, you must complete the COVID-19 Exposure Questionnaire after you or any member of your household completed travel of any kind and physical distancing could not be maintained during that travel. As

a reminder, business travel of any kind requires approval from your OU VP and Edison Safety, and you must complete the COVID-19 Travel Questionnaire before any business travel.

Edison Safety will perform a risk assessment and provide additional guidance to avoid exposure to the workplace. Do not return to work at a Company facility or worksite until you receive clearance from Edison Safety.

If you cannot come into work because of potential exposure, you will be asked to telework. If you cannot telework, refer to the Temporary COVID-19 Related Leave Guidelines regarding available paid time off.

2.3 Requirements when Working at Company Facilities

2.3.1 Physical Distancing

Remain six feet away from others to the fullest extent possible, including during break and lunch periods. This includes refraining from handshakes, sharing of devices, and any physical contact.

The six-foot distancing requirement applies to all spaces in Company facilities, including elevators, stairwells, hallways, conference rooms, individual offices, breakrooms, restrooms, cafeterias, and parking lots. You should follow any posted signage or guidelines related to spacing, movement, or entrance and exit routes at Company facilities.

2.3.2 Face Covering

All employees, supplemental workers, and visitors must wear face coverings while at a Company facility. A face covering is always required when:

- **a.** You are in all common areas at any Company facility (e.g., in breakrooms, restrooms, elevators, stairwells, cafeterias, hallways, conference rooms, fitness centers, locker rooms, entering and exiting buildings, moving about the facility, etc.)
- **b.** You are in someone's office or workstation, or another person is in your office or workstation
- **c.** You are working at a shared workstation, office, or cubicle

A face covering is not required when:

- **d.** You are alone in your assigned office or workstation, provided you are at least six feet away from others
- **e.** You are on a rest or meal period and you remain at least six feet away from others

If you need a face covering, one will be provided by the Company. For information regarding the types of face coverings available, proper use and care of face coverings, and how to obtain face coverings please refer to the COVID-19 Mandatory Facial Covering Guidelines.

2.3.3 Meetings

Absent extenuating circumstances, meetings are to occur electronically. If meetings need to occur in-person, attendees must remain at least six feet apart and wear face coverings.

If an in-person meeting at any Company facility includes visitors, each non-badged visitor must complete a Visitor Screening Questionnaire (in English) / Visitor Screening Questionnaire (en Español) prior to being permitted on property. Follow the instructions on the Visitor Screening Questionnaire regarding how to complete and submit the form before the meeting.

2.4 Requirements when Working Outside Company Facilities (e.g., in the field)

2.4.1 Physical Distancing

When at a worksite, customer facility, or non-Company facility to conduct work, remain six feet away from others, including during break and lunch periods. This includes refraining from handshakes, sharing of devices (e.g., phones, laptops, or tablets), and any physical contact to the fullest extent possible.

Employees required to report to a worksite, customer facility, or other similar locations should conform to the COVID-19 Single Occupancy Vehicle Guidelines.

2.4.2 Face Coverings

When in the field, use a face covering (e.g., non-medical grade masks, scarves, balaclavas, neck gaiters, bandanas or other coverings that are able to cover both the nose and mouth without restricting breathing and meeting operational safety requirements) consistent with the safety requirements of your job. This includes utilizing Arc Rated (AR) coverings when working within the arc flash boundary. However, a face covering does not replace required facial personal protective equipment per the Arc Flash Manuals, which must always be followed.

You should take steps to adjust to wearing a face covering to perform your work safely, including slowing down work if needed to safely accommodate wearing a face covering.

A face covering is always required when:

- **a.** Working around other employees or the public (e.g., tailboards, in a bucket)
- **b.** Traveling in a vehicle with others
- **c.** Communicating with a customer

You may momentarily remove your face covering to manage your personal well-being (e.g., if you are feeling claustrophobic, dizzy, have shortness of breath, or to avoid heat illness, etc.). You may stop work and take your break without the face covering so long as you are at least six feet away from others. After your break, you must put your face covering back on to resume work.

You may also momentarily remove your face covering if you feel you need to communicate with a coworker, and the face covering is restricting that communication. However, when removing your face covering you must always adhere to the six-foot distancing requirement. After the communication is given and understanding is acknowledged by your coworker, you must put your face covering back on.

A face covering is not required when:

- **d.** Traveling in a vehicle alone
- **e.** You can safely perform work alone for the duration of the task and maintain a six-foot distance away from others (e.g., alone in a bucket or on a pole)
- **f.** You are on a rest or meal period and you remain at least six feet away from others

You are expected to have a face covering with you at all times and readily accessible so that you can put the face covering on when you arrive to your destination or need to work around others.

If you need a face covering, one will be provided by the Company. For information regarding the types of face coverings available, proper use and care of face coverings, and how to obtain face coverings please refer to the COVID-19 Mandatory Facial Covering Guidelines.

2.4.3 Customer Sites or Other Non-Company Locations

When visiting a customer site or any non-Company location to conduct work, you must follow the physical distancing and face covering requirements in this policy. If the customer or third-party has more stringent requirements, you must abide by those requirements.

3.0 POLICY VIOLATIONS

Any violation of this policy or any attempts to impede an investigation may result in corrective action, including termination of employment. In some cases, if you violate the law, you may be subject to personal civil or criminal liability. Suspected violations of this policy may be reported to a supervisor or manager, or to the Edison Helpline at (800) 877-7089 or www.EdisonHelpline.com, where reports can be made anonymously.

4.0 REFERENCES

External References

Centers for Disease Control and Prevention COVID-19 Page

Internal References
COVID-19 Portal Page
Temporary COVID-19 Related Leave
COVID-19: Safety Guidance on Use of Face Masks
COVID-19 In Person Event and Meeting Guidelines
COVID-19 Temporary Mandatory Facial Covering Guidelines
COVID-19 Single Occupancy Vehicle Guidelines
COVID-19 Travel and Exposure Prevention Guidelines
COVID-19 Visitor Guidelines
COVID-19 Exposure Questionnaire
COVID-19 Travel Questionnaire

5.0 KEY CONTACTS

COVID-19 Hotline, (800) 500-4723, *(Option 3, when prompted to identify as an SCE employee, immediately press 7. Monday-Friday, 7am-5pm)*
Employee Information Center
Watch Office (after hours only), (626) 812-4286



Appendix E.
Contractor Safety Management Standard

1.0 STANDARD STATEMENT

Southern California Edison (SCE) is committed to the safety and health of its employees, Contractors, and the public. The purpose of this standard is to establish SCE safety-related requirements for SCE personnel conducting company business with Contractors and Subcontractors. This standard sets the expectation that all stakeholders ensure tasks/activities with potential for serious injuries and fatalities are properly identified and mitigated.

At its sole discretion, SCE can immediately suspend or terminate a contract and/or suspend or discontinue work of a Contractor/Subcontractor due to poor or noncompliant safety performance and/or failure to adhere to SCE's governing policies, procedures, and regulations.

2.0 APPLICABILITY

This standard applies to all SCE employees performing Contractor management functions including Contractor qualification, monitoring, and evaluation. This standard establishes minimum Contractor safety requirements and clear responsibilities for SCE employees engaged in Contractor management. Employees supervising or directing Supplemental Workers who perform Contractor Management functions must ensure the Supplemental Workers adhere to the applicable provisions of this standard when performing work for the company.

While the entirety of this standard applies to Safety Tier 1 contract work performed at SCE, only the following sections apply to Tier 2 contract work:

- Section 1.0 Standard Statement ("Safety Performance Policy")
- Section 3.3.2 Safety Tier 2 Orientation
- Section 3.6.1 Incident Reporting
- Section 3.7 Training
- Section 3.8 Recordkeeping, Item e

In addition to following this standard, you must follow the Use of Company-Owned, Contract and Chartered Aircraft Policy for all contracted, subcontracted, and chartered aircraft operations performed for SCE.

For this standard, the term "Contractor" is used to denote both Prime Contractors (Contractor who has a contract with SCE for a scope of work/project and has the full responsibility for its completion) and Subcontractors (Contractor who has a contract with the Prime Contractor to perform a portion of the work/project) unless otherwise stated.

Note that section 3.2.5 (Safety Observation Program Requirement) becomes effective on June 30, 2019.

3.0 STANDARD DETAIL

3.1 Safety Qualification Requirements for Safety Tier 1 Contractors

3.1.1 Tier Determination

Compliance with this standard requires differentiating between contracted work classified as Safety Tier 1 or Tier 2. SCE classifies Safety Tier 1 work as activities that, without implementing appropriate safety measures, are potentially hazardous or life-threatening. SCE classifies Tier 2 work as routine contractual work not typically considered hazardous. Distinguishing between the categories does not imply that Tier 2 contracted work is risk-free, but that the scope of work is categorized as being lower risk. For the purposes of this standard, Contractors conducting any Safety Tier 1 work will be referred

to as Safety Tier 1 Contractors. Contractors conducting only Safety Tier 2 work will be referred to as Safety Tier 2 Contractors.

The Edison Representative determines the Tier level of work to be contracted using Appendix A: Tier Classification and must include the Tier on the initial purchase requisition submitted to Supply Management. The Edison Representative can contact Edison Safety for additional guidance on appropriate Tier classification as needed.

3.1.2 Third Party Administrator (TPA) Safety Tier 1 Contractor Performance, Program Review, and Monitoring

SCE retains a Third Party Administrator (TPA) to conduct a safety review and qualification of all Safety Tier 1 Contractors prior to their conducting Safety Tier 1 work for SCE. ISNetworld (ISN) currently serves as SCE's TPA).

3.1.2.1 TPA Registration and Information Submittal

The Edison Representative must ensure Safety Tier 1 Contractors establish an account with SCE's TPA and furnish all necessary information to meet safety qualification requirements prior to conducting Safety Tier 1 work. All Contractors (except for governmental agencies) receiving purchase orders for Safety Tier 1 work must have undergone TPA review and qualification regardless of whether the Safety Tier 1 work is conducted themselves or by Safety Tier 1 Subcontractors.

3.1.2.2 TPA Safety Tier 1 Safety Performance and Programs Review

The TPA reviews and scores Safety Tier 1 Contractors on safety performance, programs and culture. The actual grading criteria details can be found within the TPA system. SCE has designed the TPA grading criteria to emphasize the elimination of all serious injuries and fatalities. As such, any Contractor who experienced a fatality within the last three years automatically receives a TPA grade of C and must have an SCE-approved Conditional Contractor Plan to reach Conditional Status (as outlined in section 3.1.2.7 below). Details on the three major areas reviewed by the TPA follow:

a. **Safety Performance** data includes, but is not limited to: Total Recordable Incident Rate, Days Away Restrictions and Transfers (DART) Rate, Experience Modification Rate (EMR), fatality history, Occupational Safety and Health Administration (OSHA) repeat citation history, and serious public incidents.
b. **Programs** are reviewed against all applicable local, state, and federal regulations with which Contractors are required to comply, including but not limited to California and Federal OSHA regulations. Safety Tier 1 Contractors may request an exemption from submission and TPA review of a safety program covering work which they do not conduct for SCE. The requests will be reviewed and approved by the Edison Representative and Edison Safety.
c. **Safety Culture** practices are assessed by the TPA and include activities such as: holding regular employee safety team meetings, close call reporting and incident evaluation policies.

3.1.2.3 TPA Scoring and Classification

The TPA review results in a grade of A, B, C or F for the Contractor. Following the initial review and during the ongoing monitoring of Safety Tier 1 safety performance and programs, the Contractor is classified into one of three categories:

a. **Qualified Contractors** have an A or BB grade because they meet or exceed SCE-established standards for safety performance and programs. They are approved to perform Safety Tier 1 work at SCE
b. **Conditional Contractors** are Contractors with a grade of C that. Conditional Contractors must have an SCE-approved Conditional Contractor Plan (Refer to Section 3.1.2.7 for details). These Contractors' historic safety performance may be below SCE and/or industry standard and may have scored low in safety culture, but they are qualified to perform work at SCE under the condition that additional

mitigation procedures contained in., a Conditional Contractor Plan are in place to correct previously identified deficiencies

c. **Unqualified Contractors** have an F grade as they do not meet SCE and/or industry standards for safety programs and/or safety performance. Contractors having C grades are classified as an Unqualified Contractor if they do not have SCE-approved Conditional Contractor Plans. Unqualified Contractors cannot perform any Tier 1 work for SCE

3.1.2.4 TPA Monitoring and Grade Changes

The TPA monitors the safety performance data of Safety Tier 1 Contractors and periodically revalidates their safety programs to track changes in their TPA grades and classification status. Changes in TPA grades and classification status shall be monitored by Contractors and Edison Representatives. The Edison Representative shall work with the Contractor to respond to grade changes and ensure the Contractor achieves Qualified status or Conditional status with an approved Conditional Contractor Plan within the following time frames:

a. If the TPA grade of Qualified Contractor changes to a C or an F due to expired programs, expired program exemption requests, or non-submission of expired performance data such as EMR, the Contractor must submit necessary items to TPA for review and achieve Qualified status as soon as possible but no later than 30 calendar days of grade change
b. Contractors whose grade changes to C due to changes in safety performance or safety culture must prepare and submit fora Conditional Contractor Plan, submit the plan to SCE, and obtain approval of the plan as soon as possible, but no later than ,30 calendar days of the grade change
c. Conditional Contractors whose Conditional Contractor Plans have expired shall obtain approval of a revised Conditional Contractor Plan as soon as possible but no later than 30 calendar days of the expiration date

Contractors not achieving Qualified status or Conditional Status with an approved Conditional Contractor Plan within 30 calendar days of status change cannot conduct Safety Tier 1 work.

3.1.2.5 Grade Adjustment Process

Contractor TPA grades/scores may be adjusted by Edison Safety based on the conditions described below. Grade adjustments may be requested by Edison Safety, Edison Representatives, or Contractors using the Contractor Safety Points Request form. Any grade adjustment must be approved by the Director of Edison Safety. For incidents involving Subcontractors, grades of Prime Contractors may also be impacted.

Grades may be lowered as a result of:

a. Fatalities, or Serious Willful or Repeat OSHA citations in the last 3 years
b. Recent Actual or Potential Life Threatening or Life Altering (LT/LA) Incidents
c. Multiple at-risk observations occurring while working for SCE
d. Inadequate subcontractor oversight and management
e. Failure to address safety issues/requirements once identified or
f. Other safety issues as determined by SCE

Grades may be raised for:

a. Contractors with work hours under 50,000 per year whose grades have been negatively impacted by minor injuries. (Note: No points can be added to a Contractor grade if the Contractor averages over 50,000 man hours in the last 3-years or has had any fatalities/actual life threatening/life altering incidents in the last 3 years.)
b. Contractors demonstrating exemplary safety leadership as determined by Edison Safety and Supply Management
c. Incidents involving a fatality that occurred through no fault of the contractor (e.g. 3rd party vehicle accident) or
d. Other circumstances evaluated by SCE on a case by case basis

3.1.2.6 Expedited Safety Review

The Expedited Safety Review is used when Safety Tier 1 Contractors are needed for emergency purposes, such as an asset failure. In these cases, SCE may use the Expedited Safety Review process for qualifying the Contractor. This will occur in parallel with the normal process of the TPA's review of the Contractor. This process will not be used to circumvent or replace existing processes or for scopes of work other than for an emergency condition that requires expedited onboarding. The OU Director, in collaboration with the Edison Representative and Edison Safety, shall initiate contact with Supply Management to invoke the Expedited Safety Review procedure using the Expedited Safety Review form for Contractors. Once the OU VP/SVP has approved the Expedited Safety Review, it is to be routed to the VP over Edison Safety for consideration.

No review is necessary should a catastrophic or significant incident occur that requires mutual aid and the emergency sharing of resources across service territory boundaries.

3.1.2.7 Conditional Contractor Requirements

When a Safety Tier 1 Contractor receives a TPA C grade, the Contractor, in collaboration with the Edison Representative, must develop a safety improvement plan using the Conditional Contractor Plan Form. The Conditional Contractor Plan must be submitted to Edison Safety for initial review. Once reviewed, the Edison Representative must request approval from the Operating Unit (their OU) OU Director. Upon OU Director approval, the Edison Representative must submit the plan to Edison Safety for review and approval by submits the Director of Edison Safety.

Conditional Contractors conducting Safety Tier 1 work for more than one OU must have Conditional Contractor Plans approved for each line of work. Approval of Conditional Contractor Plans will be for one calendar year. Prior to expiration, the Edison Representative must ensure that the Contractor has updated their Conditional Contractor Plan prior to submitting the updated Conditional Contractor Plan for approval. Edison Representatives or Delegates must ensure Conditional Contractors:

- **a.** Conduct at least one field safety observation of each crew conducting work for SCE per month
- **b.** Submit quarterly reports to SCE by the 15th of the month after the end of a quarter using the Conditional Contractor Quarterly Report Form

3.2 Additional Contractor Requirements

3.2.1 Use of Subcontractors

Prime Contractors are responsible for their Subcontractors' work performance at all times when carrying out work for SCE. Safety Tier 1 Subcontractors must undergo the same qualification process as Safety Tier 1 Prime Contractors and achieve Qualified Contractor or Conditional Contractor status prior to conducting Safety Tier 1 work, regardless of the work duration. Edison Representatives must ensure:

- **a.** Safety Tier 1 Prime Contractors notify SCE of their intention to use Safety Tier 1 Subcontractors. Notification shall occur prior to commencement of Tier 1 work by a Subcontractor during the, which must be documented in the SCE as part of the Hazard Assessment and Safety Plan Form in the SCE EHS Handbook for Contractors. Orientation process (Refer to Section 3.3.1 for details). Failure to notify the Edison Representative of the use of a Subcontractor could result in the immediate dismissal of the Prime Contractor from a project.
- **b.** Prime Contractors use only Qualified or Conditional Subcontractors to conduct Safety Tier 1 work.
- **c.** Prime Contractors register their use of Tier 1 Subcontractors in the TPA system (ISN SubTracker)

3.2.2 Onsite Supervisor Requirement

Safety Tier 1 Contractors must provide a Competent Person who is responsible for the general work area for Safety Tier 1 work at any job site involving more than one worker. This person must ensure:

- **a.** rules/policies pertaining to the job are followed;
- **b.** safe work practices are utilized and;
- **c.** risks and hazards associated with the job are identified, discussed, and mitigated prior to commencing work

While the Competent Person is expected to identify and correct any unsafe work practices or other performance deficiencies which may occur, Contractor employees are not required to be in the line of sight of supervisors at all times. During the Contractor Orientation process, the Edison Representative or Delegate must review this requirement with the Contractor, who must verify this requirement will be met. During Field Safety Observations, the Edison Representative must verify compliance with this requirement.

3.2.3 Safety Professional Requirement

Safety Tier 1 Contractors must provide a dedicated competent Safety Professional when the number of their Contractor employees conducting Safety Tier 1 work for SCE exceeds 50 personnel across SCE's service territory. For larger scopes of work, the Edison Representative and Edison Safety must determine the appropriate number of additional Safety Professionals based on the scope, hazards, and the Contractor's approach to managing their safety program.

Additionally, when Safety Tier 1 projects exceed 50 employees at one general location, Contractors must provide a dedicated onsite Safety Professional to support the work. For larger Safety Tier 1 projects involving 100 or more Contractor employees, the Edison Representative and Edison Safety must determine the appropriate number of additional Safety Professionals required to support the project based on the tasks performed and the associated risks identified through the Contractor Orientation process.

The Edison Representative and Edison Safety reserve the right to require one or more Safety Professional(s) for work scopes and projects with less than 50 personnel.

3.2.4 New Employee Supervision and Training Requirement

During the Contractor Orientation, the Edison Representative or Delegate must verify that the Contractor has a plan to train and must provide additional supervisory oversight for newly hired workers conducting Safety Tier 1 work during their first 6 months of employment and for workers during the first 6 months following assignment to a new role (e.g. newly promoted lineman, supervisor, etc.). This plan must include an orientation training and periodic ongoing formal training in relevant topics for all employees.

3.2.5 Safety Observation Program Requirement

By June 30, 2019, all Safety Tier 1 Contractors who have worked or plan to work at least 25,000 hours/year for SCE must implement a Safety Observation Program. The program must be designed for the Contractor to conduct regular field observations of their employees conducting SCE work. Contractors must develop and implement processes for their leadership to review their observation data and address adverse conditions/observation trends. The program must include the ability to electronically track and trend observation data. These data must be maintained and made available in electronic format to SCE upon request, including: the number of observers and observations, observation details, corrective actions taken, top safe behaviors, and top at-risk behaviors. The Edison Representatives or Delegates must verify Contractors meet this requirement during the Contractor Orientation process.

3.2.6 Tailboard Requirement

Prior to the start of work, Contractors must conduct a Tailboard meeting. A Tailboard means, Tailboard conference, pre-job briefing, tailgate meeting, job procedure discussion, or talking the job over before starting to work to ensure all supervisors and members of each crew involved thoroughly

understand the job to be performed and the method of accomplishing it safely. Before the start of each job, after lunch or other breaks, and if the scope of the job changes, every crew leader must ensure all involved personnel come together and outline the proper work procedure to be followed in such a manner that each Contractor employee understands:

- **a.** Detailed work plan
- **b.** Critical steps of the job
- **c.** His/her role and responsibilities
- **d.** Other employees' roles and responsibilities
- **e.** Hazards and associated mitigation measures to complete the work safely, including specific identification of any task/activity that has potential for a serious injury or fatality
- **f.** Required personal protective equipment
- **g.** Emergency action plan
- **h.** His/her responsibility to Stop Work should conditions become unsafe

At worksites with more than one worker, the Tailboard discussion must be documented in a written Tailboard form that is signed by all workers onsite and posted at the work location. Visitors, before entering the work site, and new workers, prior to the start of their work, must be briefed by Contractors on the content of the Tailboard to make them aware of the hazards and mitigations associated with the work. Edison Representatives or Delegates must verify the Tailboard Requirement is met during Field Safety Observations (Refer to Section 3.4.1 for details).

3.3 Contractor Orientation

3.3.1 Safety Tier 1 Orientation

Prior to Safety Tier 1 Prime Contractor's start of work, the Edison Representative or Delegate must ensure a Contractor Orientation is performed in collaboration with the Prime Contractor by ensuring the development/review of the following:

- **a.** SCE Contractor Hazard Assessment and Safety Plan
- **b.** SCE Contractor Handbook and Orientation Checklist

For each scope of a work or source contract, an Orientation must be conducted. Prime Contractor Representatives and the Edison Representative must work together to ensure these documents are completed and signed by the Edison Representative, the Prime Contractor Representative and all Subcontractors' Representatives prior to the start of work.

The Prime Contractor Representative must conduct a Contractor Orientation for their crews including Subcontractors, and any new employees/Subcontractors that begin work on the project after the original Contractor Orientation. A signed copy of the SCE Contractor Hazard Assessment and Safety Plan and the SCE Contractor Handbook and Orientation Checklist must be retained by all crews while conducting Safety Tier 1 work for SCE. Additionally, for each scope of work, the Edison Representative must ensure the Prime Contractor Representative uploads copies of the completed/signed SCE Contractor Hazard Assessment and Safety Plan and the SCE Contractor Handbook and Orientation Checklist into the TPA system within 10 business days of the Contractor Orientation.

3.3.2 Safety Tier 2 Orientation

Prior to a Safety Tier 2 Prime Contractor's start of work, the Edison Representative or Delegate must ensure a Contractor Orientation is performed in collaboration with the Prime Contractor by ensuring the development/review of the SCE Contractor Handbook and Orientation Checklist.

Prime Contractor Representatives and Edison Representative must work together to ensure this document is completed and signed by the Edison Representative, the Prime Contractor Representative, and all Subcontractors' Representatives prior to the start of work. The Prime Contractor Representative must conduct a Contractor Orientation for their crews including Subcontractors, and any new employees/Subcontractors that begin work on the project after conducting the original Contractor Orientation. The Prime Contractor must maintain a signed copy of the SCE Contractor Handbook and Orientation Checklist at the Contractor's office or job site.

3.3.3 SCE Contractor Hazard Assessment and Safety Plan

For all scopes of Safety Tier 1 work, including Source Contracts, the Edison Representative must initiate an SCE Contractor Hazard Assessment and Safety Plan and ensure that it is provided in the request for proposal (RFP) so the hazards associated with the work are clear to the bidders prior to the award of contract. 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 when the RFP is issued.

Upon award of work, successful Prime Contractors must update the SCE Contractor Hazard Assessment and Safety Plan and submit it to the Edison Representative for review. The Contractor Representative and Edison Representative must both sign the SCESCE Contractor Hazard Assessment and Safety Plan. The Contractor Representative and Edison Representative must review the SCE Contractor Hazard Assessment and Safety Plan and update (and re-sign) the plan annually planannually or as needed. Examples of changes that require updates to the plan include:

- **a.** introducing new work activities
- **b.** change in key personnel or
- **c.** change in subcontractors

For Source Prime Contractors, a single SCE Contractor Hazard Assessment and Safety Plan may be used for multiple regions/purchase orders if:

- **d.** the plan applies to the work scope being performed
- **e.** associated hazards/mitigations are the same and
- **f.** key personnel remain consistent

If any elements of the SCE Contractor Hazard Assessment and Safety Plan change, updates must be made by the Prime Contractor, reviewed, and signed by both the Prime Contractor Representative and Edison Representative. The Prime Contractor must then upload the updated SCE Contractor Hazard Assessment and Safety Plan into the TPA system.

3.3.4 SCE Contractor Handbook and Orientation Checklist

During the Orientation process, Safety Tier 1 and Tier 2 Edison Representatives or Delegates must review the SCE Contractor Handbook and Orientation Checklist with the Prime Contractor Representative covering requirements in the EHS Handbook for Contractors. The checklist review will provide opportunities for questions and dialogue regarding expectations of Contractors performing work for SCE. The Edison Representative or Delegate must ensure the SCE Contractor Handbook and Orientation Checklist is signed by the Prime Contractor Representative and Subcontractor Representatives. The Edison Representative must sign the Checklist after conducting Contractor Orientation.

3.4 Field Monitoring

3.4.1 Field Safety Observations

The Edison Representative or Delegate must perform Field Safety Observations for Safety Tier 1 Contractors to confirm that work is carried out safely. The SCE Contractor Hazard Assessment and Safety Plan should be referenced to review the risks and hazards associated with the work and guide appropriate safety behaviors based on work being performed. Delegates conducting observations may be SCE employees or Supplemental Workers. The Edison Representative must ensure each Delegate is knowledgeable of the Contractor's work scope and hazards/mitigation measures associated with the work. The Edison Representative or Delegate performing the observation must document their findings in the SCE Safety Observation Tool within five (5) business days of completion.

3.4.1.1 Frequency

The Edison Representative must ensure Field Safety Observations are completed at least once per month for all active Qualified Safety Tier 1 Contractors per scope of work.

Observations must be performed at least twice monthly for Conditional Contractors or when one or more of the following high-risk criteria are present:

- **a.** When a Contractor is new to SCE or is performing a type of work at SCE for the first time
- **b.** After an Actual or Potential Life Threatening/Life Altering incident
- **c.** After a regulatory visit that resulted in a safety violation

The twice monthly Field Safety Observations must be performed for at least 6 months. If additional Actual or Potential Life Threatening/Life Altering incidents or safety violations occur during this period, twice monthly observations must be continued for an additional 6 months.

No observations are required if Contractors are not actively working for SCE. For Contractors intermittently working for SCE on a non-consistent basis or conducting short-term work, the Edison Representative or Delegate must consult with Edison Safety on the appropriate frequency of observation. Edison Representatives or Delegates must share observation results with contractors and reinforce the Contractor's responsibility to ensure corrective actions are taken to correct at-risk observations.

3.4.1.2 At-Risk Observations

Unmitigated hazards must be addressed immediately, and Stop Work shall be invoked if an imminent risk to workers or the public is present. The Edison Representative or Delegate must immediately communicate safety concerns to the Contractor and establish a timeline for compliance with the terms and conditions of the contract when necessary. If the Contractor does not remedy the situation to SCE's satisfaction, the Edison Representative, Edison Safety, OU leadership, and Supply Management must determine whether the contract should be suspended or terminated, per the Safety Performance Policy.

3.4.1.3 Multiple At-Risk Observations/Safety Issues

If a Contractor has multiple at-risk observations or safety issues, a review team consisting of Edison Safety, Supply Management, and the OU can be formed to review the observations/issues and to determine appropriate actions including placing the Contractor on Conditional Status or suspending/terminating the Contractor per the Safety Performance Policy. The review can be initiated by Edison Safety, Supply Management or the OU.

3.4.2 Contractor Safety Quality Assurance Review

Edison Safety shall direct Contractor Safety Quality Assurance Reviews (CSQARs) to be performed on a sampling of Safety Tier 1 Contractors. A CSQAR is an onsite and detailed assessment of the Contractor's safety program implementation and field performance. The process includes a desktop review, field observations and leadership engagement. Any observed unmitigated hazards must be addressed immediately and escalated if necessary. Safety concerns or issues identified must be documented and communicated to the Contractor and the Edison Representative with an action plan for compliance and mitigation of any concerns or issues. Each year the number of CSQARs to be performed that year will be determined by the Director of Edison Safety. Contractors conducting higher-risk work, having higher worker hours, and experiencing recent safety performance issues (e.g. Conditional Contractors) are prioritized to undergo a CSQAR. Edison Safety maintains all documentation associated with performing CSQARs.

3.5 Contractor Safety Forums

OUs with active Safety Tier 1 Contractors must ensure Contractor Safety Forums with SCE personnel and active Safety Tier 1 Contractors are held at least once per year and must maintain documentation (e.g. attendance sheets, agendas) of each forum. The purpose of the forums is to discuss relevant safety issues and maintain open lines of communication to ensure mutual safe work efforts. The OUs must organize the forums, with OU Directors or Principal Managers facilitating the discussion, which must cover, at minimum:

- **a.** Best practices and industry challenges
- **b.** Contractor safety expectations and requirements, including the reinforcement of roles and responsibilities pertaining to this standard

c. Lessons learned from incidents

3.6 Incident Management

3.6.1 Incident Reporting

The Edison Representative must ensure all Contractor safety incidents are reported and evaluated as stipulated in the EHS Handbook for Contractors including all injuries (including low-level incidents such as those that require first aid and sprains and strains), crew-caused circuit interruptions, close calls, and property damage incidents.

3.6.2 Contractor Significant Safety Event Communication

OU leadership will determine whether a Contractor incident is a Significant Safety Event that should be shared with SCE employees and Contractors. Within two business days of a Contractor Significant Safety Event, the OU distributes an internal communication to its employees with preliminary details and key takeaways. As soon as possible but within two business days of the OU communication, Edison Safety must email this information to Safety Tier 1 Contractors expecting Contractors will share it with their personnel to prevent the same incident/injury from repeating.

3.6.3 Monthly Safety Data Reporting

The Edison Representative or Delegate must ensure Safety Tier 1 Prime Contractors report summary safety data for the previous month into the TPA system (ISN Site Tracker) by 15th of the month as stipulated in the EHS Handbook for Contractors. Data required to be submitted includes, but is not limited to:

- **a.** hours worked and
- **b.** number of OSHA Recordable and DART incidents for both Prime Contractors and their Subcontractors while working on SCE projects

Contractors must maintain appropriate systems to meet the Monthly Safety Data Reporting requirements. Should an incident be classified as an OSHA Recordable or DART injury after a Contractor initially reports the incident as non-recordable, the Contractor must update the injury classification in the TPA monthly safety data reporting system within 3 business days. Additionally, Contractors must provide additional information on reported hours and incident requested by SCE to conduct quality assurance audits on the reported data. Failure to meet Monthly Safety Data Reporting requirements will result in TPA grade penalties and could result in suspension or termination of a contract per SCE's Safety Performance Policy.

3.6.4 Fatality and Actual or Potential Life-Threating/Life-Altering Incident Review

3.6.4.1 Incident Review Team

Following a fatality or Actual Life Threatening/Life Altering (LT/LA) incident, the OU must convene an Incident Review Team with leadership from the OU, Supply Management, and Edison Safety to:

- **a.** review the incident
- **b.** review the Contractor's response to the incident (e.g. cause evaluation, corrective actions, etc.) and the Contractor's general safety performance and
- **c.** determine appropriate actions including immediate assignment of Conditional Contractor Status, conducting a CSQAR or potentially off-boarding the Contractor

Based on the details of each incident, Edison Safety may require an Incident Review Team be formed to review Potential LT/LA incidents. The Incident Review Team must include the following participants:

- **d.** <u>For an incident involving a fatality:</u> Directors from the OU, Supply Management, and Edison Safety along with representatives from these groups
- **e.** <u>Actual and select Potential LT/LA Incidents</u>: Principal or senior managers from the OU, Supply Management, and Edison Safety along with representatives from these groups

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

- **f.** Initial Incident Review Call: Within 24 hours of a Contractor fatality or two business days of incident classification as an Actual LT/LA incident (and selected Potential LT/LA incidents), the OU must hold an Initial Incident Review call
- **g.** Five-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
- **h.** 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
- **i.** 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

3.6.4.2 Contractor Management Review Committee

Edison Safety convenes a Contractor Management Review Committee (MRC) to review the cause evaluation provide Contractor reports associated with Actual and select Potential LT/LA incidents. The intent of the review is to ensure that the cause evaluations adequately identify, analyze, and resolve physical and behavioral conditions that led to the incident. These may 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 OU. A Contractor Representative may be requested to attend.

Contractors are expected to address all feedback from the Contractor MRC. The Edison 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.

3.7 Training

The Contractor Safety Management Standard computer based training (CBT) is required training for Edison Representatives and employees identified by OU leadership as having responsibilities related to Contractor safety. Edison Representatives, who are new to the role or functioning in a temporary capacity managing Safety Tier 1 contracts, must take the Contractor Safety Management Standard CBT course within 30 calendar days of their placement date. After initial implementation of this standard, Edison Representatives who manage Safety Tier 1 contracts and Supply Management staff must be trained to this standard on a biennial basis in conjunction with the Principles of Contract Management CBT schedule.

3.8 Recordkeeping

All Contractor Safety Management records must be kept in accordance with the SCE's Record Retention Schedule.

The TPA retains the following:

- **a.** Contractor safety performance and program data and information
- **b.** Contractor grade and classification information
- **c.** Conditional Contractor Plans
- **d.** Signed copies of Contractor Orientation Forms for Safety Tier 1 Prime Contractors

Supply Management retains documentation and approval from Expedited Safety Reviews.

Edison Safety retains documentation associated with CSQARs and the MRC.

Edison Representatives retain the following documents in the project records in accordance with existing contract documentation requirements:

e. Signed copies of the Contractor Orientation Forms
f. Conditional Contractor Plans
g. Expedited Safety Reviews

4.0 ROLES AND RESPONSIBILITIES

The Roles and Responsibilities Section supplements this standard and the processes described above in Section 3.0 by providing a list of responsibilities by Contractor safety management function. It is not intended to be referenced in place of the standard processes detailed above.

4.1 OU Leadership

- Ensures the requirements of this standard are fully implemented in their OU
- (OU Director) Approves/denies Conditional Contractor Plans
- (OU Director) Initiates contact with the Supply Management Director to initiate the Expedited Safety Review procedure, if necessary
- (OU Director and OU VP) Collaborates with Edison Safety Director and VP over Edison Safety to review and approve/deny requests for Expedited Safety Review SCE Contractor and Safety Plan is developed
- Ensures that the Contractor Orientation for Safety Tier 1 Contractors and Field Monitoring requirements described in the Contractor Safety Management Standard are carried out following the approval of an Expedited Safety Review
- Ensures at least one forum for Safety Tier 1 Contractors is held annually and leads the discussion
- Identifies OU employees who have responsibilities related to Contractor safety that are required to take the Contractor Safety Management Standard CBT
- Provides necessary support to Edison Representatives to successfully carry out their roles and responsibilities as described in this standard
- Participates in a team to review and assess Contractors having multiple at-risk observations or safety issues
- Participates in SCE cause evaluations of Contractor incidents and the Management Review Team as needed to review and provide feedback on Contractor cause evaluation reports
- Distributes an internal communication to its employees with details on Contractor Significant Safety Events and lessons learned within 2 business days of the incident
- Convenes an Incident Review Team with leadership from the OU, Supply Management and Edison Safety 1) to review Actual and Potential LT/LA incidents, the Contractor's response to the incident (e.g. cause evaluation, corrective actions, etc.) and the Contractor's general safety performance and 2) to determine appropriate actions including potentially off-boarding the Contractor

4.2 Edison Representatives of Safety Tier 1 Contractors

Qualification Requirements for Safety Tier 1 Contractors/Subcontractors

- Identify Tier level of work to be performed on the initial purchase requisition
- Ensure that an SCE Contractor Hazard Assessment and Safety Plan of Safety Tier 1 project work is initiated and included in the request for proposal (RFP) so the hazards associated with the work known to SCE at the time the RFP is issued are clear to the bidders
- Ensure Safety Tier 1 Contractors establish an account with SCE's TPA and furnish all necessary information to meet safety qualification requirements prior to conducting Safety Tier 1 work
- Ensure Safety Tier 1 Prime Contractors notify SCE of their intention to use Safety Tier 1 Subcontractors
- Ensure Prime Contractors utilize only Qualified or Conditional Subcontractors to conduct Safety Tier 1 work
- Ensure Prime Contractors register their use of Safety Tier 1 Subcontractors in the TPA system (ISN SubTracker)
- Ensure Safety Tier 1 Contractors with TPA C grades develop Conditional Contractor Plans and collaborate with Supply Management and Edison Safety to receive approval of the plans from the OU Director and the Edison Safety Director
- Review and approve Contractor TPA program review exemption requests in conjunction with the Edison Safety

- Collaborate with the Contractor Representative, during an Expedited Safety Review, to develop an SCE Contractor Hazard Assessment and Safety Plan to identify and ensure mitigation of the hazards associated with the work to be performed
- Ensure that they, or a Delegate are onsite at all times while the work is being performed, following an Expedited Safety Review, to ensure rules/policies pertaining to the job are followed, safe work practices are utilized, and that risks and hazards associated with the job are identified, discussed, and mitigated prior to commencing work
- Ensure Conditional Contractors conduct a minimum of 1 field safety observation of each crew conducting work for SCE per month and submit quarterly reports to SCE on progress implementing the plan, the number of safety observations, safety team meetings and safety stand-downs conducted with their employees conducting SCE work

Contractor Orientation for Safety Tier 1 Contractors

- Ensure a Contractor Orientation is performed prior to the start of work on a project by a Safety Tier 1 Contractor
- Ensure that an SCE Contractor Hazard Assessment and Safety Plan of the Safety Tier 1 project work is completed and conduct an annual review of the SCE Contractor Hazard Assessment and Safety Plan
- Ensure a review of the SCE Contractor Handbook and Orientation Checklist is completed
- Ensure that Contractors identify whether a Tier 1 Subcontractor will be needed to complete a project during the orientation process
- Ensure the Onsite Supervisor Requirement is reviewed with the Safety Tier 1 Contractor during the orientation process
- Ensure that the Safety Professional Requirement is reviewed with the Safety Tier 1 Contractor Representative during the orientation process and monitored for compliance during Field Safety Observations
- Ensure the SCE Contractor Hazard Assessment and Safety Plan, and the SCE Contractor Handbook and Orientation Checklist are archived in project records
- Ensure Safety Tier 1 Contractor uploads copies of the completed/signed SCE Contractor Hazard Assessment and Safety Plan and the SCE Contractor Handbook and Orientation Checklist into the TPA system within 10 business days of the Contractor Orientation

Contractor Orientation for Safety Tier 2 Contractors

- Ensure a Contractor Orientation is performed prior to the start of work on a project by a Safety Tier 2 Contractor
- Ensure the Prime Contractor conducts a Contractor Orientation for their crews including Subcontractors, as well as any new employees/Subcontractors that begin work on the project subsequent to the original Contractor Orientation.
- Ensure the development/review of the SCE Contractor Handbook and Orientation Checklist

Field Monitoring

- Ensure that Field Safety Observations are performed for Safety Tier 1 Contractors following the frequency stipulated in Section 3.4.1.1
- Ensure that Field Safety Observations are documented and submitted within five business days of completion in the SCESCESCE Safety Observation Tool
- Ensure that during Field Safety Observations, safety concerns are communicated to the Contractor Representative and addressed or escalated as needed
- Share Field Safety Observation results with Contractors and reinforce the Contractor's responsibility to ensure corrective actions are taken to correct at-risk observations

Incident Reporting and Cause Evaluation Requirements

- Ensure that Contractor safety incidents are submitted as well as any additionally required documentation as stipulated in the EHS Handbook for Contractors
- Ensure Safety Tier 1 Prime Contractors report summary safety data for the previous month into the TPA system (ISN Site Tracker) by 15th of the month as stipulated in the EHS Handbook for Contractors

Training

- Complete the Contractor Safety Management Standard CBT on a biennial basis in conjunction with the Principles of Contract Management CBT schedule
- Complete the Contractor Safety Management Standard CBT within 30 days of hire date when Edison Representatives are new to the role or assigned a temporary role

Recordkeeping

- Retain documents in the project records in accordance with Section 3.8 of this standard and with existing contract documentation requirements

4.3 Safety Tier 1 Contractors

Qualification Requirements for Safety Tier 1 Contractors/Subcontractors

- Establish an account with SCE's TPA (ISN) and furnish all necessary information to meet safety qualification requirements prior to conducting Safety Tier 1 work
- Develop a safety improvement plan in collaboration with the Edison Representative using Conditional Contractor Plan form found in SCE's EHS Handbook for Contractors when receiving a TPA grade of C and obtain SCE approval of the plan
- Comply with all applicable local, state, and federal regulations as well as any additional requirements stipulated by SCE such as those in SCE's safety standards and programs
- Ensure aa Contractor Safety Professional is onsite at all times while the work is being performed, following an Expedited Safety Review, to ensure rules/policies pertaining to the job are followed, safe work practices are utilized, and that risks and hazards associated with the job are identified, discussed, and mitigated prior to commencing work
- Submit necessary items to TPA for review and achieve Qualified Contractor or Conditional status as soon as possible but no later than 30 calendar days of grade change if the TPA grade of Contractor changes to a C or an F due to expired programs, expired program exemption requests, expired Conditional Contractor Plans, or non-submission of expired performance data such as EMR
- Develop and submit to the Edison Representative an acceptable Conditional Contractor Plan so that it may be approved as soon as possible but no later than 30 calendar days of a grade change to "C" due to safety performance
- Implement a Safety Observation Program (with the ability to track and trend observation data) by June 30, 2019

Contractor Orientation for Safety Tier 1 Contractors

- (Prime Contractors) Conduct a Contractor Orientation for their employees and any Subcontractors at the start of a project and for other employees and Subcontractors that begin work on the project subsequent to the original Contractor Orientation
- (Contractor Representatives) Collaborate with Edison Representatives to develop an SCE Contractor Hazard Assessment and Safety Plan to identify and ensure mitigation of the hazards associated with the work to be performed
- (Source Contractors) Develop and submit an SCE Contractor Hazard Assessment and Safety Plan for Source Contractors at the start of the contract, and review and update the SCE Contractor Hazard Assessment and Safety Plan annually as needed.
- Upload copies of the completed/signed SCE Contractor Hazard Assessment and Safety Plan, The SCE Contractor Handbook and The SCE Contractor Handbook and Orientation Checklist into the TPA system within 10 business days of the Contractor Orientation
- Upload the updated SCE Contractor Hazard Assessment and Safety Plan in the TPA system after the annual review for Source Contractors
- Provide management and supervisory oversight of Contractor employees
- Provide safety oversight of the work being performed
- (Prime Contractors) Ensure a signed copy of the SCE Contractor Hazard Assessment and Safety Plan and the SCE Contractor Handbook and Orientation Checklist is retained by all crews while conducting Safety Tier 1 work for SCE

- Provide notice to the Edison Representative of intention to use a Subcontractor prior to commencement of work by the Subcontractor
- Register their use of Subcontractors in the TPA system (ISN SubTracker)
- Utilize only Qualified or Conditional Subcontractors to conduct Safety Tier 1 work
- Ensure the Onsite Supervisor Requirement that Safety Tier 1 Contractors provide an onsite supervisor/person responsible for all Safety Tier 1 work is met
- Provide a dedicated, competent Safety Professional when the number of their Contractor employees conducting Safety Tier 1 work for SCE exceeds 50 personnel
- Ensure that where Safety Tier 1 projects exceed 50 employees at one general work location, a dedicated Safety Professional is maintained in support of the work and that collaboration with the Edison Representative occurs to determine the number of Safety Professionals needed to support Safety Tier 1 projects exceeding 100 employees
- Ensure development and implementation of a plan to provide additional supervisory oversight for newly hired workers during their first 6 months of employment and for workers during the first 6 months following assignment to a new role (e.g. newly promoted lineman, supervisor, etc.).
- Develop and maintain a formal training program which at a minimum includes orientation training for newly hired employees and periodic continuing training in relevant topics for all employees.
- Conduct Tailboard meetings with all workers at job sites

Field Monitoring

- Take action to mitigate any hazards, risks, or safety concerns identified and communicated by SCE during Field Safety Observations or by any other method to ensure safe work practices of the Contractor
- Collaborate with SCE personnel by providing requested documentation and answering relevant questions during CSQARs
- (Conditional Contractors) Conduct at least one field safety observation of each crew conducting Safety Tier 1 work for SCE per month
- (Conditional Contractors) Submit quarterly reports to SCE by the 15th of the month after the end of a quarter using the Conditional Contractor Quarterly Report Form

Contractor Safety Forums

- Attend and participate in Contractor Safety Forums as directed and organized by OU leadership

Incident Reporting and Cause Evaluation Requirements

- Ensure that Contractor safety incidents are reported and evaluated as well as complete additionally required documentation as stipulated in the EHS Handbook for Contractors or by SCE
- Report summary safety data for the previous month into the TPA system (ISN Site Tracker) by 15th of the month
- Address all feedback on Contractor incident cause evaluations from the Contractor MRC

4.4 Edison Safety – Contractor Safety Management

- Governs and maintains the Contractor Safety Management Standard and oversees its implementation
- Governs and maintains the EHS Handbook for Contractors, job aids, and other documents associated with this standard
- Serves as Edison Representative for the TPA
- (Edison Safety Director) Approves/denies Conditional Contractor plans
- Provides expertise in the event of an Expedited Safety Review
- (Edison Safety Director and VP over Edison Safety) Collaborate with OU Director and OU VP to review and approve/deny requests for Expedited Safety Reviews and the associated Hazard Assessment and Safety Plan
- Provides assistance to Edison Representatives in determining Tier level of work that the Contractor will perform that is to be included on the initial purchase requisition
- Provides assistance as needed to Edison Representatives in identifying safety requirements pertaining to the scope of work that are above and beyond California OSHA, Federal OSHA, and other regulatory requirements that are to be included on the initial purchase requisition for Safety Tier 1 Contractors

- Ensures that CSQARs are performed
- Maintains documentation associated with the performance of CSQARs
- Reviews and approves Contractor TPA program review exemption requests in conjunction with the Edison Representative
- Reviews this standard and its components at least once every three years per the program review schedule and updates this standard as necessary
- Participates in a team to review and assess Contractors having multiple at-risk observations or safety issues
- Distributes an email communication to Safety Tier 1 Contractors with details and lessons learned from Contractor Significant Safety Events within 2 business days of OU communication
- Participates in a team to review and assess Contractors having multiple at-risk observations or safety issues
- Participates in the Management Review Committee and reviews and provides feedback on Contractor performed cause evaluations
- Participates in Incident Review Team 1) to review Actual and Potential LT/LA incidents, the Contractor's response to the incident (e.g. cause evaluation, corrective actions, etc.) and the Contractor's general safety performance and 2) to determine appropriate actions including potentially off-boarding the Contractor

4.5 Supply Management

- Provides oversight of Contractor safety performance data and information collected for and in collaboration with the TPA
- Provides oversight of the Contractor qualification and classification processes
- Works with the Edison Representatives to ensure Contractors are compliant with TPA requirements.
- Oversees the collaboration with the Edison Representative and Contractor Representative to develop a Conditional Contractor Plan for Contractors with a TPA C grade
- Assists the OU in carrying out the Safety Performance Policy, when necessary
- (Supply Management Director) Works with the OU to carry out the Expedited Safety Review procedure
- Maintains documentation and approval from Expedited Safety Reviews
- Participates in a team to review and assess Contractors having multiple at-risk observations or safety issues
- Participates in Incident Review Team 1) to review Actual and Potential LT/LA incidents, the Contractor's response to the incident (e.g. cause evaluation, corrective actions, etc.) and the Contractor's general safety performance and 2) to determine appropriate actions including potentially off-boarding the Contractor
- Administer Contractor monthly safety data reporting processes in the TPA system (ISN Site Tracker)

4.6 Third Party Administrator (TPA)

- Collects relevant Safety Tier 1 Contractor safety data and programs
- Reviews Safety Tier 1 Contractor safety data and programs and grades the Contractor based on the review
- Maintains the Safety Tier 1 Contractor qualification information
- Monitors the Safety Tier 1 Contractor classifications on an ongoing basis and communicates changes to SCE and the Contractor
- Provides results of the review to Contractor
- Retains Contractor safety performance and program data and information
- Retains Contractor classification information
- Retains Conditional Contractor Plans

5.0 DEFINITIONS

Definitions of important terms used in this Standard are listed below. These terms are capitalized in this standard.

Actual and Potential LT/LA Incidents: Incidents including any one of the following incident types:

- Actual Life Threatening (LT) - Requires immediate life-preserving rescue action that, if not applied, would likely result in the death of the person, and will usually require external emergency response to provide life-sustaining support. Includes fatalities.
- Actual Life Altering (LA) - Results in a permanent and significant loss of a major body part or organ function; permanent changes, long-term impairment or disability to normal life activity.
- Potential LT or LA- Had circumstances been different by one or two factors there is a high probability the outcome could have become a Life Threatening or Life Altering incident.

Competent Person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them (as defined by CalOSHA Section 1504-(a)).

Contractor: The party entering into a contract to perform work for SCE. This term also includes the Contractor's agent, person, or persons authorized to represent the Contractor, such as the Contractor's superintendent or foreman. For this standard, the term “Contractor” is used to denote both Prime Contractors and Subcontractors unless otherwise stated. Additionally, the term “Contractor” excludes other types of Supplemental Workers such as Contingent Workers, Consultants, and Professional Services.

Conditional Contractors: Safety Tier 1 Contractors who, following safety performance and program review by the TPA, exhibit areas in their historic safety performance that meet SCE and/or industry standard and may have scored low in safety culture but are qualified to perform work at SCE with the condition that additional mitigation procedures contained in a Conditional Contractor Plan are in place to correct previously identified deficiencies.

Contractor Representative: The Contractor employee named in the contract or appointed by the Contractor to act on behalf of the Contractor.

Delegate (of Edison Representative): An Edison employee or Supplemental Worker designated by the Edison Representative who is familiar with the contract work being performed and trained to act as an SCE point of contact for the contracted work.

Edison Representative: An SCE employee responsible for managing the work performed under a contract. The Edison Representative may designate a trained SCE point of contact as a Delegate Edison Representative who is familiar with the contract work being performed.

Job Hazard Analysis (JHA): A process-based document that identifies the critical steps of commonly performed tasks. In evaluating these steps, the potential hazards and recommended hazard mitigation are identified. Note: The JHA is different from the Tailboard.

Qualified Contractors: Safety Tier 1 Contractors who, following safety performance and program review by the TPA, meet or exceed SCE established standards for safety performance and programs and are approved to perform Safety Tier 1 work at SCE.

Prime Contractor: The Contractor who has a contract with SCE for a scope of work/project and has the full responsibility for its completion. A Prime Contractor may employ and manage one or more Subcontractors to carry out specific parts of the contract.

Safety Professional: A certified safety employee whose responsibility is solely that of ensuring safe work practices and compliance with safety and health regulations.

Significant Safety Event: An incident determined by the OU that should be communicated to its employees for lessons learned and can be any one of the following:

- Actual Life Threatening (LT), Requires immediate life-preserving rescue action that, if not applied, would likely result in the death of the person, and will usually require external emergency response to provide life-sustaining support
- Actual Life Altering (LA), Results in a permanent and significant loss of a major body part or organ function; permanent changes, long-term impairment or disability to normal life activity
- Potential LT or LA, Had circumstances been different by one or two factors there is a high probability the outcome could have become a Life Threatening or Life Altering incident

Source Contractor: A contractor who performs repetitive project work under an agreement that lasts for an extended period of time.

Stop Work - The principle that all employees and Contractors take personal responsibility to Stop Work when they observe hazardous conditions or unsafe actions so that the unsafe conditions/actions can be mitigated.

Subcontractors: A business or person hired by a Contractor to carry out specific parts of a contract for SCE as part of a larger project.

Supplemental Workers: Refer to the Supplemental Workers Policy for the definition.

Tailboard: A conference, pre-job briefing, tailgate meeting, job procedure discussion, or talking the job over before starting to work to ensure all supervisors and members of each crew involved thoroughly understand the job to be performed and the method of accomplishing it in a safe manner. Note: The Tailboard is different from the JHA.

Third Party Administrator (TPA): A professional service provider contracted by SCE to evaluate contractor safety performance and programs on behalf of SCE.

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.

Safety Tier 2: A designation assigned to contracted work activities that are lower risk or routine in nature and not typically considered hazardous.

Unqualified Contractors: A Safety Tier 1 Contractor who, following safety performance and program review by the TPA, does not meet SCE and/or industry standards for safety performance and/or safety programs and cannot perform work at SCE. Unqualified Contractors include those with a TPA grade of F and those with a grade of C without an SCE-approved Conditional Contractor Plan.

6.0 REFERENCES

External References

None

Internal References

EHS Handbook for Contractors
Use of Company-Owned, Contracted, and Chartered Aircraft Policy
SCE Safety Incident Management Standard
SCE Cause Evaluation Standard

7.0 KEY CONTACTS

Edison Health and Safety: Chris Coker or ContractorSafety@sce.com



Appendix A: Tier Classification

The purpose of this Appendix is to provide guidance on the Tier Classification of contract work to be performed, as compliance with this standard requires differentiating whether contracted work should be classified as Safety Tier 1 or Tier 2.

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.

Safety Tier 2 – A designation assigned to contracted work activities that are lower risk or routine in nature and not typically considered hazardous.

If the contractual work includes of any of the following, it is considered **Safety Tier 1**:

- Operations above 6 feet that require the use of fall protection system(s)
- Welding and cutting operations
- Electrical work and work involving installation, operation, or maintenance of an electrical system circuit, or line, with the exception of changing light bulbs and equipment that can be serviced while unplugged
- Work requiring hazardous energy control and lockout tag-out procedures
- Work that involves cranes, hoisting, and rigging
- Helicopter operations to perform lifting and hoisting
- Work involving air operations (e.g. aircraft utilized for LiDAR and unmanned drones)
- Work involving operation of heavy equipment
- Tree work including maintenance and removal operations that require the use of aerial lifts
- Confined space activities
- Radiographic testing or any activity that could generate ionizing radiation
- Roofing work
- Demolition work
- Excavation or other work that requires a dig permit
- Work that may require permitting from Cal/OSHA or other regulatory agencies
- Work requiring the use of explosives
- Work that may involve lead-based paint or asbestos-containing materials
- Work involving hazardous material use, transport, or disposal (to include refrigerants)
- Work involving environmental/hazardous material cleanup and decontamination
- Work that requires the installation, operation, or maintenance of the electrical system
- Work covered by the Construction Safety Orders and or Fed OSHA Construction Standards

This list is not all-inclusive. Contact Edison Safety for additional guidance as needed.

Appendix F.
Environmental Health and Safety Handbook for Contractors

SCE	EHS	GN	MN	Doc. No.	1
				Version	8
Effective Date		March 1, 2019			
Supersedes		SCE-EHS-SAFETY-HB-1, Version 7			

Environmental, Health and Safety Handbook for Contractors

Edison Safety

Corporate Handbook

SCE-EHS-SAFETY-HB-1

Approved by: _____ *Date:* 2/14/2019

Dean Yarbrough
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1 INTRODUCTION

To consistently deliver the electricity that powers homes and businesses within our 50,000+ square miles of service territory, Southern California Edison (SCE) relies on qualified employees and Contractors. To that end, SCE is committed to protecting the health and safety of our employees, Contractors, and the public. Our goal is to eliminate serious injuries and fatalities, achieve an injury-free workplace, and protect the environment while performing our operations. To achieve this goal, SCE has developed a comprehensive environmental and health and safety (EHS) management system that includes policies, programs, procedures, and other documents that explain our approach to continuously improve our EHS performance. This Environmental, Health and Safety Handbook for Contractors (EHS Handbook) is an integral part of the EHS management system and may be updated as necessary to mitigate EHS issues.

PURPOSE: This EHS Handbook has been given to you to:

- Provide general guidelines and standards expected for performance of contracted work in a safe manner and with due regard for protecting workers, the public, and the environment.
- Ensure compliance with federal, state, and local EHS requirements.
- Ensure compliance with any additional requirements stipulated by SCE, such as those in SCE's safety standards programs.
- Ensure tasks/activities with potential for serious injuries and fatalities are properly identified and mitigated.

Additional information applicable to contract activities for specific SCE organization units (OUs) and/or site-specific policies and practices may be obtained from the Edison Representative or Delegate. Further, in the event anything contained in this EHS Handbook is inconsistent with or contradicts the Contractor's existing EHS policies, procedures, practices, plans, or other similar documents, the Contractor shall promptly notify and discuss such inconsistencies or contradictions with the Edison Representative and obtain resolution prior to commencement of any work.

In this EHS Handbook, the term "OSHA" refers to either the California Division of Occupational Safety and Health (Cal/OSHA) or the Federal Occupational Safety and Health Administration (OSHA) as applicable. The use of the term "Edison Representative" (see Definitions) is used throughout this EHS Handbook to identify the person identified as such in a purchase order/contract. The term "Contractor" is used to denote both Prime Contractors (The Contractor who has a contract with SCE for a scope of work/project and has the full responsibility for its completion) and Subcontractors (Contractor who has a contract with the Prime Contractor to perform a portion of the work/project) unless otherwise stated.

Nothing in this EHS Handbook is intended to create an employment relationship between SCE and any Prime Contractor or Subcontractor personnel. Prime Contractors and Subcontractors remain solely responsible for any and all employment obligations to their workers, and all such workers are employees only of the entity or person that hired them.

1.1 SCE's Environmental, Health and Safety Policy

The SCE EHS Policy mandates compliance with SCE programs, procedures, and standards, as well as applicable EHS laws and regulations. Contractors are expected to establish similar requirements within their organizations. The policy states:

"Edison International and its subsidiaries (the "Company") are committed to assuring the safety and health of its employees and the public, and protecting the environment. Southern California Edison administers and publishes Environmental, Health and Safety (EHS) programs, procedures, and standards as necessary to implement this policy in compliance with applicable EHS laws and regulations. You are required to comply with the Company's EHS programs, procedures, and standards that apply to your job to assure environmental compliance and the health and safety of one another and members of the public."

1.2 Safety Performance Policy

At its sole discretion, SCE can immediately suspend or terminate a contract and/or suspend or discontinue work of a Contractor due to poor or non-compliant safety performance and/or failure to adhere to SCE's governing policies and procedures, and to applicable regulations.

1.3 Principles of Operation

SCE performs its work based on the following principles of operation:

- We integrate EHS protection and prevention into our work processes.
- We identify and mitigate hazards and unsafe conditions before we start the work.
- No job is considered successfully completed, if there is an injury or an environmental event.
- If the job cannot be completed safely, it must be stopped.
- We watch out for each other and speak out to protect ourselves and others from injury and to protect the environment.
- We always follow regulatory requirements and safety rules.

1.4 Contractor Safety Management Standard

SCE's Contractor Safety Management Standard establishes uniform Contractor safety requirements with additional safety protocols for contracts involving Safety Tier 1 and Safety Tier 2 work. SCE classifies Safety Tier 1 work as activities that, without the implementation of appropriate safety measures, are potentially hazardous or life-threatening. SCE classifies Safety Tier 2 work as routine contractual work that is not typically considered hazardous. Distinguishing between the categories does not imply that Safety Tier 2 contracted work is risk-free, but that the scope of work is categorized as being lower risk. For the purposes of this Handbook, Contractors conducting any Safety Tier 1 work will be referred to as Safety Tier 1 Contractors. Contractors conducting only Safety Tier 2 work will be referred to as Safety Tier 2 Contractors.

The Edison Representative determines the Tier level of work to be contracted using the Safety Tier Classification Guide and ensures that the Tier is included on the initial purchase requisition when submitted to SCE's Supply Management.

Major standard elements include:

- Safety performance and program review and qualification by a Third Party Administrator (TPA) for all Safety Tier 1 Contractors and Subcontractors.
- Contractor compliance with all applicable local, state, and federal regulations including but not limited to California and Federal OSHA regulations and any additional SCE-stipulated requirements that exceed existing regulatory requirements.
- A Contractor Orientation performed with Safety Tier 1 Contractors that includes development and review of an SCE Contractor Hazard Assessment and Safety Plan and an SCE Contractor Handbook and Orientation Checklist.
- A Contractor Orientation performed with Safety Tier 2 Contractors that includes development and review of an SCE Contractor Handbook and Orientation Checklist.
- Supervisory and safety professional oversight requirements for Safety Tier 1 Contractors.
- New employee supervision and training requirements for Safety Tier 1 Contractors.
- Safety observation program requirements for Safety Tier 1 Contractors.
- Tailboard Requirement.
- Ongoing evaluation of Contractors who perform Safety Tier 1 work.
- Field monitoring procedures, including safety observations and Contractor Safety Quality Assurance Reviews (CSQARs).
- Review procedures for Contractors having Actual or Potential Life-Threatening/Life-Altering (LT/LA) Incidents and multiple at-risk observations/safety issues.
- Monthly safety data reporting requirements for Safety Tier 1 Contractors.
- Contractor incident reporting and cause evaluation requirements.
- Management Review Committee reviews of Contractor incident cause evaluations.
- Mitigation procedures for unsafe work practices or conditions.
- Regular Contractor Safety Forums to engage our vendors and continuously improve the safety collaboration between SCE and its Contractors.

2 GENERAL EXPECTATIONS

SCE expects each Contractor to ensure their workers, Subcontractor workers, and agents know of and comply with environmental and safety regulations and additional SCE-stipulated requirements.

2.1 Applicability

The requirements and expectations set forth in this EHS Handbook apply to all Contractors, their Subcontractors, and agents.

While the entirety of this Handbook applies to Safety Tier 1 contract work performed at SCE, only the following sections apply to Safety Tier 2 contract work:

a) Section 1.2 Safety Performance Policy

b) Section 2.3 Expectations for Safety Tier 1 and Tier 2 Contractors

c) Section 2.5 SCE Stop Work Authorization and Inspection

d) Section 3.2 Safety Tier 2 Orientation

e) Section 3.4 SCE Contractor Handbook and Orientation Checklist

f) Section 4.0 Tailboard Requirement

g) Section 5.0 Emergency Response

h) Section 6.0 Incident Reporting

i) Section 7.0 Additional Reporting Requirements

j) Section 8.0 Health and Safety Requirements

k) Section 9.0 Environmental Requirements

For all contracted, subcontracted, and chartered aircraft operations performed at SCE, the Use of Company-Owned, Contract and Chartered Aircraft Policy and the processes and procedures contained therein shall be adhered to in addition to this EHS Handbook.

SCE employees shall adhere to the requirements in Section 6.0 – Incident Reporting.

Existing and new contracts shall comply with this EHS Handbook as of March 1, 2019 with the exception the Safety Observation Program Requirement in Section 2.4, which will become effective on June 1, 2019. Note: Current Contractors performing work for SCE prior to March 1, 2019 are not required to immediately update existing documentation using the new forms reference in this version of the EHS Handbook for Contractors. However, such updates shall be made during normal reviews (at least once per year) or whenever updates are required (refer to Section 3.0 for details). This documentation includes:

- SCE Contractor Hazard Assessment and Safety Plan
- SCE Contractor Handbook and Orientation Checklist

2.2 Safety Qualification Requirements for Safety Tier 1 Contractors

2.2.1 Third Party Administrator (TPA) Safety Tier 1 Contractor Performance, Program Review and Monitoring

SCE retains a Third Party Administrator (TPA) to conduct safety reviews of all Safety Tier 1 Contractors prior to their conducting Safety Tier 1 work for SCE. ISNetworld (ISN) currently serves as SCE's TPA.

2.2.1.1 TPA Registration and Information Submittal

Safety Tier 1 Contractors must establish an account with SCE's TPA and furnish all necessary information to meet safety qualification requirements prior to conducting Safety Tier 1 work. All Contractors (with the exception of governmental agencies) receiving purchase orders for Safety Tier 1 work must have undergone TPA review and

qualification regardless of whether the Safety Tier 1 work is conducted themselves or by their Safety Tier 1 Subcontractors.

2.2.1.2 TPA Safety Tier 1 Safety Performance and Programs Review

The TPA reviews and scores Safety Tier 1 Contractors on safety performance, programs and culture. The actual grading criteria details can be found within the TPA system. SCE has designed the TPA grading criteria to emphasize the elimination of all serious injuries and fatalities. As such, any Contractor who experienced a fatality within the last three years automatically receives a TPA grade of C and must have an SCE-approved Conditional Contractor Plan to reach Conditional Status (as outlined in Section 2.2.3 below). Details on the three major areas reviewed by the TPA follow:

a) Safety Performance data include but are not limited to: Total Recordable Incident Rate, Days Away Restrictions and Transfers (DART) Rate, Experience Modification Rate (EMR), fatality history, Occupational Safety and Health Administration (OSHA) repeat citation history, and serious public incidents.

b) Programs are reviewed against all applicable local, state, and federal regulations with which Contractors are required to comply, including but not limited to California and Federal OSHA regulations. Safety Tier 1 Contractors may request an exemption from submission and TPA review of a safety program covering work which they do not conduct for SCE. The requests will be reviewed and approved by the Edison Representative and Edison Safety.

c) Safety Culture practices are assessed by the TPA and include activities such as: holding regular employee safety team meetings, close call reporting and incident evaluation policies.

2.2.1.3 TPA Scoring and Classification

The TPA review results in a grade of A, B, C or F for the Contractor. Following the initial review and during the ongoing monitoring of Safety Tier 1 safety performance and programs, the Contractor is classified into one of three categories:

a) Qualified Contractors have an A or B grade because they meet or exceed SCE-established standards for safety performance and programs. They are approved to perform Safety Tier 1 work at SCE.

b) Conditional Contractors are Contractors with a grade of C that have an SCE-approved Conditional Contractor Plan (Refer to Section 2.2.3 for details). These Contractors' historic safety performance may be below SCE and/or industry standard and may have scored low in safety culture, but they are qualified to perform work at SCE under the condition that additional mitigation procedures contained in a Conditional Contractor Plan are in place to correct previously identified.

c) Unqualified Contractors have an F grade as they do not meet SCE and/or industry standards for safety programs and/or safety performance. Contractors having C grades are also classified as Unqualified Contractors if they do not have SCE-approved Conditional Contractor Plans. Unqualified Contractors cannot perform any Tier 1 work for SCE.

2.2.1.4 TPA Monitoring and Grade Changes

The TPA monitors the safety performance data of Safety Tier 1 Contractors and periodically revalidates their safety programs to track changes in their TPA grades and classification status. Changes in TPA grades and classification status shall be monitored by Contractors. The Contractor shall respond to grade changes and ensure they achieve Qualified status or Conditional status with an approved Conditional Contractor Plan within the following time frames:

a) If the TPA grade of Qualified Contractor changes to a C or an F due to expired programs, expired program exemption requests, or non-submission of expired performance data such as EMR, the Contractor must submit necessary items to TPA for review and achieve Qualified status as soon as possible but no later than 30 calendar days of grade change.

b) Contractors whose grade changes to C due to changes in safety performance or safety culture must prepare a Conditional Contractor Plan, submit the plan to SCE, and obtain approval of the plan as soon as possible but no later than 30 calendar days of the grade change.

c) Conditional Contractors whose Conditional Contractor Plans have expired shall obtain approval of an updated Conditional Contractor Plan as soon as possible but no later than 30 calendar days of the expiration date.

Contractors not achieving Qualified status or Conditional Status with an approved Conditional Contractor Plan within 30 calendar days of status change cannot conduct Safety Tier 1 work.

2.2.1.5 Grade Adjustment Process

Contractor TPA grades/scores may be adjusted by Edison Safety based on the conditions described below. Grade adjustments may be requested by Edison Safety, Edison Representatives, or Contractors using the Safety Points Request Form. Any grade adjustment must be approved by the Director of Edison Safety. For incidents involving Subcontractors, grades of Prime Contractors may also be impacted.

Grades may be lowered as a result of:

- Fatalities, or Serious Willful or Repeat OSHA citations in the last 3 years,
- Recent Actual or Potential Life Threatening or Life Altering (LT/LA) Incidents,
- Multiple at-risk observations occurring while working for SCE,
- Inadequate Subcontractor oversight and management,
- Failure to address safety issues/requirements once identified, or
- Other safety issues as determined by SCE.

Grades may be raised for:

- Contractors with work hours under 50,000 per year whose grades have been negatively impacted by minor injuries (note: no points can be added to a Contractor grade if the Contractor averages over 50,000 man hours in the last three (3) years or has had any fatalities/actual life threatening/life altering incidents in the last three (3) years);
- Contractors demonstrating exemplary safety leadership as determined by Edison Safety and Supply Management;
- Incidents involving a fatality that occurred through no fault of the Contractor (e.g. 3rd party vehicle accident); or
- Other circumstances evaluated by SCE on a case by case basis.

2.2.2 Expedited Safety Review

The Expedited Safety Review is used when Safety Tier 1 Contractors are needed for emergency purposes, such as an asset failure. In these cases, SCE may use the Expedited Safety Review process for qualifying the Contractor. This will occur in parallel with the normal process of the TPA's review of the Contractor. This process will not be used

to circumvent or replace existing processes or for scopes of work other than for an emergency condition that requires expedited onboarding. The SCE Organization Unit (OU) Director, in collaboration with the Edison Representative and Edison Safety, shall initiate contact with Supply Management to invoke the Expedited Safety Review procedure using the Expedited Safety Review Checklist. Once the OU VP/SVP has approved the Expedited Safety Review, it is to be routed to the VP over Edison Safety for consideration.

No Expedited Safety Review is necessary should a catastrophic or significant incident occur that requires mutual aid and the emergency sharing of resources across service territory boundaries.

2.2.3 Conditional Contractor Requirements

When a Safety Tier 1 Contractor receives a TPA C grade, the Contractor, in collaboration with the Edison Representative, must develop a safety improvement plan (i.e., a Conditional Contractor Plan). The Conditional Contractor Plan must be submitted to Edison Safety for initial review. Once reviewed, the Edison Representative must request approval from the OU Director. Upon OU Director approval, the Edison Representative must submit the plan to Edison Safety for review and approval by the Director of Edison Safety.

Conditional Contractors conducting Safety Tier 1 work for more than one OU are required to have Conditional Contractor Plans approved for each line of work. Approval of Conditional Contractor Plans will be for one calendar year. Prior to expiration, the Contractor must update their Conditional Contractor Plan prior to submitting the updated plan to SCE for re-approval.

Additionally, Conditional Contractors must:

a) Conduct at least one field safety observation of each crew conducting work for SCE per month.

b) Submit quarterly reports to SCE by the 15th of the month after the end of a quarter using the Conditional Contractor Quarterly Report.

2.3 Expectations for Safety Tier 1 and Tier 2 Contractors

In addition to the provisions in other sections of this EHS Handbook, Safety Tier 1 and Safety Tier 2 Contractors shall:

- Take all prudent and proper EHS precautions to protect SCE employees and property, other exposed persons and property, and the environment.
- Comply with applicable federal, state, local, and any other applicable EHS laws and regulations issued or imposed by any governmental authority, as well as any additional SCE-stipulated requirements such as those in SCE's safety standards and programs.
- Prior to commencement of any work, review job-specific hazards and associated precautions, procedures, and mitigation measures (e.g. by developing a Job Hazard Analysis [JHA]) and communicating such details to their employees and Subcontractors.
- Have available, at the work location, a copy of the Contractor's written Safety Program, including, but not limited to, the Injury and Illness Prevention Plan (IIPP), Code of Safe Practices for construction work, SCE Contractor Hazard Assessment and Safety Plan (Safety Tier 1 only), SCE Contractor Handbook and Orientation Checklist, and written Hazard Communication Program, as applicable.
- Ensure that their employees and their Subcontractors receive EHS training as required by applicable federal, state, and local regulations and maintain documentation of such training.
- Maintain copies of permits, licenses, registrations, certifications, etc., as required by applicable federal, state, and local regulations, and SCE contractual obligations.

- Ensure periodic EHS inspections are performed to identify and correct unsafe conditions in their work areas.
- Ensure a Stop Work procedure is in place where work is immediately stopped any time unsafe conditions or behaviors are observed until the job can be completed safely.
- Become familiar and comply with SCE site-specific EHS requirements applicable to the work being performed.
- Ensure at all times, when on an SCE job site, that at least one Contractor employee has the capability and responsibility for communicating safety and emergency information with all Contractor personnel. This Contractor employee shall have sufficient comprehension of the English language, such that the employee is able to read, understand, follow, and communicate to others all posted safety signs and written warnings, directions given during a safety or security drill or exercise, written or oral instructions or directives pertaining to health and safety matters, and all site-specific written Health and Safety Plans.

2.4 Expectations for Safety Tier 1 Contractors

In addition to the provisions in other sections of this EHS Handbook, Safety Tier 1 Contractors shall comply with the following requirements:

- **Onsite Supervisor Requirement:** Safety Tier 1 Contractors must provide a supervisor/person in charge who is responsible for the general work area for Safety Tier 1 work at any job site involving more than one worker. This person must ensure:

  a) rules/policies pertaining to the job are followed;

  b) safe work practices are utilized; and

  c) risks and hazards associated with the job are identified, discussed, and mitigated prior to commencing work.

  While the supervisor/person in charge is expected to identify and correct any unsafe work practices or other performance deficiencies which may occur, Contractor employees are not required to be in the line of sight of supervisors at all times. During the Contractor Orientation process, the Contractor must verify that this requirement will be met.

- **Safety Professional Requirement:** Safety Tier 1 Contractors must provide a dedicated competent Safety Professional when the number of their Contractor employees conducting Safety Tier 1 work for SCE exceeds 50 personnel across SCE's service territory. For larger scopes of work, the Edison Representative and Edison Safety must determine the appropriate number of additional Safety Professionals based on the scope, hazards, and the Contractor's approach to managing their safety program.

  Additionally, when Safety Tier 1 projects exceed 50 employees at one general location, Contractors shall provide a dedicated onsite Safety Professional in support of the work. For larger Safety Tier 1 projects involving 100 or more Contractor employees, the Edison Representative and Edison Safety must determine the appropriate number of additional Safety Professionals required to support the project based on the nature of the tasks performed and the associated risks identified through the Contractor Orientation process.

  The Edison Representative and Edison Safety reserve the right to require one or more Safety Professional(s) for work scopes and projects with less than 50 personnel.

- **New Employee Supervision and Training Requirement:** During the Contractor Orientation, the Contractor must verify they have a plan to train and provide additional supervisory oversight for newly hired workers conducting Safety Tier 1 work during their first 6 months of employment and for workers during the first 6

months following assignment to a new role (e.g. newly promoted lineman, supervisor, etc.). This plan must include an orientation training and periodic ongoing formal training in relevant topics for all employees.

- **Safety Observation Program Requirement:** By June 30, 2019, all Safety Tier 1 Contractors who have worked or plan to work at least 25,000 hours/year for SCE must implement a Safety Observation Program. The program must be designed for the Contractor to conduct regular field observations of their employees conducting SCE work. Contractors must develop and implement processes for their leadership to review their observation data and address adverse conditions/observation trends. The program shall include the ability to electronically track and trend observation data. These data shall be maintained and made available in electronic format to SCE upon request, including: the number of observers and observations, observation details, corrective actions taken, top safe behaviors, and top at-risk behaviors. Contractors shall verify they meet this requirement during the Contractor Orientation process.

- **Contractor Safety Quality Assurance Review (CSQAR) Requirement:** If selected, Contractors shall work with SCE to perform CSQARs, which are onsite and detailed assessments ensuring contractual safety commitments are actually implemented in the field. The CSQAR process includes a desktop review, field observations and SCE/Contractor leadership engagement. Any observed unmitigated hazards are addressed immediately and escalated if necessary. Safety concerns or issues identified are documented and communicated to the Contractor and the Edison Representative and an action plan for compliance and mitigation is established. Priority for selection of Contractors to undergo review is given to Contractors conducting higher-risk work, having higher worker hours, or experiencing recent safety performance issues (e.g. Conditional Contractors).

- **Monthly Safety Data Reporting Requirement:** Safety Tier 1 Prime Contractors must report summary safety data for the previous month into the TPA system (currently ISN Site Tracker) by 15th of the month. Data required to be submitted include, but are not limited to:

  a) hours worked, and

  b) number of OSHA Recordable and DART incidents for both Prime Contractors and their Subcontractors while working on SCE projects.

  Contractors must maintain appropriate systems to meet the Monthly Safety Data Reporting requirements. Should an incident be classified as an OSHA Recordable or DART injury after a Contractor initially reports the incident as non-recordable, the Contractor must update the injury classification in the TPA monthly safety data reporting system within 3 business days. Additionally, Contractors must provide additional information on reported hours and incident requested by SCE to conduct quality assurance audits on the reported data. Failure to meet Monthly Safety Data Reporting requirements will result in TPA grade penalties and could result in suspension or termination of a contract per SCE's Safety Performance Policy.

- **Contractor Safety Forum Participation**: OUs with active Safety Tier 1 Contractors hold Contractor Safety Forums at least once per year. The purpose of the forums is for SCE personnel and Safety Tier 1 Contractors to discuss relevant safety issues, review incidents, share lessons learned, and maintain open lines of communication to ensure mutual safe work efforts. Safety Tier 1 Contractors are expected to attend and actively participate in these forums.

2.5 SCE Stop Work Authorization and Inspection

Compliance with safety and environmental requirements and safe practices is expected for Contractors working for SCE. Contractors should understand that:

- SCE may inspect the Contractor's work for compliance with the Contractor's contractual obligations at any time.

- SCE may immediately stop work if an imminent risk to workers or the public is observed.
- SCE may immediately stop work if an imminent risk to the environment is observed.
- SCE's inspections in no way relieve the Contractor of the obligation to maintain its own programs or to conduct any inspections required by federal, state, and local regulations.
- Any imminent hazard shall be corrected to SCE's satisfaction before the work is allowed to continue.

Note: Failure to adhere to an SCE employee's order to stop work shall be considered a breach of contract.

2.6 Use of Subcontractors to Perform Safety Tier 1 Work

Prime Contractors are responsible for their Subcontractors' work performance at all times when carrying out work for SCE. Safety Tier 1 Subcontractors must undergo the same qualification process as Safety Tier 1 Prime Contractors and achieve Qualified Contractor status or Conditional Contractor status prior to conducting Safety Tier 1 work, regardless of the work duration. Time for TPA processing/qualification should be considered when onboarding Subcontractors. Safety Tier 1 Prime Contractors must:

a) Notify SCE of their intention to use Safety Tier 1 Subcontractors. Notification shall occur prior to commencement of Tier 1 work by a Subcontractor during the Orientation process (Refer to Section 3.0 for details). Failure to notify the Edison Representative of the use of a Subcontractor could result in the immediate dismissal of the Prime Contractor from a project.

b) Use only Qualified or Conditional Subcontractors to conduct Safety Tier 1 work.

c) Register their use of Tier 1 Subcontractors in the TPA system (ISN SubTracker)

3 CONTRACTOR ORIENTATION

3.1 Safety Tier 1 Orientation

Prior to a Safety Tier 1 Prime Contractor's start of work, the Edison Representative and the Prime must perform a Contractor Orientation by ensuring the development/review of the following:

a) SCE Contractor Hazard Assessment and Safety Plan

b) SCE Contractor Handbook and Orientation Checklist

For each scope of a work or Source Contract, an Orientation must be conducted. Prime Contractor Representatives and the Edison Representative must work together to ensure these documents are completed and signed by the Edison Representative, the Prime Contractor Representative and all Subcontractors' Representatives prior to the start of work.

The Prime Contractor Representative must conduct a Contractor Orientation for their crews including Subcontractors, as well as any new employees/Subcontractors that begin work on the project subsequent to the original Contractor Orientation. A signed copy of the SCE Contractor Hazard Assessment and Safety Plan and the SCE Contractor Handbook and Orientation Checklist shall be retained by all crews while conducting Safety Tier 1 work for SCE. Additionally, for each scope of work, the Prime Contractor Representative must upload copies of the completed/signed SCE Contractor Hazard Assessment and Safety Plan and the SCE Contractor Handbook and Orientation Checklist into the TPA system within 10 business days of the Contractor Orientation.

3.2 Safety Tier 2 Orientation

Prior to Safety Tier 2 Prime Contractor's start of work, the Edison Representative and the Prime Contractor must perform a Contractor Orientation by ensuring the development/review of the following:

a) SCE Contractor Handbook and Orientation Checklist

Prime Contractor Representatives and Edison Representative must work together to ensure this document is completed and signed by the Edison Representative, the Prime Contractor Representative and all Subcontractors' Representatives prior to the start of work prior to the start of work. The Prime Contractor Representative shall conduct a Contractor Orientation for their crews including Subcontractors, as well as any new employees/Subcontractors that begin work on the project subsequent to the original Contractor Orientation. Prime Contractor must maintain a signed copy of the SCE Contractor Handbook and Orientation Checklist at the Contractor's office or job site.

3.3 SCE Contractor Hazard Assessment and Safety Plan

For all scopes of Safety Tier 1 work, including Source Contracts, the Edison Representative must initiate an SCE Contractor Hazard Assessment and Safety Plan and ensure that it is provided in the request for proposal (RFP) so the hazards associated with the work are clear to the bidders prior to the award of a contract. 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.

Upon award of work, successful Prime Contractors must update the SCE Contractor Hazard Assessment and Safety Plan and submit it to the Edison Representative for review. The Contractor Representative and Edison Representative must both sign the SCE Contractor Hazard Assessment and Safety Plan. The Prime Contractor Representative and Edison Representative must review the SCE Contractor Hazard Assessment and Safety Plan and update (and re-sign) the plan annually or as needed. The Prime Contractor must then upload the updated SCE Contractor Hazard Assessment and Safety Plan into the TPA system. Examples of changes that require updates to the plan include:

a) introducing new work activities,

b) change in key personnel, or

c) change in Subcontractors.

For Source Prime Contractors, a single SCE Contractor Hazard Assessment and Safety Plan may be used for multiple regions/purchase orders if:

a) the plan applies to the work scope being performed,

b) associated hazards/mitigations are the same, and

c) key personnel remain consistent.

3.4 SCE Contractor Handbook and Orientation Checklist

During the Orientation process, Safety Tier 1 and Tier 2 Edison Representatives and the Prime Contractor Representative must review the SCE Contractor Handbook and Orientation Checklist covering requirements contained in this Handbook. The checklist review will provide opportunities for questions and dialogue regarding expectations of Contractors performing work for SCE. The Prime Contractor Representative and the Edison

Representative as well as Subcontractor Representatives must sign the SCE Contractor Handbook and Orientation Checklist is signed after the Contractor Orientation is conducted.

4 TAILBOARD REQUIREMENT

Prior to the start of work, Contractors must conduct a Tailboard meeting. A Tailboard means: Tailboard conference, pre-job briefing, tailgate meeting, job procedure discussion, or talking the job over before starting to work to ensure all supervisors and members of each crew involved thoroughly understand the job to be performed and the method of accomplishing it in a safe manner. Before the start of each job, after lunch or other breaks, and in the event the scope of the job changes, every crew leader must ensure all involved personnel come together and outline the proper work procedure to be followed in such a manner that each Contractor employee understands:

a) Detailed work plan

b) Critical steps of the job

c) His/her role and responsibilities

d) Other employees' roles and responsibilities

e) Hazards and associated mitigation measures to complete the work safely, including specific identification of any task/activity that has potential for a serious injury or fatality

f) Required personal protective equipment

g) Emergency action plan

h) His/her responsibility to Stop Work should conditions become unsafe

At worksites with more than one worker, the Tailboard discussion shall be documented in a written Tailboard form that is signed by all workers onsite and posted at the work location. Visitors, before entering the work site, and new workers, prior to the start of their work, shall be briefed by Contractors on the content of the Tailboard to make them aware of the hazards and mitigations associated with the work.

Signed copies of the SCE Contractor Hazard Assessment and Safety Plan and the SCE Contractor Handbook and Orientation Checklist shall be available with the Tailboard form at every location where work is being performed.

5 EMERGENCY RESPONSE

Each occupied SCE facility has an Emergency Action Plan that describes the alarms and emergency notification system, evacuation routes, assembly areas, and emergency contacts. Contractors are responsible for understanding the requirements of the Emergency Action Plans where they perform work.

Contractors shall develop Emergency Action Plans for work outside of SCE facilities. These procedures should be captured in the SCE Contractor Hazard Assessment and Safety Plan (Section 11), and any other applicable Contractor emergency action plans. These plans shall be communicated to all workers and posted where they can be easily accessed by all workers.

6 INCIDENT REPORTING

SCE requires Contractors to notify the Edison Representative of all safety incidents occurring during work for SCE including low-level incidents such as sprains and strains. These Safety Incidents include: First-Aid incidents, injuries above First Aid, 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, environmental incidents, customer complaint/negative contacts, and fires.

6.1 Contractor Notification and Reporting Requirements

The Contractor shall take appropriate steps to attend to the ill or injured, secure the site to prevent further incident, and then immediately notify the Edison Representative of the incident with a phone call and email backup confirming the communication.

Contractors shall utilize the Contractor Incident and Evaluation Report Form to complete the Initial Report tab, and when applicable, 5-day and 60-day report tabs, and submit the completed forms to the following personnel:

a) Assigned Edison Representative or designee (All Incidents)

b) Assigned Supply Chain Management Representative (All Incidents)

c) The International Brotherhood of Electrical Workers (IBEW) Local 47 (Sroberts@ibew47.org, Rpeterson@ibew47.org, MHernandez@ibew47.org) for all Circuit Interruptions

Agency	Agency Notification Requirement	Outside Normal Work Hours
Cal OSHA	Within 8 hours of the initial report	
Department of Transportation (DOT)	Within 2 hours of knowledge	No longer than 4 hours after becoming aware of a reportable incident

Timeframes for submitting written incident reports to SCE are as follows;

- For all incidents:
  - Within one (1) business day of the incident, the Contractor completes and submits the Contractor Home Page and Initial Report tabs of the Contractor Incident and Evaluation Report Form.
- For Actual or Potential Life-Altering/ Life-Threatening (LT/LA) incidents including fatalities:
  - Within five (5) calendar days, the Contractor completes and submits the 5-Day Report tab of the Contractor Incident and Evaluation Report Form.
  - Within 60 calendar days, Contractor shall complete the 60-Day Report tab of the Contractor Incident and Evaluation Report Form. If an extension of due date for the 60-Day Report is required due to the complexity of the incident, an extension can be approved by the SCE Directors of Supply Chain Management, Edison Safety and the OU Directors.

SCE will review reports and may request additional information/revisions. Contractors must revise and resubmit reports as requested. Contractors shall submit all associated photos, tailboard forms and additional documentation in a single PDF file via email to the Edison Representative when submitting the Initial, 5-Day and 60-Day Contractor

Incident and Evaluation Reports. Contractors shall track corrective action completion with an owner and due date within their own tracking system.

6.2 Edison Representative Requirements

The Edison Representative or Delegate shall ensure the following:

- Notifications are made regarding defined California Public Utilities Commission (CPUC), OSHA, and Serious Injury Incidents to the Watch Office immediately.
- The Contractor has completed all notification and report requirements within the allotted timeframes as described in the Contractor Notification and Reporting Requirement section above.
- All accidents which may involve the Company, resulting in personal injuries to, or death of, non-employees shall be reported immediately by the first employee having knowledge of the incident by the fastest means of communication to the Watch Office.
- Within 1 business day of receipt of the Initial, 5-day and 60-day reports, the Edison Representative shall review the Contractor Incident and Evaluation Report Form for accuracy/completeness and request revisions as needed.
- Upon acceptance of all Contractor reports (including Initial, 5 day and 60-day reports), Edison Representative shall send the report to the following distribution lists:
    - SCE Contractor Safety (ContractorSafetyIncidentReporting@sce.com) (All Incidents)
    - CCIIncidentReporting@sce.com (Circuit Interruptions only)
    - GOTSPILL@sce.com (Hazardous Materials Spills only)
- The Edison Representative shall follow the instructions on the Contractor Incident and Evaluation Report on entering the Contractor Initial, 5-day and 60-day reports into SCE's incident management software system (i.e., EHSync).
- SCE Claims Department is consulted on sharing/gathering of further information. If advised to do so, the Edison Representative advises the Contractor to add any new details and resubmit the Initial Report, 5-Day and 60-Day reports as well as any supporting documentation, photographs, etc.
- The Contractor has a tracking system and completion is monitored periodically.

7 ADDITIONAL REPORTING REQUIREMENTS

7.1 Hazardous Materials Release or Environmental Event Reporting

Contractors shall immediately notify the Edison Representative of any chemical spills or releases inside or outside any SCE facility.

Within one (1) business day, the Contractor shall submit the Contractor Home Page and Initial Report tabs of the Contractor Incident and Evaluation Report Form via email to the Edison Representative copying SCE's Environmental Services Department (ESD) at GOTSPILL@sce.com.

Contractors shall make every reasonable effort to immediately contain and clean up hazardous materials releases. If special training is required to respond to the release, the Contractor is responsible to ensure their employees are

properly trained or utilize properly trained response Subcontractors. The Edison Representative may provide specific cleanup and waste disposal instructions.

7.2 Transportation-Related Incidents

Any SCE vehicle involved in a Serious Injury accident or involved in a third-party accident shall be stored at the Transportation Services Department (TSD) Pomona facility and under control of an assigned Claims representative. Nothing may be removed from the vehicle, no pictures may be taken, nor may it be shown without the prior consent of the assigned SCE Claims representative.

All aviation-related incidents shall be reported immediately to Aircraft Operations and follow Title 14 of the Code of Federal Regulations Part 830.

7.3 Regulatory Agency Visit

Contractors shall:

- Verbally notify the Edison Representative or Delegate upon notification or arrival of a regulatory agency during the course of contracted work.
- File a report to the Edison Representative and Edison Safety or ESD within 24 hours after conclusion of the initial visit. The report shall provide the date, time, location, agency, agency representative name and contact information, purpose of visit, information requested and/or provided, corrective actions resulting from the visit, if applicable, and due dates.
- Provide regular updates to the Edison Representative regarding management of the corrective actions and any interim visits.
- Provide the Edison Representative and Edison Safety or ESD final close-out documentation within five (5) business days after the requirements of the regulatory agency have been satisfied.

7.4 OSHA Citation and Investigations

Contractors shall immediately notify the Edison Representative of any OSHA citations, pending OSHA investigations related to the contracted work, or Serious Injury/Illness or Fatality.

The Edison Representative shall notify the SCE Claims Department and Edison Safety (ContractorSafetyIncidentReporting@sce.com) of any OSHA citations, pending OSHA investigations related to the contracted work or Serious Injury/Illness or Fatality.

7.5 Aggressive or Threatening Behavior Incidents

SCE prohibits violence in the workplace. Verbal or physical acts of violence are forbidden and will not be tolerated. Contractors shall immediately remove themselves from any situation where they encounter aggressive or threatening behavior from SCE employees, customers, other Contractors or the general public and notify SCE Corporate Security at 626-815-5611 (available 24 hours) and the Edison Representative as soon as it is safe to do so. In urgent situations, contact law enforcement (911) if threatened with any sort of violence or abuse. Any threats or incidents of violence involving an Edison employee or an Edison facility must be reported to Edison HelpLine at 1-800-877-7089.

7.6 Harassment Reporting

All SCE employees and Contractors are expected to conduct themselves in an ethical, professional manner and refrain from any behavior or conduct that unreasonably interferes with an individual's work performance or creates an intimidating, hostile or offensive work environment. SCE prohibits unlawful harassment based on any characteristic protected by state or federal employment discrimination laws. Contractors that become aware of any actual or potential misconduct, non-compliance, or violation of the law can report it to their Edison Representative in addition to the Contractor's management, the Edison HelpLine at 1-800-877-7089, and state and federal agencies that enforce anti-discrimination laws.

7.7 Safety Issues Reporting

Contractors and their employees can report any safety issues or unresolved safety concerns to their Edison Representative, Edison Safety (ContractorSafety@SCE.com) or the Edison HelpLine at 1-800-877-7089 (with an option to remain anonymous).

8 HEALTH AND SAFETY REQUIREMENTS

The following health and safety requirements are not intended to cover all aspects of a safety program. The following information is intended to assist Contractors in the development of safe work practices and safety plans.

8.1 General Health and Safety Requirements

Contractors shall:

- Ensure its work procedures do not conflict with applicable regulatory requirements that guide the health and safety requirements contained within SCE policies, standards, and programs.
- Take precautions for the protection of the health and safety of Contractor personnel, SCE's employees, and other exposed persons, including the public.
- Ensure that all specialized equipment (e.g., aerial lifts, cranes, man-lifts, fork trucks) are operated and maintained in accordance with manufacturer's specifications and as required by applicable regulations.

8.2 Confined Space and Enclosed Space Entry

A permit-required Confined Space inventory is available for SCE facilities that have permit-required Confined Spaces onsite. These spaces are identified and classified based on the conditions at the time of the survey. Contractors are responsible for evaluating their work site to determine if Confined Spaces exist and maintaining an inventory of spaces while they work. The Contractor performing work within a Confined Space (permit required, non-permit, or enclosed space) shall comply with applicable Confined Space and/or Enclosed Space regulations.

Contractors entering Confined Spaces at an SCE facility/work location, shall comply with all applicable regulations and ensure the following:

- That information regarding any hazards are identified prior to entering the space and SCE's experience with the Confined Space is obtained from the Edison Representative.
- Prior to entering the space, provide information to the Edison Representative regarding any hazards that the Contractor's work may create in the Confined Space.

- Identified hazards are eliminated, mitigated, or controlled.
- A rescue plan is developed, including provision for trained rescue personnel and equipment, before entering the permit-required Confined Space or Enclosed Space.
- All entry operations are coordinated when work includes both SCE personnel and Contractor personnel who will be working in or near the Confined Space.
- A debrief occurs with the Edison Representative when the Confined Space operation is completed.

Contractors entering Enclosed Spaces at an SCE facility/work location, shall comply with all applicable regulations and ensure the following:

- Written, understandable safe work practices for entry into and work in Enclosed Spaces and for rescue procedures shall be developed, implemented, and provided to employees.
- Their employees, including attendants, shall be trained in the nature of the hazards involved, the necessary precautions to be taken, the use of protective equipment and emergency equipment, the enclosed-space entry procedures, rescue procedures, and safe work practices, including instructions as to the hazards they may encounter.
- For multi-employer worksites, the procedures shall address how all the affected employers will coordinate their work activities, so that operations of one employer will not endanger the employees of any other employer.
- Contractors shall provide equipment to ensure the prompt and safe rescue of workers from the Enclosed Space.
- Whenever the cover is removed from an underground structure, warning devices such as traffic cones or signs, shall be displayed in locations conspicuous to pedestrians and vehicular traffic. These shall not be removed until permanent covers are in place.
- Barriers, such as standard railings on top of the opening or traffic cones with barricade bars set up around the opening to alert employees of the opening, shall be used unless the to guard the opening is constantly attended. If the opening is constantly guarded by a worker who is solely focused on the role of guarding that opening, the guard may serve as a barrier to that opening in lieu of a standard railing or traffic cones with a barricade bars.
- Before an employee enters an Enclosed Space, the air shall be tested with a direct reading meter or similar equipment capable of collection and immediate analysis of data samples without the need for an offsite evaluation.
- A continuous monitoring program is required to ensure that no increase in air contaminants, flammable gas or vapor concentration above safe levels occurs within in the Enclosed Space.
- The air supply for the continuous forced-air ventilation shall be from a clean source and shall not increase the hazards in the Enclosed Space.

8.3 Fall Protection

Contractors shall ensure the following:

- Evaluations are conducted of all elevated workplaces to determine the appropriate level of fall protection for their employees.

- 100% fall protection is utilized. Where conventional fall protection is not possible or feasible, the Contractor shall develop a written Fall Protection Plan, following applicable regulations.
- All workers are instructed in the fall protection system to be used and the procedures to be followed where there is a risk of fall hazard.

8.4 Fire Prevention

A site-specific fire prevention plan is available for SCE facilities. The Site EH&S Manager at each SCE facility can obtain a copy of the site-specific plan. This plan identifies potential fire hazards and methods to prevent and to properly respond to fires when at SCE sites. Contractors must be familiar with and comply with these site-specific requirements.

Each Contractor shall:

- Report all fires extinguished by the Contractor to the Edison Representative. If a Contractor uses an SCE fire extinguisher, they shall report such usage to the Edison Representative.
- Ensure that their employees and Subcontractors do not smoke in any non-smoking areas, including inside all buildings.
- Communicate and coordinate any impairment to fire protection systems with the Edison Representative prior to shutdown of any such system.

8.5 Wild Land Fire Prevention

Contractors shall take every precaution in the prevention of fires during when conducting work for SCE.

Contractors shall ensure:

- A fire management plan is in place that meets all OSHA, state, federal and local regulations;
- All employees have been trained in the requirements of the Contractor's fire prevention plan;
- Employees are trained in SCE's Red Flag Warning Program; and
- Compliance with SCE's Hot Work Permit Program.

8.6 Hazard Communication

Safety & health regulations require Contractors to have a written hazard communication program for their employees which must include the methods a Contractor will use to inform any employers sharing the same work area. The program must describe methods to provide other employers with access to their safety data sheets, the methods the employer will use to inform other employers of any precautions needed to protect employees during normal operations and emergencies, and information on any unique chemical labeling practices. The following actions shall be emphasized:

- Before starting a new job, each Contractor shall advise the Edison Representative of all hazardous substances to be used in the workplace. Safety Data Sheets (SDSs) on such hazardous substances shall be readily available to the workers, SCE, or a regulatory agency.
- The Edison Representative shall inform the Contractor of any known hazardous substances used in the work area where the Contractor will be working. The discussion shall include site warning measures and

recommended precautions. An SDS for such substances shall be readily available upon request by the Contractor.

- Chemical exposure hazards shall be documented by the Edison Representative and Contractor in the appropriate section of the SCE Contractor Hazard Assessment and Safety Plan.

8.7 Heat Illness Prevention

A Heat Illness Prevention Plan is required when Contractors are engaged in outdoor operations where the environmental risk factors for heat illness may exist during the work period. The Contractor shall comply with pertinent safeguards and regulatory requirements related to heat illness prevention. Important actions of a heat illness prevention plan include the following:

- Evaluate work conditions or a work environment that present the risk of heat illness or heat stress.
- Ensure a Heat Illness Prevention Plan has been prepared in accordance with regulatory requirements, and all personnel are trained on and follow the plan. The plan training should include identification of heat illness symptoms and site-specific emergency procedures and the method for summoning help when needed.
- Ensure controls, such as providing sufficient potable water and providing a shaded recovery area, are in place per applicable regulations.
- Ensure the Contractor's specific acclimatization procedure is implemented, when applicable.
- Encourage Contractor workers to take frequent breaks and stay hydrated.

8.8 Hot Work

A site-specific hot work plan is available for SCE facilities. Hot work are those activities involving open flames and sparks, such as welding, torch cutting, or grinding. This plan identifies designated areas where hot work may be performed without authorization. The plan also contains the names of personnel at the site who may authorize hot work. Contractors performing hot work at an SCE facility shall comply with all applicable regulations, and ensure the following:

- Inform the Edison Representative of the intent to perform hot work, including in non-designated areas.
- Affected Contractor workers are trained prior to performing hot work activities.

8.9 Housekeeping/Cleanup

The following areas shall be emphasized with regards to housekeeping and cleanup:

- Each Contractor shall maintain a clean and orderly work area at all times.
- Contractor shall remove all trash and debris from the job site before leaving each workday.
- When the work is completed, each Contractor shall remove any Contractor-owned materials from the site or dispose of them in accordance with the Waste Handling, Storage, Transport, and Disposal section of this EHS Handbook.
- Restoration of ground disturbance, including re-vegetation, shall be in accordance with the contract or as directed by the Edison Representative.

8.10 Industrial Hygiene

The Edison Representative will inform Contractors of known chemical and physical hazards. Each Contractor or Subcontractor shall inform the Edison Representative of chemical and physical hazards that the Contractor's work creates. A copy of any industrial hygiene sampling or testing results must be sent to the Edison Safety - Programs and Compliance team.

Asbestos

SCE buildings and structures (including vaults) may contain asbestos materials (e.g., roofing materials, gaskets, thermal system insulation, gypsum wallboard and joint compound, ceiling tiles, exterior stucco, pipes, window glaze, floor coverings, including mastic, fireproofing, cable, cable wrap, transite panels, transite ducts, wire insulation). The following areas shall be emphasized:

- Prior to beginning work that could disturb building material, or suspect asbestos-containing construction materials (ACCM) or suspect asbestos-containing materials (ACM), the Edison Representative must verify that an asbestos survey has been conducted. If a survey has not been conducted, the Edison Representative shall contact Edison Safety to request a survey.
- Each Contractor must verify with the Edison Representative that a survey has been conducted and ACM and ACCM have been identified and abated. If ACM or ACCM is identified, the SCE Representative shall use an SCE-approved asbestos abatement Contractor to abate identified materials. The Edison Representative shall notify Edison Safety and SCE's ESD personnel/Environmental Specialist to coordinate any abatement activities.
- Contractors shall immediately report to the Edison Representative any suspect ACM or ACCM that has not been surveyed. The suspect ACM or ACCM shall not be disturbed until approval from the Edison Representative is obtained to resume operations.
- Contractors shall immediately report to the Edison Representative any uncontrolled/unauthorized disturbance of ACM or ACCM. Contractors shall cease all operations in the immediate area of the disturbed material, until approval to resume operations is obtained from the Edison Representative.
- Only Contractors that are licensed by the California Department of Industrial Relations shall perform asbestos work. All employees who will perform asbestos work must have the appropriate training for the level of work performed.

Lead

Many SCE buildings and structures constructed before 1980 may have components painted with lead-containing or lead-based paint. The following areas shall be emphasized:

- Prior to beginning work that could disturb suspect lead-containing or lead-based paint, the Edison Representative must verify that a lead survey has been conducted. If a survey has not been conducted, the Edison Representative shall contact Edison Safety to request a survey.
- Each Contractor must verify with the Edison Representative that a lead survey has been conducted and that appropriate controls are identified.
- All work impacting SCE housing or recreational facilities in which lead paint could be disturbed must be coordinated through the Edison Representative to ensure exposures are evaluated for possible removal prior to the start of work.

- The Contractor shall be licensed by the California Department of Industrial Relations for demolition involving lead.

Noise	Contractors that perform work which can result in noise exposure at or above 85dBA must develop and follow their Hearing Conservation Program. The Contractor shall inform the Edison Representative of activities or operations that could expose SCE employees to noise levels that exceed 85 decibels (dBA). The Contractor shall ensure that adequate hearing protection is available for their workers to use when exposed to high noise activities.
Respirable Silica	Contractors engaged in work activity that involves chipping, grinding, cutting, or breaking concrete, brick, rock, or stone are required to protect their employees from exposure to respirable silica. Contractors shall: • Develop and follow work procedures to prevent exposure to respirable silica. • Follow Cal-OSHA Table 1 with specific dust control tools if required or conduct exposure monitoring to assess their employees' exposure to respirable silica. • Provide training and assure their employees follow written procedures. • Ensure visible dust is controlled and is not released from the immediate work area.
Sulfur Hexafluoride (SF6)	When equipment containing SF6 gas has been identified as having failed catastrophically and SF6 byproduct is detected or present, Contractors shall not enter the vault. Contractor shall not ventilate or enter the vault if the switch is visibly damaged (tan, white, or gray powder byproduct may be observed, but doesn't have to be visible for byproducts to be present) or sulfur dioxide (SO2) is measured on the atmospheric monitor. • Vault Clean-up requirements o If an SF6 filled piece of equipment fails catastrophically while under water, do not pump out the vault or structure. Contact an SCE Environmental Specialist. o The vault must be de-energized before an environmental cleanup Contractor will enter and spray a sodium bicarbonate wash in the vault allowing it to neutralize and dry inside the vault. o The clean-up Contractor shall use a Hydrogen Fluoride and Sulfur Dioxide direct reading gas monitors. Clean-up personnel shall wear skin protection equipment including disposable coveralls (white suits) and gloves. If Hydrogen Fluoride gas is detected, full face respirators or supplied air may be required for Contractor employees who enter the vault for clean-up. o The environmental cleanup Contractor must perform pH test of the surfaces inside the vault to validate that the surfaces are clean of any corrosive material. o SF6 byproduct shall be captured and contained to ensure all product is neutralized and cleaned before Contractor workers may enter the vault. o At a minimum, the cleanup Contractor shall wear gloves, goggles, face shield, and chemical protective coveralls to enter the vault after it has been cleaned to test the surfaces to verify contaminates have been cleaned.
Non-Ionizing Radiation except EMF	The Contractor shall inform the Edison Representative of the use of any equipment that produces non-ionizing radiation. Whenever any Contractor uses a Class 3A or greater laser, the Contractor shall inform the Edison Representative of such use, identify each piece of equipment in which a laser is installed, and implement appropriate controls to prevent exposure to the laser beam. This includes alignments, surveying, and welding/cutting lasers.

Potential Radio Frequency (RF) Energy Exposures at SCE Facilities	Contractors working near antennas at SCE facilities or beyond RF alert signs, as illustrated below, shall understand the meaning of the signage and maintain appropriate distance from antennas or use proper personal protection monitoring at the work site through appropriate RF Safety Training. This is to prevent Workers from inadvertently getting RF over-exposure according to the Federal Communications Commission occupational maximum permissible exposure limits. Any required training shall be the responsibility of the Contractor to complete for their personnel. **Note:** All antennas are to be considered energized unless confirmation has been obtained that they have been de-energized, and will remain de-energized, in accordance with appropriate procedures prepared by the Contractor.

Signal Word	**NOTICE**	**CAUTION**	**WARNING**	**DANGER**
				
Sign Color	**Blue**	**Yellow**	**Orange**	**Red**

8.11 Lockout/Tagout

An inventory of multiple-energy source equipment covered by SCE's Hazardous Energy Control Program (Lockout/Tagout) is available for SCE facilities where applicable. Contractors shall:

- Comply with its Hazardous Energy Control Program and ensure the work procedures do not conflict with the requirements of the SCE Hazardous Energy Control Program or federal and state Lockout/Blockout-Tagout methods and procedures.
- Follow the onsite lockout/tagout procedures for multiple energy source equipment, if available.
- Obtain written authorization from the Edison Representative or Delegate to lockout SCE equipment.
- Upon completion of the job, notify the Edison Representative so operation of the equipment can be resumed after the lockouts have been removed.
- Have unique locks that will only be used for lockout/tagout and will not be used for other activities (e.g. locking gang boxes).

Group lockout is acceptable as long as a Primary Authorized Contractor employee is available to explain the lockout. Each Contractor employee will apply their own individual lock to each isolation point no crew locks shall be applied. A crew lock is a lock that a Contractor foreman applies for his crew to protect them while they work.

8.12 Trenching and Excavations

Contractor employees are expected to be aware of the steps that must be undertaken and permit(s) (e.g., Cal OSHA, OSHA) required prior to beginning any excavation, trenching, drilling, and/or shoring activity. Contractors shall:

- Ensure “Dig Alert” has been contacted and subsurface installations have been marked prior to earth moving activities.
- Perform trenching, excavation, drilling, and/or shoring work in accordance with applicable regulations and requirements.
- Provide a Competent Person (see Definitions) to assess the soil, plan and permit, inspect the excavation, and engage engineering professionals as needed.
- Ensure Contractor employees are properly protected from falls created by the work.
- Ensure the Cal/OSHA Construction Excavation hazardous atmosphere requirements are followed.
- Have readily available at the site when required, a copy of the OSHA permit (i.e., depths greater than 5 feet) and a completed activity notification form for the annual permit holder as required by the regulation.

Note: Contractors shall obtain permits to drill soil borings or install wells as required by state or local jurisdictions.

8.13 Use and Operation of SCE Facilities, Materials, Equipment, and Vehicles

Contractors shall not use or operate SCE facilities, materials, equipment, and/or vehicles unless specifically authorized in writing by the Edison Representative.

8.14 Work Area Protection and Traffic Control

Contractors shall ensure the following:

- Compliance with all applicable regulations, including but not limited to, the California Joint Utility Control Manual (CJUTCM), which provides the basic standards for safe movement of traffic upon highways or streets in accordance with the California Manual on Uniform Traffic Control Devices (MUTCD).
- Prior to commencing work, inform the Edison Representative of any potential danger to SCE personnel, the public, or other exposed persons.
- When necessary, each Contractor shall isolate the Contractor’s work areas from SCE operations, employees, or other exposed persons by using appropriate warning tape, barriers, or other effective means of isolation to prevent entry to work area.
- Each Contractor shall erect and properly maintain, at all times, all necessary safeguards for the protection of Contractor personnel, SCE’s employees, and other exposed persons, in accordance with the Pedestrian Traffic Control (PTC) Manual, which contains detailed procedures for complying with pedestrian traffic control requirements.
- Where approved signs or barricades do not provide the necessary traffic control, qualified and properly equipped flaggers shall be provided, in accordance with the MUTCD.

8.15 Electrical Work

Contractors conducting electrical work on behalf of Southern California Edison shall ensure all of their employees and Subcontractors have been trained in the requirements and work practices outlined in all federal, state and local regulations governing work practices associated to the work being performed. Specifically, work conducted on SCE's electrical grid (under the jurisdiction of the California Public Utilities Commission) must be compliant with Cal/OSHA's Low-Voltage Electric Safety Orders Article 3. "Work Procedures", and Cal/OSHA's High-Voltage Safety Orders Article 36. "Work Procedures and Operating Procedures". Electrical work conducted, which is not a part of SCE's electrical grid (e.g., office building electrical), must be compliant with all of Cal/OSHA's Electrical Safety Orders (Subchapter 5).

Prior to commencing work, Contractors shall:

- Require the use of safety devices and safeguards where applicable.
- Provide appropriate personal protective equipment, including Flame Resistant (FR) clothing that is appropriate for the hazards of the specific work to be performed. This includes ensuring that FR clothing is appropriately rated for the arc flash hazard of the specific work (e.g., the appropriate calorie rating).
- Furnish such safety devices and safeguards as may be necessary to make the work as free from danger as reasonably possible. Examine or test each safety device at such intervals as necessary to ensure that it is in good condition and adequate to perform the function for which it is intended.
- Instruct employees to inspect each safety device, tool, or piece of equipment each time it is used and to use only those in good condition. Devices furnished by the Contractor found to be unsafe shall be repaired or replaced.

8.16 Vegetation Management Work

Contractors conducting vegetation management work on behalf of Southern California Edison shall ensure all of their employees and Subcontractors have been trained in the requirements and work practices outlined in all federal, state and local regulations governing work practices associated with the work being performed. Specifically, work conducted on SCE's system is governed by Cal OSHA's High-Voltage Safety Orders Article 38 regulating Line Clearance Tree Trimming Operations, Cal OSHA's General Industry Safety Orders Article 12 regulating Tree Work Maintenance or Removal, and ANSI Standard Z133 identifying Safety Requirements for Arboricultural Operations. Additionally, vegetation management Contractors' safety programs shall integrate SCE's Critical Observable Actions (COAs) for Vegetation Management Line Clearance Tree Trimming Operations into their safe work practices while conducting work on behalf of SCE. These COAs were developed in collaboration with our Contractors and provide additional guidance on mitigation measures for higher-hazard activities in vegetation management work (e.g. the use of a false-crotch system while climbing palm trees; performing pre-trim/climb assessments; and clearing, marking and enforcing the fall/danger zone). If a conflict between regulations, standards, guidance documents or SCE's Critical Observable Actions for Vegetation Management Line Clearance Tree Trimming Operations are identified, the more stringent shall apply.

9 ENVIRONMENTAL REQUIREMENTS

Contractors shall:

- Comply with all applicable of federal, state, and local environmental regulations, as well as the terms and conditions of the contract and SCE environmental standards.

- Inform the Edison Representative should there exist concerns about any environmental regulatory requirements, and resolve any ambiguity prior to continuing work.
- Abide by all avoidance and minimization measures contained in the written project environmental clearance issued by ESD or other environmental requirements associated with environmental review (e.g., mitigation measures, applicant-proposed measures). If the project scope changes from that originally reviewed and cleared by ESD or avoidance measures cannot be undertaken as planned, create safety hazards for the work crew, or create conflicts with project objectives, the Contractor shall immediately contact the Edison Representative.
- When undertaking new and upgraded electrical system work involving voltages of 50 kilovolts (kV) and greater, the Contractor shall obtain guidance from the Edison Representative regarding project environmental and regulatory requirements prior to starting work, as additional regulatory requirement may apply, including filing advice letters and public notification.

9.1 Air Quality and Air Emissions

Each Contractor shall:

- Secure all required air permits for its own equipment without encumbering SCE with compliance obligations for that equipment.
- Operate equipment and perform work in compliance with applicable air regulations and air permits.
- Prepare and maintain any repaired logs, reports, or notifications, and provide copies to the Edison Representative upon request.

9.2 Biological and Archaeological/Historical Sensitivities

Contractors shall:

- Refrain from driving off established roads or performing grading, blading, trenching, digging, and/or vegetation removal, except within the bounds of an environmental clearance issued by ESD.
- Comply with SCE's Avian Protection Program by immediately reporting to the Edison Representative any bird mortalities at SCE facilities (substations, distribution lines, and transmission lines), not conducting work that may disturb active nests (i.e., nests with eggs or young birds) without prior approval from ESD, and avoiding tree-trimming or other potentially disruptive maintenance or construction activities in sensitive areas (e.g., riparian habitat) during nesting season (generally February through August) without prior approval from ESD.
- Stop work and contact the Edison Representative, if archeological, paleontological, or human remains are discovered.

9.3 Field Work Activities

Contractors shall:

- Provide personnel appropriate environmental training, which includes information regarding those resources and required avoidance and minimization measures, if an environmental clearance identifies sensitive biological or cultural resources or other environmental resources and sensitivities.
- Verify with the Edison Representative or Delegate that the proper permits have been obtained to enter land not owned by SCE and that there are programs in place to comply with the permits.

9.4 Hazardous Materials, Handling, Storage, and Transport

Contractors shall:

- Maintain all required permits, approvals, authorizations, logs, reports, or notifications, and provide copies to the Edison Representative upon request.
- Notify the Edison Representative immediately of any spills (of any quantity) or DOT-Reportable Incidents.
- Within one (1) business day, the Contractor shall submit the Contractor Incident and Evaluation Report, Part 1 (see Attachment A) via email to the Edison Representative copying ESD at GOTSPILL@sce.com.
- If thresholds are exceeded, maintain required Hazardous Material Business Plan (HMBP) documentation as necessary.

9.5 Water Quality

Contractors shall ensure the following:

- When working with hazardous materials, Contractors shall employ Best Management Practices to prevent spills from entering a storm drain.
- Most SCE facilities have Spill Prevention, Control, and Countermeasure (SPCC) and Storm Water Management Plans (SWMPs) as required by SCE. Contractors shall comply with the requirements of the SPCC/SWMP.
- Contractors shall not discharge any material into storm drains, sewers, or waterways, unless the discharge complies with the site's SPCC/SWMP and applicable laws, regulations, and permits.
- If thresholds are exceeded, Contractors shall develop and implement an SPCC Plan related to Contractor materials.
- If any land disturbance totaling one (1) acre or more is required (including, but not limited to, temporary roads, parking areas, and material laydown areas), the Contractor shall contact the Edison Representative to determine whether a Water Quality Management Plan, Storm Water Pollution Prevention Plan (SWPPP), or other water quality compliance document needs to be developed or permit must be obtained. Additional water quality requirements by the Municipal Separate Storm Sewer System (MS4) municipality could be imposed for land disturbance of less than one (1) acre.
- If any land disturbance beyond the approved project scope of work occurs, including spill cleanup, dredging, and filling in a waterway, the Contractor shall immediately notify the Edison Representative.
- When dewatering from a utility vault or underground structure, Contractors shall adhere to SCE's EN2 document (Underground Structure Water Handling and Disposal procedure), and meet the requirements of the current General Vault Discharge Permit issued by the state.
- When commercial vehicle washing is performed at an SCE facility, Contractors shall ensure that wastewater runoff does not enter a storm water drain. The waste water must either be directed to an onsite wash rack/clarifier or be collected and disposed out of the SCE facility in accordance with applicable laws and regulations and pending approval of the Edison Representative.

9.6 Waste Handling, Storage, Transport, and Disposal

Contractors shall:

- Coordinate waste management resulting from an SCE project with the Edison Representative.
- Use approved hazardous waste disposal and transportation vendors, and non-hazardous waste disposal facilities, that are authorized and approved by ESD.
- Maintain any required logs, reports, or notifications and provide copies to the Edison Representative upon request.
- Deliver Generator copies of Uniform Hazardous Waste Manifests to the Edison Representative within 48 hours of hazardous waste shipments.
- Comply with the Hazardous Waste Management Standard if the job involves handling, generating, characterizing, packaging, storing and labeling hazardous waste.

10 DEFINITIONS

Actual and Potential Life- Threatening/ Life-Altering Incidents	Incidents including any one of the following incident types: • Actual Life Threatening (LT) - Requires immediate life-preserving rescue action that, if not applied, would likely result in the death of the person, and will usually require external emergency response to provide life-sustaining support. Includes fatalities. • Actual Life Altering (LA) - Results in a permanent and significant loss of a major body part or organ function; permanent changes, long-term impairment or disability to normal life activity. • Potential LT or LA- Had circumstances been different by one or two factors there is a high probability the outcome could have become a Life Threatening or Life Altering incident.
Competent Person	One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate the existing and predictable hazards.
Conditional Contractors	Safety Tier 1 Contractors who, following safety performance and program review by the TPA, exhibit areas in their historic safety performance that meet SCE and/or industry standard and may have scored low in safety culture but are qualified to perform work at SCE with the condition that additional mitigation procedures contained in a Conditional Contractor Plan are in place to correct previously identified deficiencies..
Confined Space	A space that has the following three requirements: 1) is large enough and so configured that an worker can bodily enter and perform assigned work; 2) has limited

	or restricted means for entry or exit (e.g. tanks, vessels, vaults, pits); and 3) is not designed for worker occupancy.
Contractor	The party entering into a contract to perform work for SCE. This term also includes the Contractor' agent, person, or persons authorized to represent the Contractor, such as the Contractor's superintendent or foreman. For this Handbook, the term “Contractor” is used to denote both Prime Contractors and Subcontractors unless otherwise stated.
Contractor Representative	The Contractor employee named in the contract or appointed by the Contractor to act on behalf of the Contractor.
Close Call	Work-related incident that did not result in an unplanned event but had the potential to be an event if circumstances had been different. These are incidents where some controls may have failed (e.g., barriers, defenses, safe guards) possibly preventing the event from occurring.
Contractor Safety Quality Assurance Review (CSQAR)	An onsite and detailed assessment of a selected Contractor’s safety program implementation and field performance. The process includes a desktop review, field observations and leadership engagement.
CPUC-Reportable Incidents	The CPUC defines reportable injuries as those that meet any of the following criteria: • Fatality or personal injury rising to the level of inpatient hospitalization • Are the subject of significant public attention or media coverage • Damage to property of the utility or others estimated to exceed $50,000 and are attributable or allegedly attributable to utility-owned facilities
Deliverables	Documentation, material, and any other works and services or deliverables delivered by Contractor to Edison under the Agreement.
Delegate (of Edison Representative)	An Edison employee or Supplemental Worker designated by the Edison Representative who is familiar with the contract work being performed and trained to act as an SCE point of contact for contracted work.
DOT-Reportable Incidents	During the course of transportation in commerce (including loading, unloading, and temporary storage) as a direct result of a hazardous material: • A person is killed • A person receives an injury requiring admittance to a hospital • The general public is evacuated for 1 hour or more • A major transportation artery or facility is closed or shut down for 1 hour or more or the operational flight pattern or aircraft routine is altered • Fire, breakage, spillage, or suspected radioactive contamination occurs involving a radioactive material • Fire, breakage, spillage, or suspected contamination occurs involving an infectious substance other than a diagnostic specimen or regulated medical waste • A release of a marine pollutant in a quantity exceeding 450 liters (119 gallons) for liquids of 400 kilograms (882 pounds) for solids; or a situation exists of such a nature (e.g., a continuing danger to life exists at the scene of

	the incident) that, in the judgment of the person in possession of hazardous material, it should be reported to the National Response Center even though it does not meet these criteria • An unintentional release of a hazardous material from a package (including a tank) or any quantity of hazardous waste that has been discharged during transportation
Edison Representative	An SCE employee responsible for managing the work performed under a contract. The Edison Representative may designate a trained SCE point of contact who is familiar with the contract work being performed.
Environmental Incident	Any incident involving a release of potentially hazardous material and/or unauthorized substance into the air, ground, storm drain, waterways, etc., or any action that violates federal, state, or local environmental laws and regulations. Any release that requires reporting to any federal and/or state agency is considered an environmental incident.
Enclosed Space	A working space, such as a manhole, vault, tunnel, or shaft, that has a limited means of egress or entry, that is designed for periodic employee entry under normal operating conditions, and that, under normal conditions, does not contain a hazardous atmosphere, but may contain a hazardous atmosphere under abnormal conditions.
First-Aid Incident	The definition criteria of First Aid is available at: Cal/OSHA (Chapter 7. Division of Labor Statistics and Research Subchapter 1. Occupational Injury and Illness Reports and Records Article 2. Employer Records of Occupational Injury or Illness) §14300.7 General Recording Criteria (b) (5) (B). Can be described as an injury, illness, or incident requiring medical attention that is usually administered immediately after the injury occurs and at the location where it occurred, and often consists of a one-time, short-term treatment and requires little technology or training to administer. First aid can include cleaning minor cuts, scrapes, or scratches; treating a minor burn; applying bandages and dressings; the use of non-prescription medicine; and drinking fluids to relieve heat stress.
Hazardous Material	Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment, if released into the workplace or the environment. Hazardous materials include hazardous substances, hazardous wastes, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment, if released into the workplace or the environment. Substances that are flammable, corrosive, reactive, oxidizers, combustible, or toxic are considered hazardous. Examples are oil, fuels, paints, thinners, compressed gases (e.g., acetylene, carbon dioxide, oxygen, nitrogen), radioactive materials, and pesticides.
Hazardous Waste	A waste, or combination of wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in serious, irreversible, or incapacitating reversible illness, or pose a substantial present or potential hazard to human health, safety, welfare or to the

	environment when improperly treated, stored, transported, used, or disposed of or otherwise managed; however, this does not include solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under section 402 of the Federal Water Pollution Control Act of 1967 as amended, or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954.
Incident	An event that results in an injury, illness, or close call.
Injury/Illness	Condition or disorder. Injuries include, but are not limited to, a cut, fracture, sprain, or amputation. Illnesses include both acute and chronic illnesses, including, but not limited to, a skin disease, respiratory disorder, or poisoning.
Job Hazard Analysis (JHA)	A process-based document that identifies the critical steps of commonly performed tasks. In evaluating these steps, the potential hazards and recommended hazard mitigation are identified. Note: The JHA is different from the Tailboard.
Minor Injury/Illness	Injury, illness, or incident that is not life threatening or altering but requires more attention than just First Aid.
Observation Program	A workplace safety program focusing on identifying and eliminating at-risk behaviors. This type of program aims to document and record safe and at-risk behaviors and conditions accurately and objectively.
Potential Life Threatening and Life Altering Incidents	See Actual and Potential LT/LA Incidents definition.
Prime Contractor	A Contractor who has a contract for work with SCE and has the full responsibility for its completion. A Prime Contractor may employ and manage one or more Subcontractors to carry out specific parts of the contract.
Property Damage	Any incident involving loss and/or damage to SCE-owned or non-SCE-owned property. The reporting requirement applies only to incidents that occur in the course of performing authorized contracted work and/or services on behalf of SCE.
Qualified Contractors	Safety Tier 1 Contractors who, following safety performance and program review by the TPA, meet or exceed SCE-established standards for safety performance and programs and are approved to perform Safety Tier 1 work at SCE.
Regulatory Agency Visit	Site visit by a federal, state, or local agency that has regulatory oversight of any aspect of utility operations and initiates a visit or contract to evaluate compliance.
Safety Professional	A certified safety employee whose responsibility is solely that of ensuring safe work practices and compliance with safety and health regulations.
Serious Injury	The definition to be used for “serious work injuries” has its basis in the CCR Title 8 §330, Definitions:

	Any injury or illness (including death) occurring in a place of employment or in connection with any employment which requires inpatient hospitalization for a period in excess of 24 hours for other than medical observation or in which an employee suffers a loss of any member of the body or suffers any serious degree of permanent disfigurement.
Services	The services and deliverables, if any, to be provided by the Contractor as described in the applicable scope of work and the corresponding purchase order.
Source Contract	A contract that includes long-term services and repetitive project work under an agreement that lasts for an extended period of time.
Source Contractor	A Contractor who performs repetitive project work under an agreement that lasts for an extended period of time.
Stop Work	The principle that all SCE employees and Contractor workers take personal responsibility to Stop Work when they observe hazardous conditions or unsafe actions so that the unsafe conditions/actions can be mitigated.
Subcontractor	A business or person hired by a Contractor to carry out specific parts of a contract for SCE as part of a larger project.
Third Party Administrator (TPA)	A professional service provider contracted by SCE to evaluate Contractor safety performance and programs on behalf of SCE. ISNetworld (ISN) currently serves as SCE's TPA.
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 these activities may include, but may not be limited to, air operations, general construction, trenching and excavation, demolition, activities requiring lockout/tagout, line-crew and energized electrical work, transportation of hazardous chemicals, Confined Space entry, hot work, working at heights, cleanup and remediation of hazardous substances or hazardous material waste, use of heavy machinery and equipment, and heavy lifting and rigging.
Safety Tier 2	A designation assigned to contracted work activities that are lower-risk or routine in nature and not typically considered hazardous.
Tailboard	A conference, pre-job briefing, tailgate meeting, job procedure discussion, or talking the job over before starting to work to ensure all supervisors and members of each crew involved thoroughly understand the job to be performed and the method of accomplishing it in a safe manner. Note: The Tailboard is different from the JHA.
Unqualified Contractors	Safety Tier 1 Contractors who, following safety performance and program review by the TPA, do not meet SCE and/or industry standards for safety performance and/or safety programs and cannot perform work at SCE. Contractors having TPA F grades are classified as Unqualified Contractors. Contractors having TPA C grades are also classified as Unqualified Contractors if they do not have SCE-approved Conditional Contractor Plans. Unqualified Contractors cannot perform any Tier 1 work for SCE.

11 REVIEW/REVISION HISTORY

Rev.	Date	Description of Revision	Contact
0	2/15/08	Initial distribution.	T. Roberts
1	6/9/08	Added discussion of the EHS Contractor Orientation Checklist and the sufficient English language comprehension requirement (2.1 h).	T. Roberts
2	6/19/08	Editorial changes, expanded definition of Edison Representative.	T. Roberts
3	10/1/09	Feedback from SCE organizations and legal review. Deleted the terms "directing and approving" from the discussion on the Edison Representatives responsibilities in Section 1.0 on Page 4. Added definition of DOT Reportable incidents.	T. Roberts
4	11/01/10	Editorial changes. Approved by: • Cecil R. House, Senior Vice President, Safety, Operations Support & Chief Procurement Officer • William Messner, Acting Director, Corporate EHS • James P. Meyers, Director, Supply Chain Management	T. Roberts
5	7/17/12	Feedback from all SCE organizations and legal review. Significant additions and/ or revisions include: • Added new content to address New Construction projects. • Added new content to address contracted jobs that do not involve purchase orders and the responsibilities to conduct Contractor EHS Orientations. • Provided reporting clarification for injury and environmental incidents. • Revised the process for completing and submitting written reports for non-serious injuries and property damage incidents. Contractors will complete and submit a monthly report to Corporate Health and Safety. Added a reporting template for Contractors to use. • Added new content involving the areas of Radio Frequency (RF) Exposures and Industrial Hygiene. • Added new content and detail involving the Water Quality section of the handbook.	Albert Chin
6	6/15/15	Editorial changes and new requirements related to the implementation of the Contractor Safety Management Standard.	S. Hart

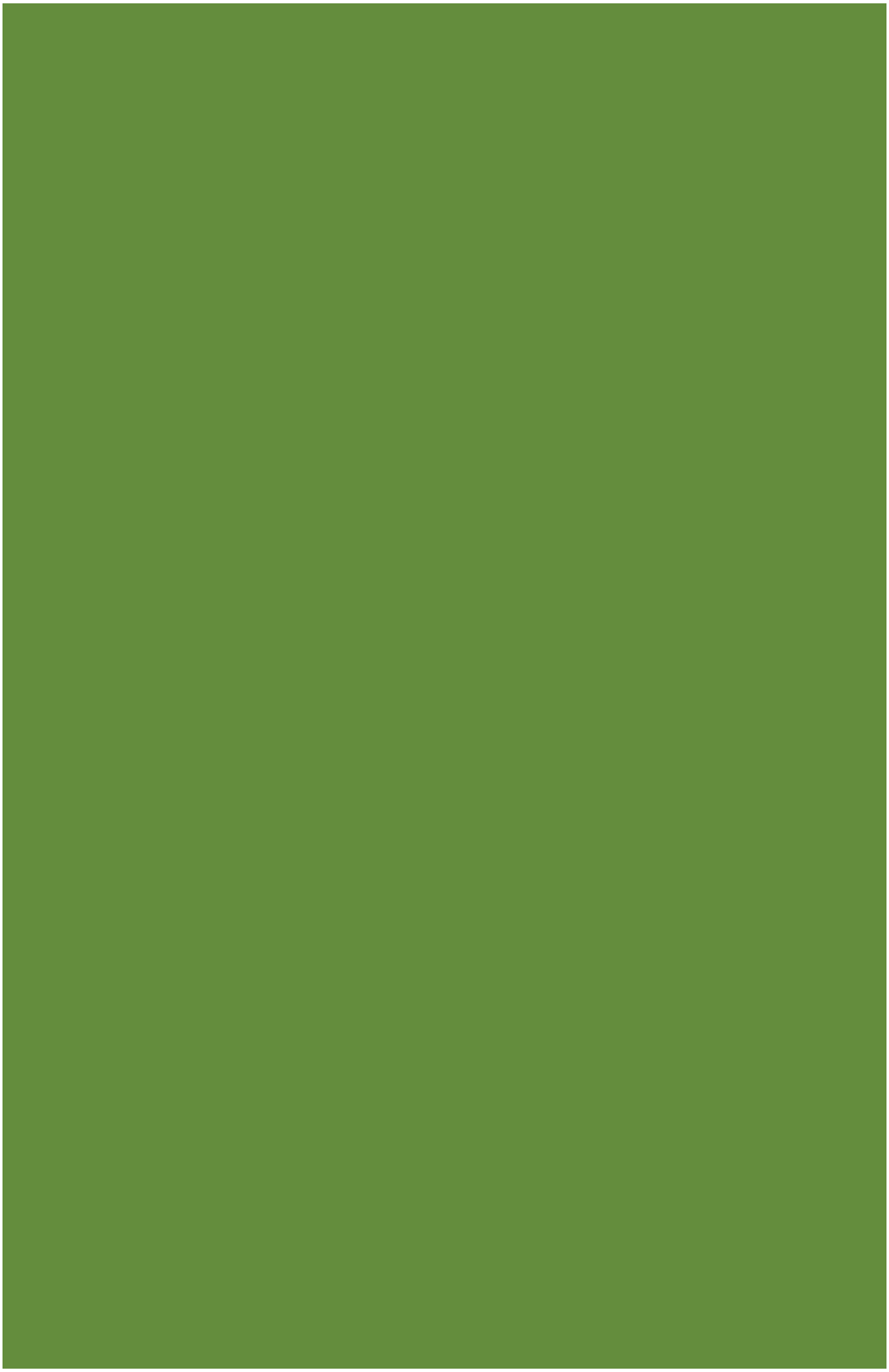
Rev.	Date	Description of Revision	Contact
7	12/1/16	Changes to align with the 2017 Contractor Safety Management Standard enhancement, including the addition of the Handbook for Contractors Checklist. Major revision to the Incident Reporting Section and the Incident Evaluation Report.	J. Parker
8	2/14/19	Changes to align with the 2019 Contractor Safety Management Standard enhancements, including significant revisions to the Safety Qualification and TPA grading, Contractor Orientation forms, and Incident Reporting. Added new requirement for Contractor Observation Program.	C. Coker

Appendix G.
Supplier Code of Conduct

EDISON INTERNATIONAL®

Edison International Supplier Code of Conduct





For more than 125 years, Edison International Company (Edison), and its predecessor companies, have worked hard to earn and maintain the trust of our customers and the communities in which Edison's employees live and work. Edison's vision is built upon our core values of Integrity, Excellence, Respect, Continuous Improvement, and Teamwork.

Ethics and compliance are all about those values. Our values should guide our behavior and our behavior should match our values. Edison expects its suppliers to embrace these values and comply with all laws and regulations and to conduct their business in an ethical manner in all aspects of their dealings with their employees, their customers, their suppliers, and all governmental agencies that oversee and/or regulate their activities. Suppliers are defined as individuals or organizations that provide materials or services to the Company, including but not limited to, contractors, vendors, professional service providers, agents and supplemental workers.

This Supplier Code of Conduct contains principles and standards recognized and adopted by a wide spectrum of industries. Edison expects its suppliers as well as their employees, sub-suppliers, and subcontractors, to follow this Supplier Code of Conduct, and to promote ethical conduct at all times. Failure to do so could result in termination of existing contracts and removing a supplier from consideration for future business opportunities.

Suppliers and their representatives should direct any questions, concerns or non-compliance with the Edison Supplier Code of Conduct to one of the following:

- The supplier's internal ethics reporting process
- Your Edison supply management or business contact
- The Edison HelpLine at 1-800-877-7089 or through the internet at **www.EdisonHelpLine.com**. You may remain anonymous.

Complying with Laws, Rules, and Regulations

Edison suppliers must adhere to all laws, regulations, and other legal requirements that apply to their business or any work performed on Edison's behalf. Edison can be a company with integrity only if we and our suppliers obey the law. Suppliers must conduct their business in an ethical manner, and take reasonable steps to ensure that products and services procured on behalf of work for Edison are from ethical sources and that sub-suppliers related to Edison work are aware of and comply with the principles of this Supplier Code of Conduct. Suppliers must comply with the terms of their agreements with Edison, comply with

all laws and regulations, and refrain from any illegal or inappropriate behavior, including all forms of extortion, bribery, kickbacks or other improper payments; antitrust or anti-competition practices (e.g., price fixing or bid-rigging); misrepresentation; or actions intended to obtain an improper advantage. This includes, but is not limited to:

Antitrust and Fair Competition Laws: Compete fairly and comply with all applicable laws and regulations that prohibit unlawful restraints of trade or monopolies, or unfair or deceptive business practices. Suppliers must avoid agreements, formal or otherwise, with their competitors to restrain trade, such as agreements to fix prices, rig bids, or divide territories or markets. Suppliers must not misrepresent their products or services, or their competitors' products or services.

Anti-Corruption Laws (including the U.S. Foreign Corrupt Practices Act, United Kingdom's Bribery Act, and any other applicable foreign or U.S., federal, state or local laws that prohibit bribes, kickbacks and similar conduct): Comply with Edison's policy that prohibits any offers or any direct or indirect payment or gift to any government or political official for the purpose of influencing the official to take any action, violate any duty, or give Edison any improper advantage. Edison prohibits all forms of bribes and kickbacks, including facilitation payments, even if legal under local foreign law.

Insider Trading Laws and Regulations: Comply with U.S. securities laws that prohibit individuals from buying or selling securities when they know material information that is not available to the public and prohibit sharing such information with others. This includes information related to Edison and trading in Edison securities.

Customs and Import/Export Laws: Ensure that any transfer of products, services, software, equipment, information or knowledge across U.S. and other borders is lawful and in accordance with applicable rules and regulations, including the U.S. Export Administration Act.

Political Contribution and Lobbyist Activities: Follow all federal, state, and local government regulations, limits, and reporting requirements pertaining to political contributions and lobbyist activities. Make no contribution on behalf of Edison without Edison's permission.

REPORT ALLEGATIONS AND VIOLATIONS

If there is an allegation of a violation of law relating to the supplier's business with Edison, or an allegation of a violation of any terms in contracts with Edison, contact the Edison supply management or business contact or the Edison HelpLine at 1 800 877 7089 or through the internet at **www.EdisonHelpLine.com**. You may remain anonymous.

Employment Practices and Conduct in the Workplace

Edison is committed to providing a workplace environment that is based upon respect and integrity and that promotes teamwork and excellent performance. Suppliers are expected to act in ways that support these goals and must comply with all applicable labor and human rights laws including:

Equal Opportunity and Non-Discrimination: Provide equal employment opportunities to employees and job applicants and maintain a workplace free from discrimination and retaliation that is unlawful under federal and state law. Suppliers are expected to provide equal opportunity to all, regardless of age, color, disability, ethnicity, gender, race, religion, veteran status, sexual orientation, and other protected characteristics.

Child Labor: Prohibit the employment of individuals under the legal minimum working age of the jurisdiction or country where the supplier operates, unless that requirement is below the standards established by the International Labor Organization (ILO) (generally requires workers to be 15 years or older for non-hazardous conditions and 16 or older for positions identified as potentially hazardous). In such cases, supplier must meet the ILO standards.

Forced or Compulsory Labor: Prohibit the use of forced or involuntary labor whether bonded, imprisoned, or indentured, including debt servitude.

Working Hours: Comply with all work hour laws and regulations, including laws of other countries as applicable.

Wages and Benefits: Comply with all applicable wage and benefit laws and regulations, including laws of other countries as applicable.

Freedom of Association: Comply with all applicable laws relating to employees' rights to engage in concerted activity or collective bargaining, including laws of other countries as applicable.

Fitness for Duty: Ensure that their employees are not under the influence, or in possession of alcohol or other controlled substances that impair their ability to perform their work in a safe and reliable manner.

Harassment Free Workplace: Prohibit harassment, including sexual harassment, in the workplace. Harassment, whether overt or subtle, is forbidden by Edison and will not be tolerated.

Whistleblower Protections and Non-Retaliation

Edison's Compliance, Reporting and Non-Retaliation Policy prohibits retaliation in any form against a person for reporting a compliance or ethical issue or for any other reason. Edison's goal is to have a work environment where employees and suppliers feel safe to report issues without fear of retaliation or retribution.

Edison expects its suppliers to protect an individual's right to report misconduct or noncompliance with regulations or other ethical issues. Suppliers must comply with Whistleblower laws, including those promulgated by the Securities and Exchange Commission (SEC) and Commodities Futures Trading Commission (CFTC). These laws can include requirements such as protecting the individual from retaliation and providing confidential reporting mechanisms.

Health, Safety and Environment

Edison is committed to the health and safety of its employees and to the public. Suppliers are expected to support this commitment, and must comply with all applicable health, safety and environmental laws and regulations and to follow all applicable policies and procedures. Suppliers must:

Health and Safety: Be committed to the health and safety of their employees, Edison employees, Edison customers, and the public; ensure that required training of personnel, including sub-suppliers and subcontractors, has been completed prior to starting any work for Edison; control exposure to safety hazards to the worker and to the public; and ensure workers stop any time unsafe conditions or behaviors are observed until the job can be completed safely.

Environmental laws and regulations: Comply with all applicable environmental laws and regulations and conduct their operations in a way that protects the environment.

Conflicts of Interests

Edison expects its suppliers to act in Edison's best interests and to support

Edison's Conflicts of Interest Policy. Suppliers must never improperly benefit at the expense of Edison. Avoiding conflicts of interest, and the appearance of conflict, is a key aspect of acting with integrity and striving for excellence. This includes:

Business Opportunities: Never allow an Edison employee who may be in a position to influence business decisions involving the supplier to hold any position with or have a significant financial interest or other substantial relationship with that supplier.

Gifts and Entertainment: Abide by Edison's policy regarding the restrictions on business courtesies including gifts, meals and entertainment to Edison employees. Edison prohibits employees from exchanging business courtesies that are designed or intended to obtain preferential treatment in a business transaction.

Edison strongly discourages the giving of gifts to Edison employees. However, unless prohibited by law or departmental policy, Edison employees may accept occasional and reasonable business courtesies including gifts of a nominal value for which there is no likelihood of improper influence or what could be perceived as improper influence. Gifts of nominal value include such things as promotional trinkets, coffee mugs, mementos, shirts, and calendars. Suppliers must not provide gifts having a value of more than $75.00. Gifts of cash or cash equivalents, such as gift cards, securities in a company, or personal loans, are prohibited.

A supplier may provide infrequent meals or entertainment that serve a business purpose and are not extravagant, however, the supplier must be present (otherwise these are gifts).

If the supplier is in a bid process or contract negotiations with Edison, the supplier must not offer gifts, meals or entertainment of any kind to Edison employees involved in this process or employees in positions involving direct influence over the supplier's work for Edison. If a dinner is arranged between Edison and the supplier during the bid process or contract negotiations, either Edison must pay for the entire cost of the meal or each party must pay its own share.

Suppliers shall keep and maintain accurate books of record and accounts and all relevant documentation relating to any gifts, meals, and entertainment given by the supplier to any Edison employee or to any party on Edison's behalf. Upon Edison's request, the supplier must provide this record and documentation to Edison within 90 days.

Disclosure and Notification of Potential Conflicts of Interest: Disclose any potential conflict of interest to Edison, including any potential conflict of interest involving a subcontractor or other party.

If a conflict of interest arises after an agreement has been entered into, notify the Edison supply management or business contact or the Edison HelpLine at 1-800-877-7089 or through the internet at **www.EdisonHelpLine.com**. You may remain anonymous.

Influencing Bids and Contract Negotiations

Suppliers are expected to help safeguard and maintain the integrity of Edison's bid and contract negotiation process. Suppliers shall refrain from initiating or participating in private discussions about a bid or proposed contract (prior to an award) with any Edison employee or business contact not specifically authorized to speak on Edison's behalf in order to influence the outcome of a bid or contract award. This prohibition does not apply to a supplier's disclosure and notification of potential conflicts of interest or reporting of violations or concerns to Edison.

Records

Accurate records and protecting personal information are essential to maintain the trust of Edison's investors, regulators, customers, and others. Edison's records and information are not permitted to be used for personal use or gain or business use beyond that allowed under the contract. Edison is committed to the responsible collection, use, and protection of all personal information over which it has custody or control. Edison requires its suppliers to:

Accuracy of Business Records: Maintain accurate financial and operational records in accordance with all applicable laws, regulations, and accepted accounting principles.

Records Retention: Maintain, retain and dispose of business records associated with their work for Edison in accordance with all applicable legal and contractual obligations.

Third Party Requests for Information: Notify Edison immediately regarding any request from a third party for Edison information, unless prohibited by law.

Privacy Laws and Regulations: Safeguard and protect information, including Edison Personal Information, covered by privacy laws and/or restricted by Edison's policies and/or procedures. Suppliers must ensure that information covered by privacy laws is handled in accordance with all

applicable legal and regulatory requirements, including federal and state regulations, such as California's privacy laws, or the California Public Utilities Commission's Smart Grid Data Privacy regulation.

Notification of Unauthorized Use or Disclosure: Notify Edison in accordance with the terms of the contract if there is an unauthorized use or disclosure of Edison Personal Information covered by privacy laws and/or restricted by Edison's policies and/or procedures. If not specified in the contract, notification must be made by calling the Edison HelpLine at 1-800-877-7089.

Security and Use of Property, Resources and Information

Edison is committed to the security of its employees and facilities. Edison values and protects confidential information, including information about our customers, employees, operations, and finances. Our suppliers and their representatives must adhere to all required security measures and requests while on Edison premises, cannot circumvent security controls or processes, and must protect Edison resources and information. Suppliers must:

Edison Resources, Assets and Information: Safeguard Edison resources including property, equipment, tools, intellectual property, confidential information, and information covered by privacy laws. Suppliers must use Edison resources and information only for legitimate Edison business purposes. Edison resources are not permitted to be used for personal use or gain or business use beyond that allowed under the contract. Suppliers must abide by the state and federal affiliate rules restricting the sharing of non-public information both within and between certain Edison companies. Any questions, issues or concerns about these affiliate restrictions should be directed to your Edison business contact.

Suppliers must protect Edison information from unauthorized use or disclosure. If the supplier should breach this obligation, it must notify Edison in accordance with the terms of the contract, or if not specified in the contract by calling the Edison HelpLine at 1-800-877-7089.

Violence Free Workplace: Prohibit violence in the workplace. Verbal or physical acts of violence are forbidden by Edison and will not be tolerated. Any threats or incidents of violence involving an Edison employee or an Edison facility must be reported to Edison HelpLine at 1-800-877-7089.

Firearms and Other Weapons: Suppliers and their representatives are not allowed to carry weapons on any Edison facility or any Edison job site

without Edison's prior written approval, even if they possess concealed weapons permits.

Information Systems: If granted access to Edison's information systems, ensure the security of any Edison information systems and comply with all applicable information security policies and procedures. Assure that access for their employees who no longer do work for Edison is terminated by immediately notifying Edison in accordance with the terms of the contract, or if not specified in the contract by contacting your Edison supply management business contact. Suppliers must report any violations of the applicable information security policies and procedures by calling the Edison HelpLine at 1-800-877-7089.

Access to Premises: Supplier personnel who, in the course of their Edison work, have been given non-employee identification cards, building keys and/or access devices or codes that are used to gain entry to Edison premises must safeguard such items and follow all policies and procedures applicable to access to Edison premises and systems. These items shall not be duplicated and they cannot be transferred without Edison's consent. When access is no longer required or at Edison's request, suppliers must return all such access items.

Communication with the Media

Edison has designated spokespersons authorized to communicate with the media on behalf of Edison. Suppliers must not communicate with the media on behalf of Edison except with Edison's Corporate Communications department's advanced written approval. In addition, use of Edison's name or logo in any publicity, advertising, or Web site without prior written approval is strictly prohibited.

Diversity

Edison serves one of the most diverse communities in the nation, and we work with suppliers and partners who reflect that diversity. Our company will be stronger and more successful by honoring the diversity of people and ideas. We are committed to maximizing opportunities for women, minority and disabled-veterans business enterprises. We search for suppliers that share this value and expect our suppliers to share our commitment and support our goals for diverse suppliers.

Communication of Code

Edison suppliers should take appropriate steps to ensure that this Supplier Code of Conduct is communicated and understood by their employees,

agents, subcontractors, sub-suppliers and representatives doing business with or on behalf of Edison. This includes taking appropriate steps to ensure that the supplier's own supply chain adhere to these standards as well.

Reporting Violations or Concerns

Suppliers and their representatives should use one of the methods listed below to direct any questions or concerns about the Edison Supplier Code of Conduct. For assistance resolving a business practice concern or issues regarding contract terms, please work with your Edison supply management or business contact.

Suppliers are required to report any allegations of wrongdoing or misconduct relating to their work for Edison, including but not limited to any illegal actions and any inaccuracies or misleading data, using one of the following:

- The supplier's internal ethics reporting process
- Your Edison supply management or business contact
- The Edison HelpLine at 1-800-877-7089 or through the internet at **www.EdisonHelpLine.com**. You may remain anonymous.

Edison will not tolerate any retaliation or retribution taken against any individual who has sought advice or has reported a possible violation of this Supplier Code of Conduct.



Additional copies of the Edison International Supplier Code of Conduct can be downloaded from **www.SCE.com**.



P.O. Box 800 • Rosemead, CA 91770

JUNE 2015

Appendix H.
Work Restrictions During Fire Weather Conditions

SOUTHERN CALIFORNIA EDISON
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Work Restrictions During Fire Weather Conditions

SCE has developed this program to restrict or delay field work during fire conditions. This program applies to both SCE employees and contractors. The objective of this program is to reduce the risk of SCE personnel causing an ignition during the normal course of their work when the weather and fuel conditions are more susceptible to fire ignitions. The details of this program are outlined below.

Region Managers (Distribution), Regional Construction Managers (Distribution), District Managers (Distribution), Grid Managers (Transmission), Vegetation Management Region Managers (Vegetation Management) and OU Leadership (other OU's) are responsible for ensuring that SCE and contract crews receive training and comply with this program.

Fire Weather Threat:

During fire weather threat conditions, SCE's Public Safety Power Shutoff (PSPS) Incident Commander will declare various levels of Fire Weather Threat (FWT) based on an assessment of weather and fuel conditions, as determined by SCE's Meteorology and Fire Science groups. During FWT declarations, SCE will initiate applicable mitigations to reduce the risk of an ignition.

Moderate Fire Weather Threat:

When SCE operating organizations receive notice that a Moderate FWT has been issued in their operating areas, zones and/or districts, emergency and non-emergency work may only be performed in SCE's High Fire Risk Areas (HFRA) when all of the following mitigations are in place:

1. Under the direct observation of the crew foreman or site lead;
2. Hot work permits (where applicable) are in place prior to commencing work;
3. Local weather conditions, terrain, and surrounding vegetation would permit the crew to extinguish a fire resulting from the work being performed;
4. The crew is able to maintain adequate communications (900 MHz, cellular, satellite phone, etc.);
5. Work vehicle(s) must be equipped with, at minimum, the following fire suppression equipment (shovel, water backpack (SAP #10139480), and ABC fire extinguisher). Such equipment must be readily available in the immediate area of the work being performed that would facilitate an immediate response to an ignition.
6. Care should always be taken not to park or drive vehicles on dry grass, leaves, or brush; AND
7. The opening of any air break pole switch (both load break and non-load break) are performed under visual observation to watch for abnormalities.

These work restrictions shall apply to circuits in HFRAs that are under operating restrictions during the Moderate FWT. This applies for the duration of the declaration.

Elevated and Severe Fire Weather Threat:

During Elevated and Severe FWT conditions, SCE's Incident Commander may elect to activate an Incident Management Team to oversee its PSPS Protocol.

With Circuit(s) on the PSPS Monitoring List: When SCE operating organizations receive notice that circuits in their jurisdictions are specifically listed on the PSPS Monitoring List, all non-emergency work activities on such circuits that have the possibility of causing an ignition (e.g. metal cutting, welding, grinding, road grading, mowing, chain saw, etc.) and/or non-emergency energized work shall be cancelled during the period of concern and subsequently rescheduled when conditions improve. Emergency work (required for outage restoration or mitigation of public safety hazard) may only be performed if the above mitigations (#1 - #7) are in place. These restrictions shall apply to all work groups operating in the areas of concern.

Note: If there are changes to the forecast and circuits are added to the PSPS Monitoring List with a period of concern that is concurrent to hot work being performed, work must be safely stopped. Requested exceptions shall be provided to the PSPS IMT Incident Commander for review and approval along with the appropriate justifications and described mitigations.

Exclusions:

- When work meets the above criteria and is confined to an area devoid of flammable or combustible materials (e.g. parking lot, commercial area, agricultural lands, bare ground, work indoors etc.) and can be controlled under windy conditions, non-emergency work may still proceed. Additionally, non-emergency work that does not have the potential to emit sparks or emit a flame and cannot ignite a fire may also continue to be performed.
- Planned project work operating under a federal or state license or permit (e.g. US Forest Service Master Special Use Permit) shall be allowed to proceed under the fire management plan or other requirements specified in that license or permit, so long as the plan or requirement meets or exceeds mitigations #1-7 above.
- When a circuit is de-energized and repairs to any identified priority notifications are needed, work may be performed to remediate such repairs so long as the work activities do not have the possibility of causing an ignition as stated above. In addition, the work plan shall meet or exceed mitigations #1-7 above and be approved by the responsible District Manager or representative.

Note: Red Flag Fire Patrol magnetic or vinyl signs (2) should be displayed on designated vehicles when operating in an affected SCE HFRA during a Red Flag Warning. (Magnetic = SAP #10212566 / Vinyl = SAP #10212567)

Fire Monitoring and Patrol:

When SCE operating organizations receive notice that any of the above declarations have been issued in their operating areas, zones and/or Districts, field crews operating in SCE HFRAs must remain alert for fires or possible fires while in HFRA areas. Any identified fires must be immediately reported to 9-1-1 and the appropriate Switching Center or Control Center as soon as possible.

In addition to calling 911, the reporting of fires or potential fires shall be handled as follows:

- Transmission and Distribution employees (including Vegetation Management) will notify the local Switching Center
- IT and Transmission Telecom employees will notify the Telecommunications Control Center
- Corporate Real Estate, Environmental Services, and Corporate Security employees will notify the Edison Security Operations Center
- Generation employees will notify Generation Dispatch
- Contractors must also notify their Edison Representative

Appendix I.
Pedestrian Traffic Control

Transmission and Distribution

Pedestrian Traffic Control Manual
(PTCM)

Pedestrian Safety Program

*This document is controlled when viewed on Portal. When downloaded and printed, this document becomes **UNCONTROLLED**, and users should check Portal to ensure that they have the latest version.*

This manual and the information contained in it are for Southern California Edison use only.

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This manual was published by

Transmission & Distribution Construction Methods

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SCE POLICY STATEMENT

It is Southern California Edison's policy to maintain public and employee safety by maintaining or providing a pedestrian right-of-way during construction or repair of its facilities. At all SCE construction sites where the work encroaches upon a public right-of-way and reduces the existing pedestrian path of travel to less than 48 inches wide for a duration greater than two (2) hours, SCE will provide an alternate path of travel in accordance with this, the *SCE Pedestrian Traffic Control Manual*. When work will take four (4) hours or more, SCE will provide portable ramps for access to curbs as needed to maintain the pedestrian right-of-way.

Providing the alternative path(s) of travel for pedestrians requires work area protection, vehicular traffic control, and selecting an acceptable alternative path based upon the standards in this manual. It is important that the use of the alternative path is clearly communicated to the pedestrian by correctly using American with Disabilities Act (ADA) approved pedestrian traffic control devices such as, but not limited to, those listed in Section III of this manual.

If there are any questions, please contact the Transmission & Distribution Construction Methods Help Desk at PAX 15188 or outside line 909-548-7188.

1. INTRODUCTION

Southern California Edison (SCE) is committed to providing safe pedestrian travel during construction of its facilities. SCE initiated a pedestrian right-of-way program to provide safe and accessible travel around SCE projects requiring temporary closure of improved pedestrian right-of-ways (pursuant to SCE Policy Statement). SCE overhead and underground construction projects may encroach into the pedestrian right-of-way and obstruct continuous paths of travel. Alternate routes that are safe and accessible through and/or around the construction sites must be provided.

This manual contains detailed procedures for complying with pedestrian traffic control requirements. It shall be used by SCE personnel and authorized contractors (hereinafter "SCE Representatives") to maintain pedestrian traffic control and as a reference manual in tailboards. This policy went into effect January 2, 2011. All SCE Representatives working in improved public right-of-ways must comply with this policy. Note: This manual is limited to pedestrian traffic control. Requirements for vehicular traffic control are addressed separately in the California Manual of Uniform Traffic Control Devices (CA-MUTCD) and California Joint Utility Traffic Control Manual (CJUTCM).

SCE's Pedestrian Traffic Control (PTC) program includes pre-planning prior to SCE Representatives arriving at each work site and proper execution by SCE Representatives in setting up and staging of the work and equipment, and providing alternate routes, where applicable.

The *Pedestrian Traffic Control Manual* (PTCM) describes SCE's procedures and guidelines relating to temporary closures of improved public right-of-ways during construction activities. Section 6, "Planning Forms," is designed to be utilized by SCE Representatives as a tool and reference toward providing safe pedestrian access around the worksite.

This Manual incorporates the current requirements, standards, guidelines and recommendations of the following:

- Public Rights-of-Way Access Advisory Committee (PROWAAC)
- Public Rights-of-Way Accessibility Guidelines (PROWAG)
- California Manual of Uniform Traffic Control Devices (CA-MUTCD)
- California Joint Utility Traffic Control Manual (CJUTCM)
- Americans with Disabilities Act Accessibility Guidelines (ADAAG)

2. PRE-CONSTRUCTION PLANNING

Pedestrian safety and accessibility need to be considered during the planning stages for any SCE construction project.

The following pre-construction planning activities must be performed for projects that may encroach into an improved pedestrian right-of-way.

A. Prior to planned construction, and prior to scheduling a job, the following must be determined:
   I. Scope and duration of the proposed work
   II. Extent of work area
   III. Type and number of equipment and trucks that will be used
B. An SCE employee or any contractor hired by or acting on behalf of SCE (collectively known as "SCE Representative") should visit the area of work several days prior to commencement of planned construction or repair to become familiar with the existing conditions and determine the following:
   I. Identification of existing improved pedestrian right-of-way conditions
      a. Is there an existing improved, continuous path of travel?
         i. If the right-of-way is undeveloped, then there is no affirmative duty to fix or correct the undeveloped right of way and to provide an alternate path of travel.
         ii. If the area of work has an improved path of travel, an alternate pedestrian path must be provided.
      b. The location of the area of work in relation to the public right-of-way.
         i. Mid-block
         ii. Intersection (includes "T" intersections)
         iii. Additional pedestrian entry points into a section of closed sidewalk from adjacent businesses or complexes such as, but not limited to, apartment buildings, strip malls, and parking lots
      c. Existing public right-of-way conditions extending a minimum of 100' in all directions beyond the area of work
         i. Width of the improved path of travel
         ii. Is there an adjacent landscaping area?
         iii. Horizontal and vertical obstructions within path of travel such as, but not limited to, sign poles, fire hydrants, utility equipment, and light standards.
         iv. Curb ramps at the nearest intersections
         v. Controlled crosswalks
         vi. Sidewalk across the street
         vii. Nearby vehicle driveway curb cuts
         viii. Bike lanes
         ix. Parking lane

C. The following two forms shall be completed and kept with the work order package / transmittal:

I. The "Alternate Temporary Route Form" to identify the appropriate alternate path and devices required to re-route pedestrians.
II. The "PTC Activity Summary" form to document all activity related to planning and executing pedestrian traffic control.

Where required to create a safe alternate path for pedestrians, SCE will establish routes in the order of the preferences below:

1. Within widened and unblocked sidewalk surfaces
2. Within adjacent landscaping in the public right-of-way
3. Adjacent to the worksite within private property where the owner agrees
4. Within bike lanes closed to vehicles
5. Within parallel parking areas closed to vehicles
6. Across the street to a sidewalk, around and away from the area of work
7. In secured vehicle traffic lanes; this option is a last resort and must be executed in the safest manner possible applying all available safety features of the CJUTCM and all other applicable regulations.

If establishing or maintaining an alternate pedestrian route is not feasible in any of the seven areas referenced above, an alternate means of providing for pedestrians may be used such as a Site Attendant (i.e. assigning someone the responsibility to assist pedestrians through the worksite.)

SCE's PTC program does not apply in the following situations:

- At sites where routine inspection or maintenance of electric facilities will be performed for less than two (2) hours
- Where SCE is not responsible for the permitting of the construction site, or
- In an emergency response situation.

ACCESSIBILITY STANDARDS AND GUIDELINES APPLIED TO TEMPORARY PATHS OF TRAVEL

The following accessibility standards relate to temporary pedestrian paths of travel provided by SCE Representatives when the work area encroaches upon a public right-of-way and reduces the existing pedestrian path of travel to less than 48". SCE Representatives must assemble and configure both the temporary paths of travel and the notification and directional devices to comply with the following standards:

A. SCE's Alternate Path of Travel
   I. The goal is to route pedestrians through such zones using pathway geometrics, features and temporary pedestrian traffic control devices as nearly as possible comparable to the existing pathway. Refer to CJUTCM, "Fundamental Principles," sub-paragraph 1, and California MUTCD, Section 6B.01. "Fundamental Principles of Temporary Traffic Control".

II. The alternate path of travel shall be selected based upon the alternate route order of preferences within this section.
III. Where rerouting through a channel, a minimum width of 48"is required.
IV. Path of travel surface must be stable, firm and slip resistant.
V. Path must not lead pedestrians into conflicts with work vehicles, equipment, operations, or vehicular traffic.
VI. Where rerouting through a channel, the path must not have abrupt changes in level in excess of 1/4".
VII. Where rerouting through a channel, extended paths of travel less than 5'-0" wide must provide a 5'-0" by 5'-0" wide passing space every 200'.
VIII. No element may encroach into the path of travel by more than 4" between the heights of 27" and 80" above the path surface.
IX. Overhead clearances must be a minimum vertical 80" above the path surface.
X. Cones and caution tape are not ADA compliant and shall not be used in Pedestrian Traffic Control scenarios.

B. Signage
I. Approved signs shall be placed at the appropriate locations to alert pedestrians of any rerouting along the existing path of travel.
II. Provide approved signs at intersections of an impending closure.
III. Provide approved signs at additional pedestrian entry points into a section of closed sidewalk from adjacent businesses or complexes including, but not limited to, apartment buildings, strip malls, and parking lots
IV. Provide signs to safely detour pedestrians to use the alternate path. This will mitigate pedestrians encountering a mid-block work area where they may attempt to unsafely cross the street or travel through the construction site.
V. All signage placed on an improved pedestrian right-of-way shall be secured on an ADA compliant device (refer to "Temporary Pedestrian Traffic Control Equipment").

C. Portable Pedestrian Ramps
I. Ramps shall be used for projects estimated to last 4 hours or longer and have conditions where pedestrians cannot be safely rerouted around a worksite with existing compliant curb ramps or vehicle driveways.
II. Minimum width is 48"
III. Maximum ramp running slope is 8.3% (1 inch: 12 inches)
IV. Maximum ramp cross slope is 2%
V. Utilize ramps with beveled top and bottom edges; no lip edges may exceed 1/4" in height
VI. Place portable ramps at locations where the sidewalk surface and street surface have as close to 2% slope in all directions as possible for the temporary top and bottom landings
VII. Running and cross slopes, as well as top and bottom landings, shall be as nearly as possible comparable to those for the existing pathway. Refer to CJUTCM, "Fundamental Principles," sub-paragraph 1, and California

MUTCD, Section 6B.01. "Fundamental Principles of Temporary Traffic Control".

VIII. Top and bottom landings must have a 48" radial clearance.
IX. Changes in level up to ¼" may be vertical and without edge treatment. Changes in level between ¼" and ½" shall be beveled with a slope no greater than 1:2 (refer to ADAAG, Section 4.5.2 "Changes in Level").
X. Portable ramps shall not be placed in conflict with existing obstructions such as fire hydrants, utility poles, light standards, and vent pipes.
XI. No objects may protrude into the path of travel by more than 4" from a height of 27" to 80" above the path surface.
XII. The minimum unobstructed height above a path of travel is 80".

D. Program approved barricades shall be used to:
   I. Define a safe alternate path of travel
   II. Deter pedestrians from entering into the worksite
      a. This includes placing program approved barricades at additional pedestrian entry points into a section of closed sidewalk from adjacent businesses or complexes such as, but not limited to, apartment buildings, strip malls, and parking lots.
   III. Guard pedestrians from drop-off areas
   IV. ADA compliant barricades shall be used to provide hand trailing for the visually impaired around an area of work

E. Pedestrian Traffic Plates/Plywood Surfaces
   I. Utilize slip resistant metal trench plates with appropriate amounts of cold patch to provide a smooth, 1:12 sloped transition from finished ground surface to top of metal plate surface; no vertical edges exceeding 1/4" are allowed
   II. "Lift holes" in the metal plates that exceed 1/2" in width in the direction of travel must be plugged to prevent conflicts with wheelchairs
   III. Use minimum 1/2", 4'X8' plywood sheets to create temporary, stable, firm travel surfaces through landscape or dirt areas; no gaps or off-set joints between the continuous sheets are allowed; provide for flush or appropriately sloped transitions at each end of the plywood path; no vertical edges exceeding 1/4" are allowed
   IV. The use of plywood or steel plates will be determined by SCE Representatives based on the condition of the surface (e.g., soggy, sandy, uneven)

F. Warning Lights

   I. Warning lights should be used for projects that extend into the night or when weather conditions dictate.
   II. Warning lights are used to provide better visibility and safety in identifying the alternate path of travel at night and during inclement weather.

Note: Some work sites may include inherently noncompliant conditions (e.g., existing running or cross slopes, excessively narrow sidewalks, permanent encroachment by utility poles, fire hydrants, terrain conditions) that may prevent a temporary alternate path of travel from being compliant with PROWAG. When existing conditions make it impossible to provide fully ADA compliant temporary paths of travel, alternate paths meeting as nearly as possible to existing paths of travel (refer to referenced regulations) are to be provided pursuant to this PTCM manual. If establishing or maintaining an alternate pedestrian route in any of the seven areas referenced above is not feasible, an alternate means of providing for pedestrians may be used such as a Site Attendant (i.e. assigning someone the responsibility to assist pedestrians with disabilities through the worksite.)

3. STAGING / TRAFFIC CONTROL

Vehicular traffic control shall be set-up first. SCE Representatives will then create the safe alternate path of pedestrian travel as identified in the Alternate Temporary Route Form for the work site. Devices used to define and provide the alternative path of travel may include:

- Signage
- Warning lights (night work or inclement weather)
- Barricades
- Portable ramps
- Temporary stable, slip resistant surfaces (plywood, trench plates)

The SCE Representatives will maintain the alternate route in a safe, compliant and usable manner throughout the construction period.

Potential Hazards

I. At work sites, no tools, equipment, or materials shall be within the pedestrian travel paths, including but not limited to, arrow boards, traffic signs/flags, and other temporary vehicular traffic control equipment.
II. In areas of excessive snow and debris, it is the obligation of state and local governments to keep pedestrian access routes open and useable throughout the year (refer to PROWAG Section R204, “Pedestrian Access Routes”).
III. Before leaving the worksite, SCE Representatives shall ensure that equipment, materials, and debris are not left on sidewalks and pedestrian pathways.

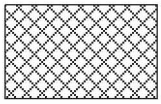
4. RE-ROUTING EXAMPLES

No standard alternate path of travel solution can be applied universally to all construction sites due to varying conditions.

The following examples are base applications. Variations of these examples will need to be made to respond to specific site conditions. The PTC scenarios are not limited to the depicted street configurations. For example, "T" intersections, 5-point intersections, roundabouts, and offset intersections are not specifically depicted but can be addressed using the provided examples.

The illustrations are not drawn to scale and only represent a schematic view of potential pedestrian re-routing.

LEGEND

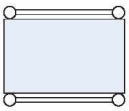

AREA OF WORK

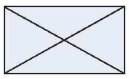

ALTERNATE REROUTED PATH OF TRAVEL


EXISTING, UNINTERRUPTED PATH OF TRAVEL


PROGRAM COMPLIANT BARRICADES

SIGN, AS NOTED ON EACH ILLUSTRATION

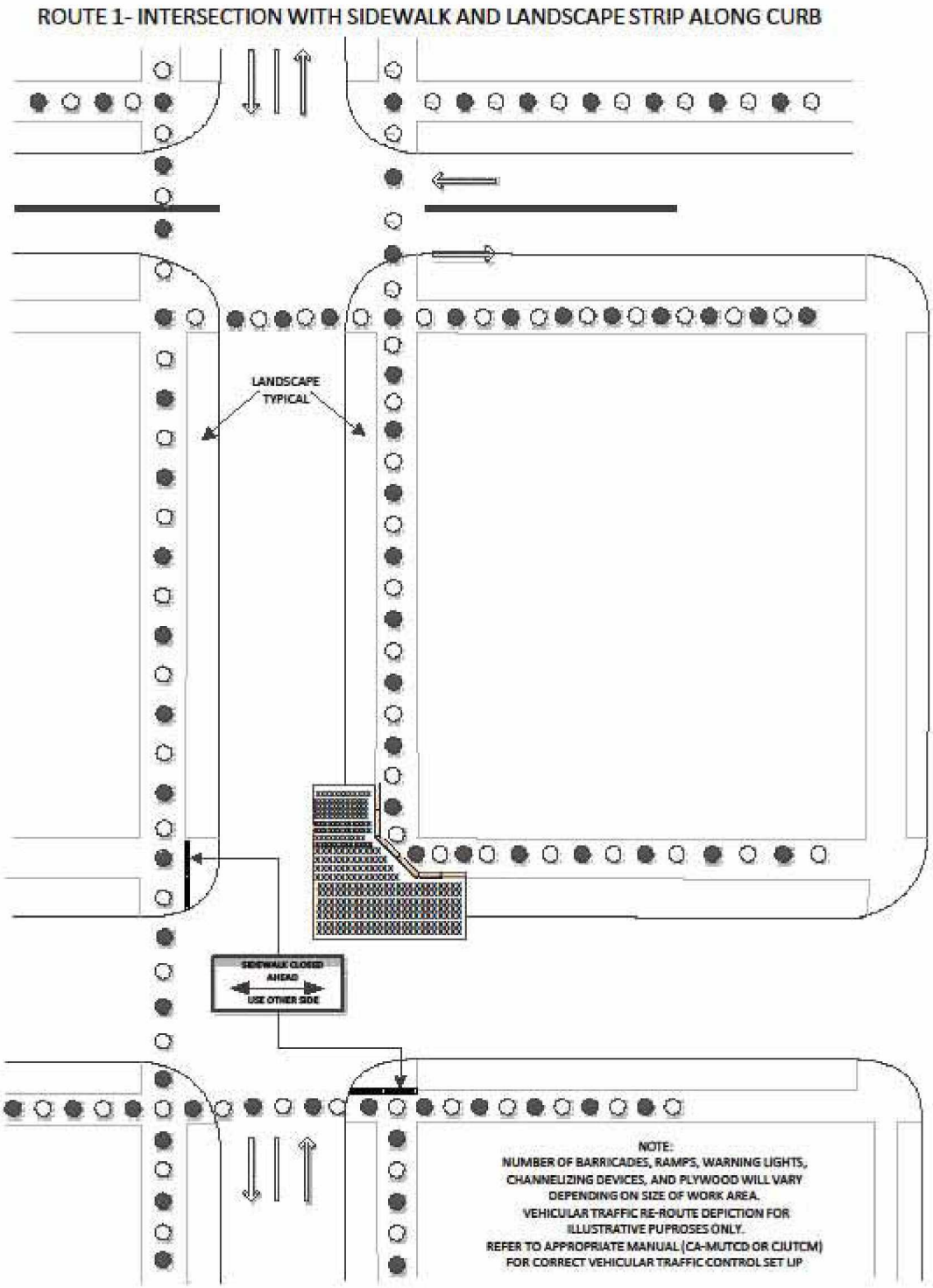

PORTABLE RAMP (may be used in conjunction with barricade)


4' WIDE BY 8' LONG X ½" THICK PLYWOOD

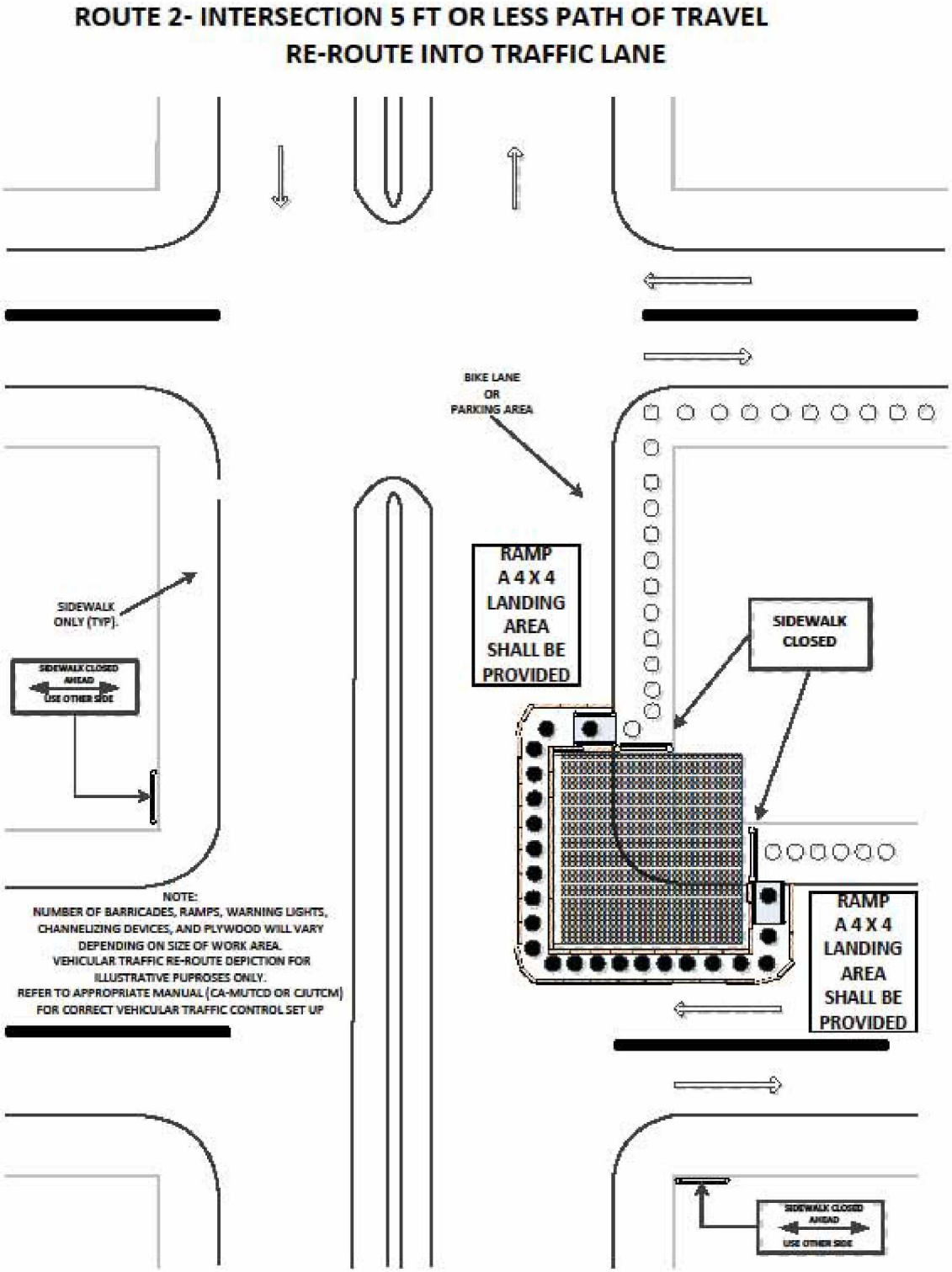

WARNING LIGHT (for use at night or during periods of limited visibility)


AUDIBLE DEVICE

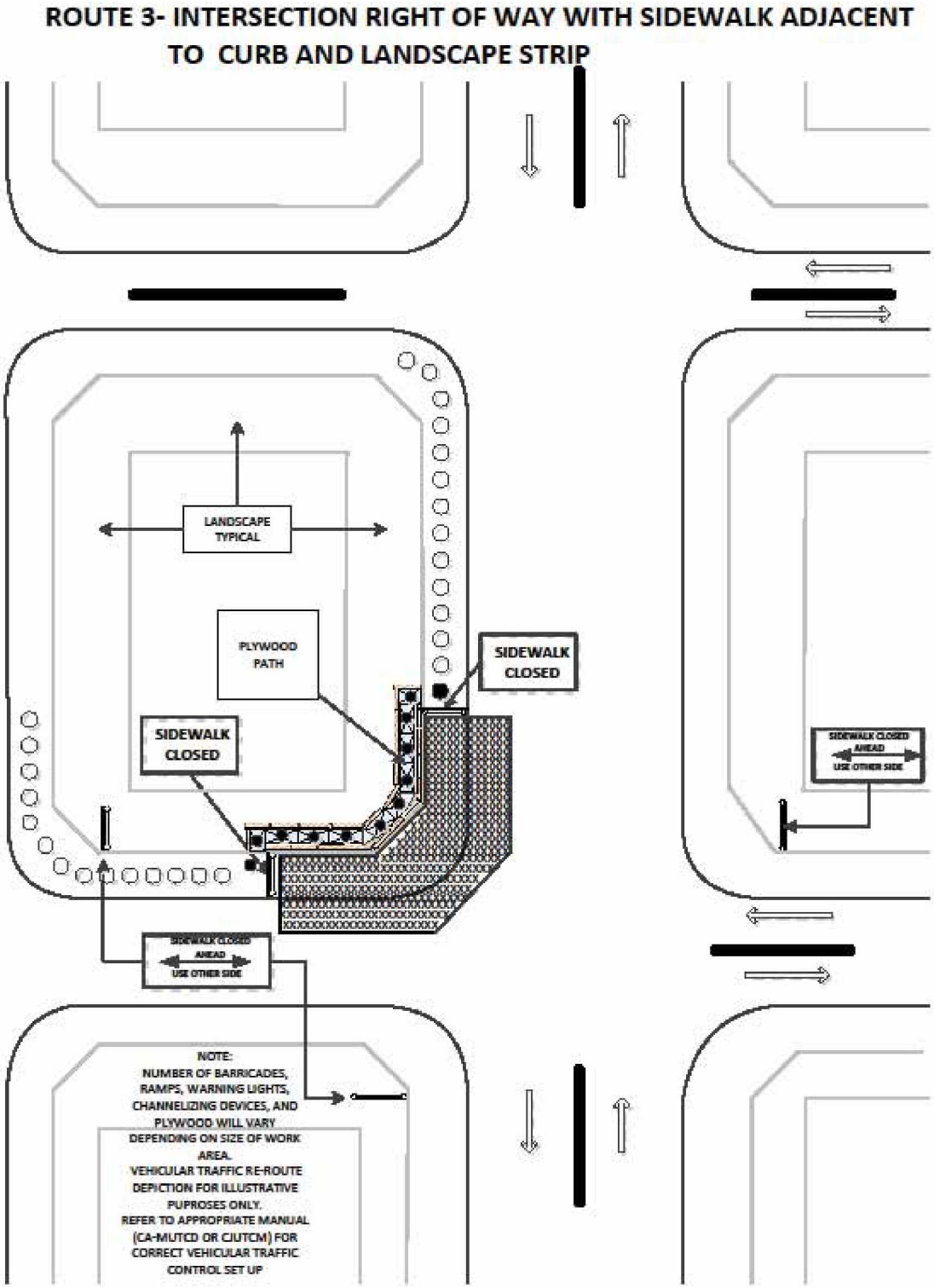
ROUTE 01 – Intersection with Sidewalk and Landscape Strip Along Curb



ROUTE 02 – Intersection 5 Foot or Less Path of Travel Re-Route Into Traffic Lane

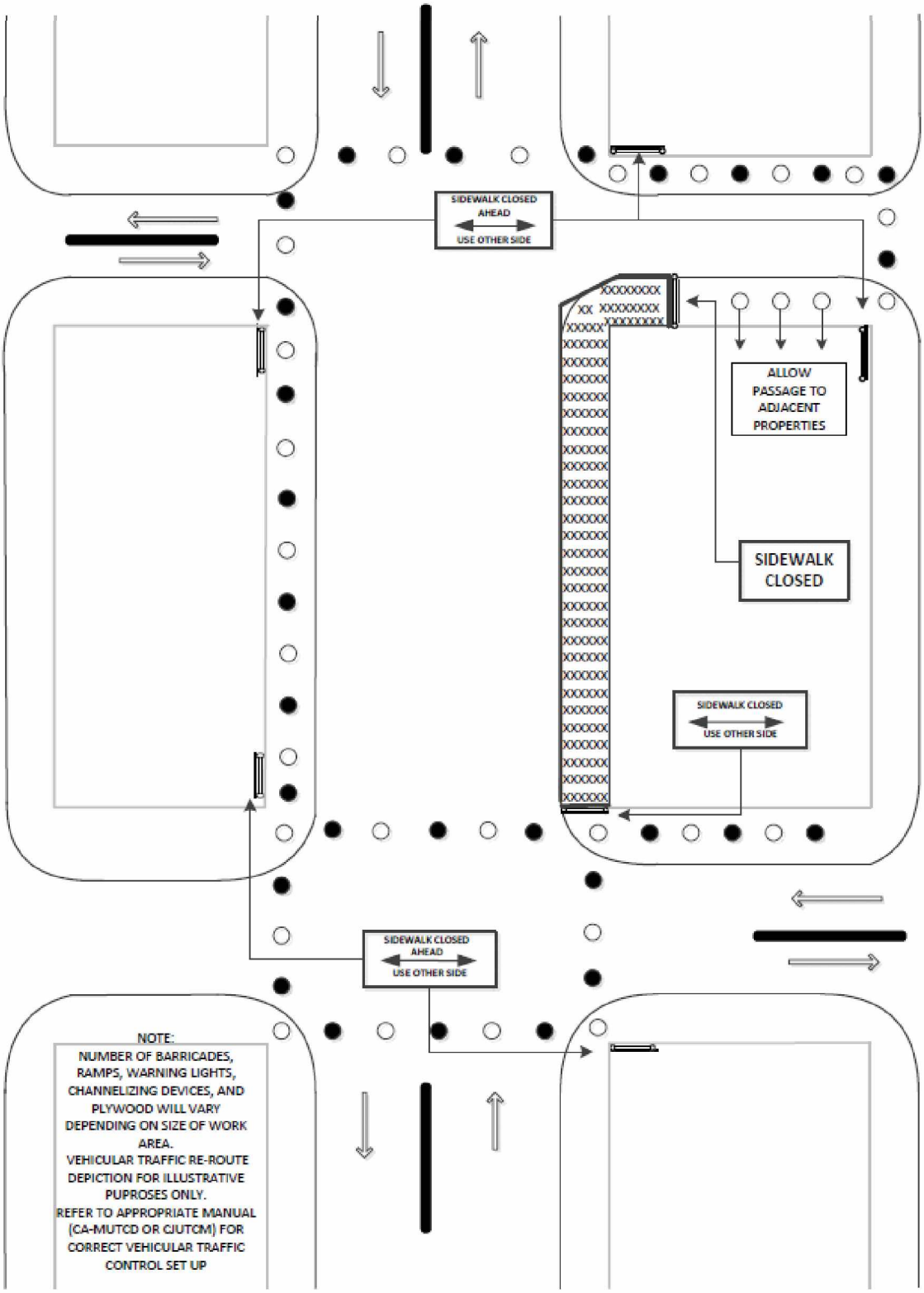


ROUTE 03 – Intersection Right of Way with Sidewalk Adjacent to Curb and Landscape Strip

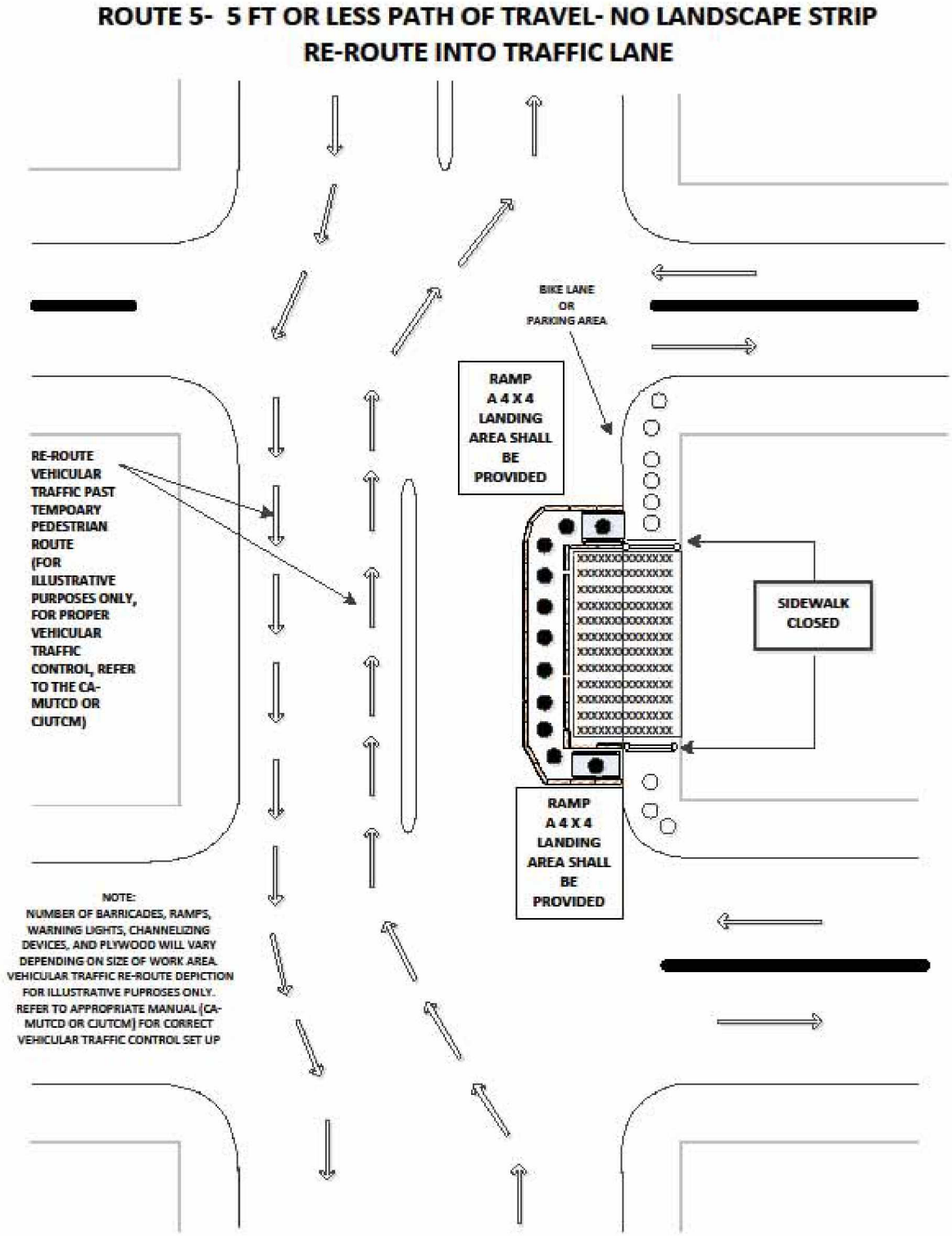


ROUTE 04 – 5 Foot Wide or Less Sidewalk, No Landscape Strip

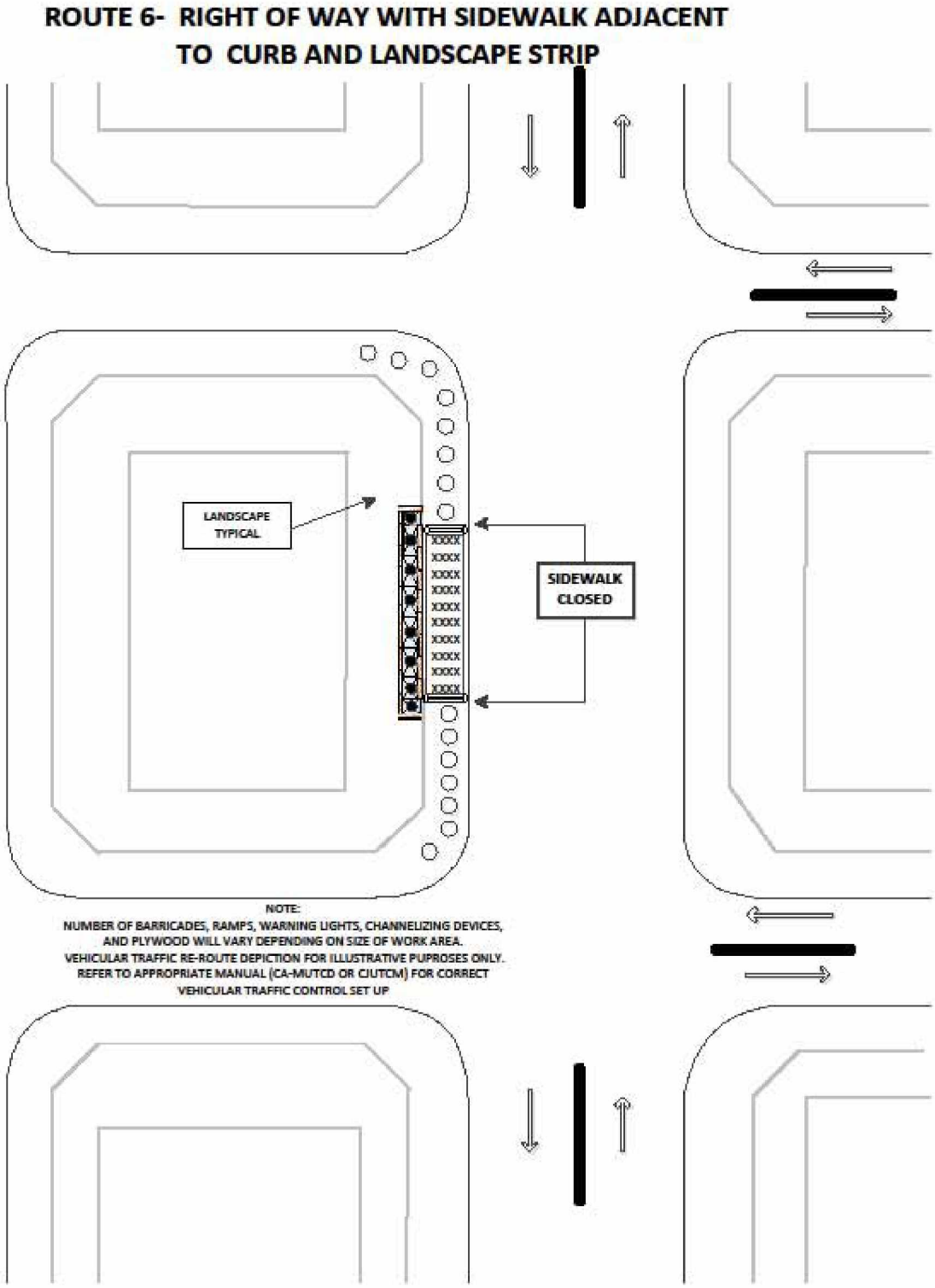
ROUTE 4- 5 FOOT WIDE OR LESS SIDEWALK
NO LANDSCAPE STRIP



ROUTE 05 – 5 Foot or Less Path of Travel, No Landscape Strip, Re-Route Into Traffic Lane

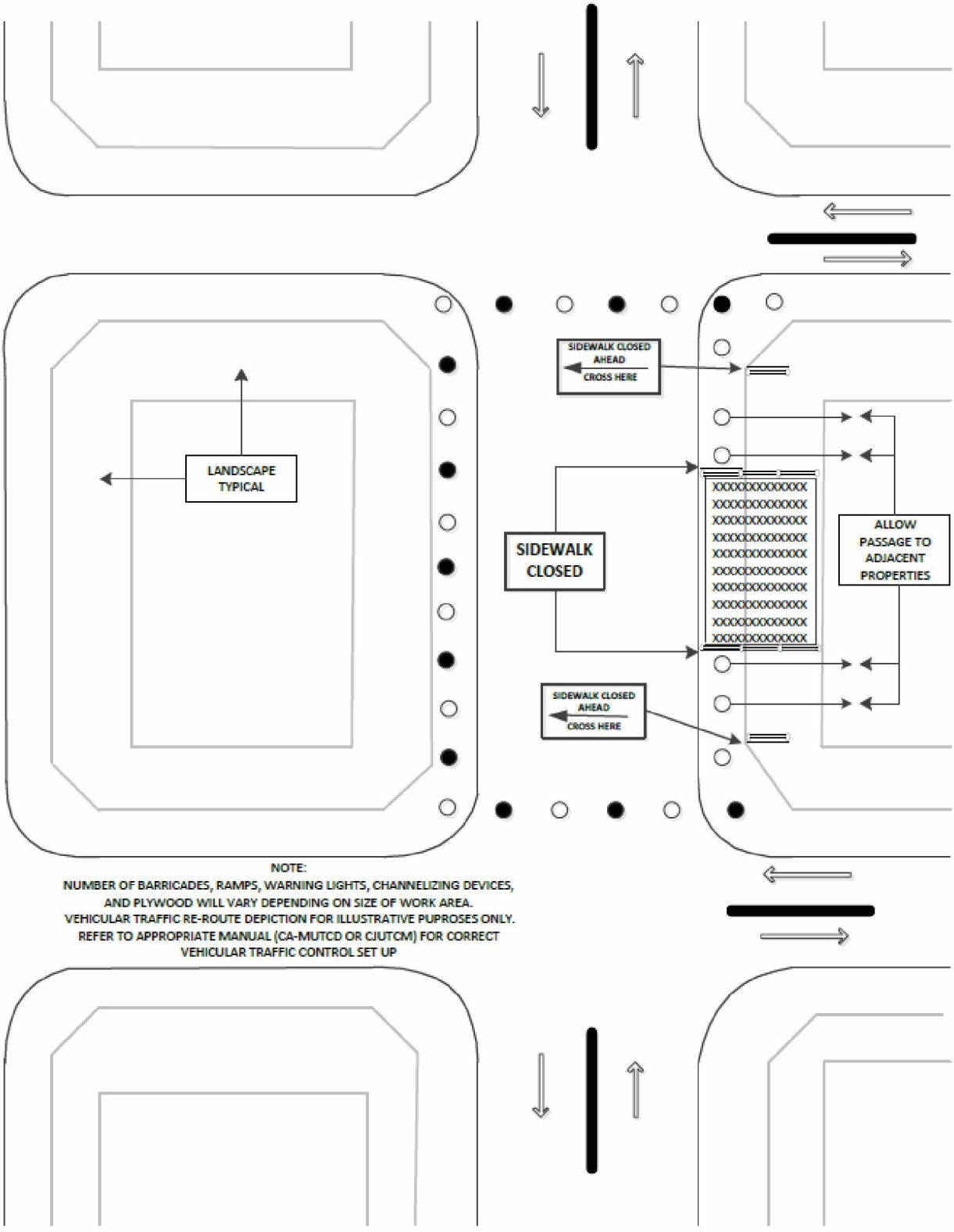


ROUTE 06 – Right of Way with Sidewalk Adjacent to Curb and Landscape Strip



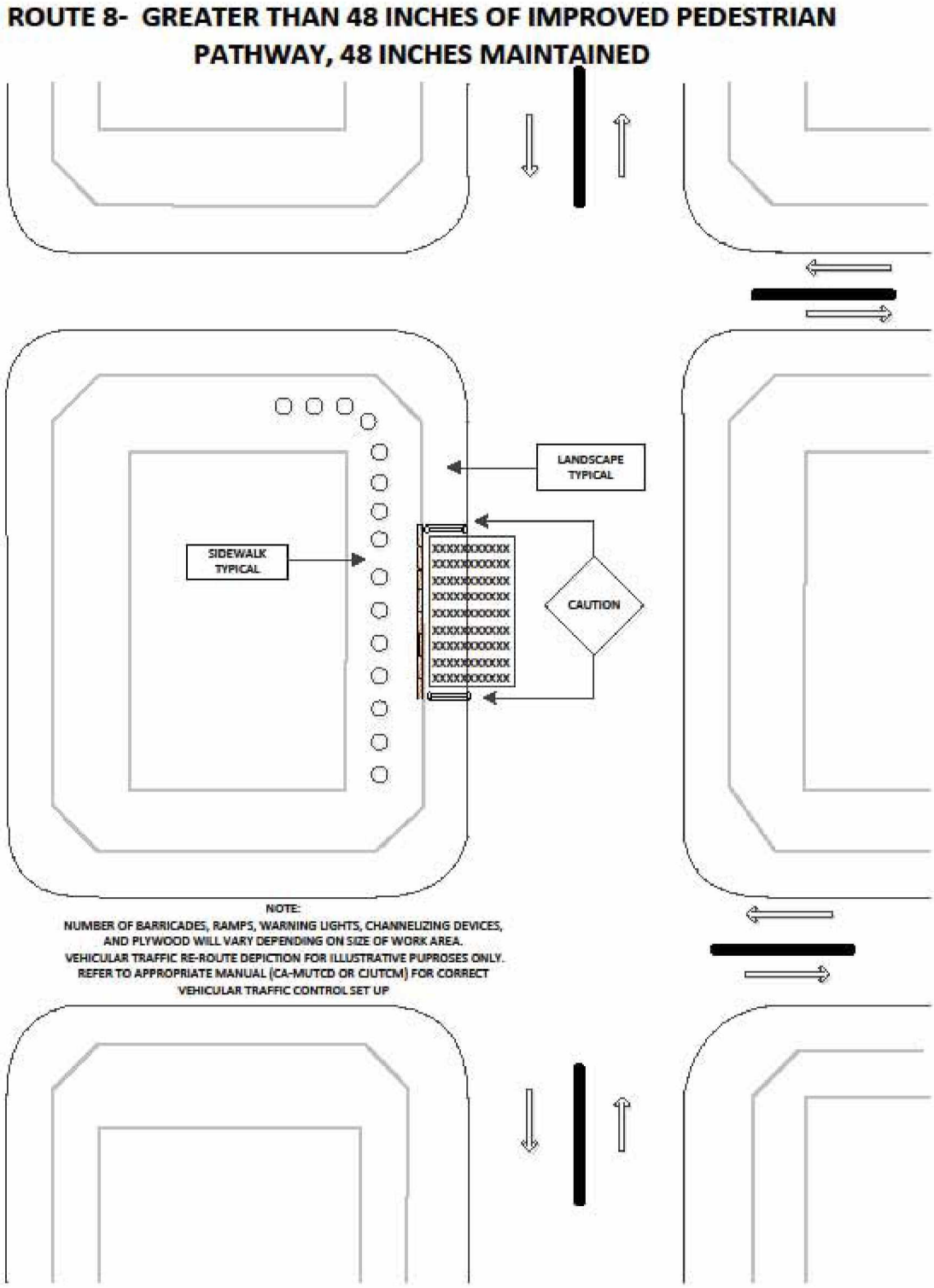
ROUTE 07 – Work Covers Entire Right of Way

ROUTE 7- WORK COVERS ENTIRE RIGHT OF WAY



NOTE:
NUMBER OF BARRICADES, RAMPS, WARNING LIGHTS, CHANNELIZING DEVICES, AND PLYWOOD WILL VARY DEPENDING ON SIZE OF WORK AREA.
VEHICULAR TRAFFIC RE-ROUTE DEPICTION FOR ILLUSTRATIVE PUPROSES ONLY. REFER TO APPROPRIATE MANUAL (CA-MUTCD OR CJUTCM) FOR CORRECT VEHICULAR TRAFFIC CONTROL SET UP

ROUTE 08 – Greater than 48 Inches of Improved Pedestrian Pathway, 48 Inches Maintained

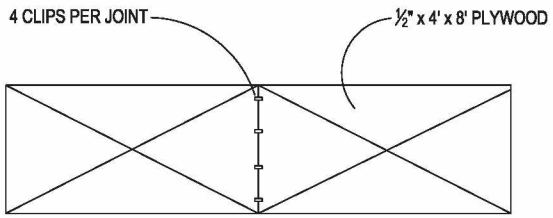


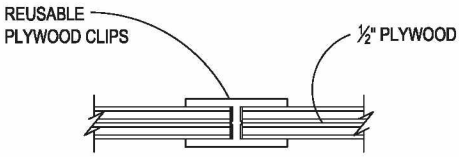
5. DIRECTIONAL TOOLS / DEVICES

A. Specifications and Details

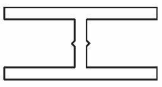
I. Pedestrian Pathway Surface

PLYWOOD SURFACE





PLYWOOD CONNECTORS

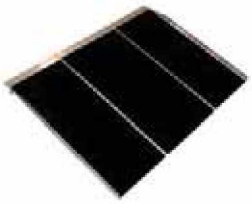
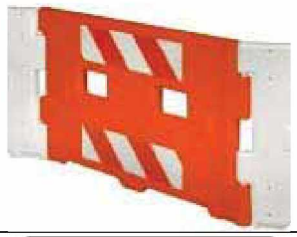


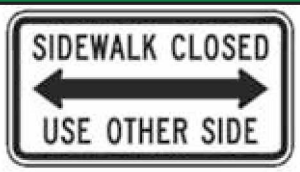
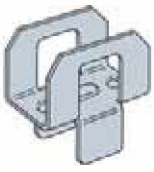
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MODEL NUMBER: PC12
UPC NUMBER: 632259800065

PLYWOOD CLIP

II. Temporary Pedestrian Traffic Control Equipment

The following is a sample listing of equipment which SCE has placed into its SAP ordering system. This list is not meant to be exhaustive. Other equipment can be found in the California MUTCD, PROWAG, and ADA guidelines and may be used in the course of executing PTC activities for SCE construction sites.

PTC Equipment	SAP Material #	Description	Suggested Equipment Location
	10177085	3-Piece panel ramp, interlocking panel sections, anti-slip traction surface, 6' in length, 48" in width, weighs 56 pounds, 800 pound capacity	Mid-block street crossing; around mid-block areas of work, same side path of travel
 	10176762	ADA compliant pedestrian barricades: Version 1: "Safety Rail" includes 2 uprights, 2 engineer grade sheeting, 6' long with sheeting on both sides, 38" in height, 24" in length, lightweight, portable and easy to transport, no part of barricade protrudes into walkway Version 2: "Safety Wall" is 74" long, 36 " tall, Hi intensity prismatic cells material, orange colored, 2 attached, folding legs	Directing and channelizing pedestrians around area of work, along alternate paths of travel in the street, or to barricade areas of work
	10177089	Sign "Sidewalk Closed" 12" x 24", rectangle shape, black with border on white value plastic	Prior to area of work where there is no alternate path immediately around the area of work
	10177086	Sign "Sidewalk Closed Ahead, (Right Arrow) Cross Here", 24" x 48", rectangle shape, black with border on white value plastic	At first intersection prior to area of work that provides a street crossing
	10177087	Sign "Sidewalk Closed Ahead, (Left Arrow) Cross Here", 24" x 48", rectangle shape, black with border on white value plastic	At first intersection prior to area of work that provides a street crossing

PTC Equipment	Material #	Description	Suggested Equipment Location
	10177088	Sign "Sidewalk Closed, (2-Way Arrow), Use Other Side", 24" x 48", rectangle shape, black with border on white value plastic	At intersection on same block as area of work, where street crossing can occur to other sidewalk
	10177084	Sign "Caution", 24" x 24", Diamond shape, black with border on yellow value plastic	
	10177161	Light barricade yellow case amber lens	Used at night and during inclement weather, to identify perimeters of area of work and alternate paths of travel
	N/A (See Description)	Bolt for ADA kit barricade light; included in light barricade kit, not coded separately	For use with barricade light
	10177160	Wrench for ADA kit barricade light	For use with barricade light
	10177164	Wire key for ADA kit barricade light	For use with barricade light
	10134885	Battery 6-volt alkaline, spring terminals/EDP # 01163-3	For use with barricade light
	10177162	Aluminum plywood clip, 1/2", 250/PK	For use with plywood surface
	10176761	Plywood, shop sanded 48" x 96" x 1/2", Fir material	To provide a stable, firm path of travel surface through landscape or dirt areas. NOTE: Must add slip resistant tape to top surface prior to use.

6. PLANNING FORMS

The PTC Activity Summary is used to log the actions of pedestrian traffic control planning and execution. Every work order package shall have a completed PTC Activity Summary form.

Where pedestrian traffic control is required, the "Alternate Temporary Route Form" shall be completed by the SCE planner or estimator and updated as necessary throughout the process. This form shall be kept with the Work Order package from when traffic control needs are initially assessed through Work Order closure.

PTC Activity Summary

Work Order or Product No. _____

Project Location_____

Responsible Party and Process Step:	Date	Assigned to / Completed by Name (full, legible)
1) **Planner / Estimator** evaluates PTC needs during initial site assessment for work order design a) Is PTC needed? (Circle one) Y ◯ N ◯ -- If no, form is complete, place in W.O. package -- If yes, complete both PTC forms.		
2) **Planner / Estimator** identifies and documents the applicable alternate temporary route on the "Alternate Temporary Route" (ATR) Form		
3) **CCM / Foreman / Inspector** performs a pre-construction site assessment after the construction project is scheduled a) Update the ATR Form, as needed (e.g., have site conditions changed since initial assessment?)		
4) **CCM / Foreman / Inspector** submits a copy of the "PTC Activity Summary" and the ATR Form with the Traffic Control Request to the responsible line crew or traffic control vendor (indicate to whom the forms were forwarded)		
5) **Foreman / Vendor** verifies appropriate temporary alternate route devices are loaded		
6) Temporary alternate route is created (**Foreman** name) (**Vendor** name)		
7) **Foreman** ensures alternate route devices are disassembled and loaded at end of job		

Alternate Temporary Route Form

Site Visit Date _____

Work Order or Product No._____

1. Project Address/Location _____
2. Intersection _____ Mid-Block _____ Other _____
3. Is there an improved path of travel across the street to which pedestrians can be directed? Y ◯ N ◯
4. Are there controlled street crossings (e.g., stop sign, signal, crosswalk) that may be incorporated into an alternate route? Y ◯ N ◯
5. Are there existing curb ramps or adjacent driveways that can be used to route pedestrians off/on an improved pedestrian path to an alternate route?
   Y ◯ N ◯
6. Is there an improved path of travel adjacent to the work site that is:
   a. At least 48" in width, **AND**
   b. A smooth, continuous surface
   Y ◯ N ◯ Note: If no, adjacent path of travel is not a viable alternate path.
7. Is there a landscape area adjacent to the work site that is:
   a. At least 48" in width, **AND**
   b. Level, with a comparable slope to the improved pedestrian path?
   Y ◯ N ◯ Note: If no, adjacent path of travel is not a viable alternate path.
8. Is there a bike/parking lane that is:
   a. At least 48" in width, **AND**
   b. Level, with a comparable slope to the improved pedestrian path.
   Y ◯ N ◯ Note: If no, adjacent path of travel is not a viable alternate path.
9. Are there a sufficient number of vehicle lanes for pedestrians to be rerouted through a channelized path within one of the lanes? Y ◯ N ◯
10. NOTES:

_____

_____

Suggested Alternate Route (Circle):	Route 01 ◯	Route 02 ◯	Route 03 ◯	Route 04 ◯
	Route 05 ◯	Route 06 ◯	Route 07 ◯	Route 08 ◯

The suggested routes are intended only as a guideline. Actual quantity and type of pedestrian traffic control materials must be sufficient for the site conditions on the actual date of construction.

7. Glossary of Terms

The following glossary of terms defines words or phrases utilized in SCE's Pedestrian Traffic Control Manual and may have other definitions outside of the parameters of the program.

Right-of-Way – A lawful route pedestrians may take across a narrow length of land granted for the use of electric power lines.

Pedestrian Crossing – Any location where pedestrians leave an improved pathway and enter the roadway; including marked and/or unmarked, mid-block crossings and street intersections

Improved Pedestrian Pathway – That portion of a public right-of-way, other than the roadway itself, dedicated to pedestrian travel. Improved pathways are set apart by curbs, barriers, markings or other delineation and include such paths as sidewalks, developed trails, etc.

Site Attendant – A person providing safe pedestrian passage around or through a controlled work zone by:

- Serving as a look out and stopping the job to accommodate safe ingress/egress, or
- Actively escorting a pedestrian around the work site

Hand Trailing – The practice of using one's hand(s) to detect barriers used to guide pedestrian traffic. Hand trailing is used by visually impaired pedestrians, and requires barriers with smooth, continuous, and rounded tops that are safe for hand guidance.

Accessible – Describes a pathway that pedestrians (including visually and mobility impaired) can safely detect, enter, and travel through.

Detectable – Describes devices that can be easily and universally detected (either visually or manually) by pedestrians. Detectable devices are used to guide pedestrians safely around a construction zone that impedes an existing, improved pedestrian path.

Appendix J.
Safety and Operations Committee Bios

Members of the Southern California Edison

Safety and Operations Committee

Timothy T. O'Toole, Chair

Mr. O'Toole served as chief executive officer of First Group plc, a publicly traded transportation company that provides rail and bus services in the United Kingdom and North America from 2010 to 2018. FirstGroup operates, among other things, over 40,000 school buses in the U.S. as well as the Greyhound Bus Lines, and has a total workforce of over 100,000 employees. Mr. O'Toole is a director of the National Safety Council and previously served as a director of CSX Corporation. He previously served as managing director of the London Underground from 2003 through 2009. In that role he led the response to the 2005 terrorist bombing attacks on the London Underground for which he was awarded the honor of Commander of the Most Excellent Order of the British Empire (CBE). Prior to his time at the London Underground, Mr. O'Toole served in various senior management roles during his 20 years of service at Consolidated Rail Corporation, including president and chief executive officer from 1998 to 2001.

Mr. O'Toole's extensive safety experience includes direct management experience of a large. workforce in industries where worker and public safety are critical. Mr. O'Toole has been recognized as a safety leader in both the United States and internationally. His operational experience in safety, risk management and crisis management are also particularly relevant to his leadership role as chair of the Safety Committee. He has been a member of the Safety Committee since he joined the Board in 2017.

Jeanne Beliveau-Dunn

Ms. Beliveau-Dunn has been the chief executive officer and president of Claridad LLC, a digital and internet of things consulting company, since 2018. Prior to that, she served as vice president and general manager of Services for Cisco Systems Inc., the global technology leader in networking and security infrastructure. Ms. Beliveau-Dunn spent 22 years during significant growth at Cisco and managed the products and services business and operations. Additionally, she had the responsibility to build and operate centers of excellence, learning and knowledge, and innovation practices for scale. Prior to Cisco, Ms. Beliveau-Dunn ran business operations at Micronics computers and the secure systems product lines for Wang Laboratories.

Ms. Beliveau-Dunn's relevant safety experience includes more than 30 years of experience as a technology executive and a transformational leader with experience in building and managing large scale infrastructure, cybersecurity, compute, cloud, networking, services and marketing operations, personnel management, and employee and leadership development. During her career, she built effective networking, digital and security solutions, including strategies for internet of things in smart cities and industrial and energy markets . Her experience managing a large workforce, building network operations and security teams, and building infrastructure and efficiency through technology and process is valuable for the Safety and Operations Committee's oversight of cyber threats facing SCE. As a California resident, Ms. Beliveau-Dunn also provides the perspective of a utility customer impacted by California's wildfires and regulatory environment. She has been a member of the Safety and Operations Committee since she joined the board in early 2019.

Carey A. Smith

Ms. Smith serves as president and chief operating officer of Parsons Corporation, a disruptive technology provider for global defense, intelligence and critical infrastructure markets. She has served as president since November 2019 and as chief operating officer since 2018. Parsons, which was founded in Los Angeles in 1944, was headquartered in Southern California until 2019 and continues to be engaged in key programs in California, including the LAX Landside Access Modernization Program, the Launch Manifest System Integrator (small satellite integration and launch), Department of Defense cybersecurity and the Foothill Gold Line. From 2016 to 2018, Ms. Smith served as president of Parsons' Federal Solutions business. Before joining Parsons, she served in progressive leadership roles at Honeywell International Inc. from 2011 to 2016, including president of the Defense and Space business unit, vice president of Honeywell Aerospace Customer and Product Support, and president of Honeywell Technology Solutions, Inc. Prior to joining Honeywell, Ms. Smith served in several leadership roles at Lockheed Martin Corporation from 1985 to 2011.

Ms. Smith's relevant safety experience includes her responsibility over global operations at Parsons, and her operational experience in the safety-intensive aerospace and defense industries for over three decades. As president and chief operational officer at Parsons, Ms. Smith has ultimate management responsibility for the health and safety of Parsons' more than 15,000 employees across 29 countries, including 1,200 employees across 50 locations throughout California. Parsons is recognized as a leader in occupational health and safety and was most recently recognized for its ability to integrate its environmental, health and safety systems into its business practices when it was awarded the National Safety Council's Robert W. Campbell award in September 2019. Parsons was also awarded the Construction Management Association of America Chair's Award for safety in 2018. She also brings a strong background in cybersecurity through her aerospace and defense industry experience and is a certified cybersecurity governance professional by the National Association of Corporate Directors. Ms. Smith has been a member of the Safety and Operations Committee since she joined the SCE Board of Directors in October 2019.

Linda G. Stuntz

Ms. Stuntz served as a partner of the law firm of Stuntz, Davis & Staffier, P.C. from 1995 to 2018, where she specialized in energy and environmental regulation. Ms. Stuntz previously served as Deputy Secretary of, and held senior policy positions in, the U.S. Department of Energy from 1989 to 1993, and served as associate minority counsel and minority counsel to the Energy and Commerce Committee of the U.S. House of Representatives from 1981 to 1987. Ms. Stuntz previously served as a director of Royal Dutch Shell plc, Raytheon Company, Schlumberger, Ltd. and American Electric Power Company (AEP). Ms. Stuntz also previously served on the U.S. Secretary of Energy Advisory Board during 2015 and 2016.

Ms. Stuntz's relevant safety experience includes a variety of positions in the U.S. Government and private industry where safety is a key concern such as utilities and energy. In her time at the U.S. Department of Energy she held positions that focused on issues related to potential global climate change, a key issue in the wildfire risks facing California. She has been a long-time

board member for public companies such as Royal Dutch Shell plc, Raytheon and AEP which are in industries that have significant safety concerns for workers and the public, including electric utilities, oil and gas exploration and development, and defense. In her board roles she has provided oversight over a variety of safety issues that are common to those industries, including process safety. She has been a member of the Safety and Operations Committee since 2014.

Peter J. Taylor

Mr. Taylor has been the president of ECMC Foundation, a nonprofit corporation dedicated to educational attainment for low-income students, since May 2014. Prior to that he served as executive vice president and chief financial officer of the University of California from 2009 to 2014 and managing director of public finance at Lehman Brothers and Barclays Capital from 2002 to 2009. Mr. Taylor is a director of Pacific Mutual Holding Company and the Kaiser Family Foundation, and a member of the Board of Trustees of California State University. Previously, he was chair of the UCLA African American Admissions Task Force and a commissioner on the California Performance Review Commission.

Mr. Taylor's relevant safety experience includes several years as a senior executive of the University of California (UC), which has 10 campuses, a staff of more than 190,000, and more than 238,000 students. During his tenure, the UC launched the "Be Smart About Safety" campaign across all campuses, including the five medical centers to focus on reducing employee injuries. As CFO of the UC, Mr. Taylor also had direct responsibility for risk management. His oversight role as a member of the Board of Trustees of the California State University includes oversight of the safety of more than 50,000 employees and nearly 500,000 students across 23 campuses. As chair of SCE's Audit and Finance Committee, Mr. Taylor has oversight of the risk management functions of SCE, many of which have a direct impact on safety and compliance. As a California resident with extensive professional experience in the state, Mr. Taylor also understands the perspective of utility customers impacted by California's wildfires and regulatory environment. He has been a member of the Safety and Operations Committee since 2018.

Keith Trent

Mr. Trent has 14 years' experience as a utility executive, general counsel and internal legal counsel. From 2009 to 2015, he held a variety of senior executive positions with Duke Energy Corporation, with responsibility for long-term grid strategy, regulated utilities, electric transmission, regulated fossil-fuel and hydro generation, health, safety and environment, fuel and system optimization, central engineering and services, and commercial businesses operating in domestic and international retail and wholesale competitive markets. From 2002 to 2009, Mr. Trent held a variety of positions with Duke Energy with responsibility for corporate strategy, government relations, corporate communications, technology initiatives, legal, internal audit and compliance (as general counsel), and major litigation and government investigations (as lead litigator). Prior to 2002, Mr. Trent practiced law for 15 years. He is a director of TRC Companies, Inc., AWP, Inc. and Capital Power Corporation.

Mr. Trent's has extensive safety experience as an executive of Duke Energy, one of the largest electric power companies in the United States. Duke's electric utilities, generation companies, and natural gas distribution operations have thousands of employees in the field and millions of customers. Mr. Trent had direct management responsibility for health and safety at Duke's regulated utilities. At Capital Power Corporation, a publicly-traded company wholesale power generator, Mr. Trent is the chair of the Health, Safety and Environment Committee of its Board of Directors, which has oversight responsibility for the impact of the company's operations on the environment and on the workplace health and safety of employees. He has been a member of the Safety and Operations Committee since he joined the Board in 2018.

Appendix K.
Executive Compensation Submission of Southern California Edison Pursuant to Assembly Bill 1054 (January 14, 2020)

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Carla Peterman
Senior Vice President
Regulatory Affairs

January 14, 2020

Caroline Thomas Jacobs
Wildfire Safety Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: Executive Compensation Submission of Southern California Edison Pursuant to Assembly Bill 1054

Dear Ms. Thomas Jacobs:

In order to comply with the provisions of Assembly Bill 1054, which require an executive compensation structure approved by the Wildfire Safety Division (WSD), Southern California Edison Company (SCE) submits the following "Overview of Southern California Edison's Executive Compensation Structure." The attached material sets forth details regarding SCE's approach to executive compensation, the structure of such compensation, how compensation is determined, and describes how this program is aligned with the framework required for Wildfire Safety Division approval pursuant to Section 8389(e)(4) of the Public Utilities Code. In order to obtain approval and socialize the annual goals described herein with SCE's employees, SCE requests WSD approval by January 31, 2020. Please feel free to contact me if you should have any questions about these materials.

Sincerely,

Carla Peterman

Carla Peterman
Senior Vice President, Regulatory Affairs
Southern California Edison Company

cc: Alice Stebbins, Executive Director

P.O. Box 800
2244 Walnut Grove Ave.
Rosemead, CA 91770

Overview of Southern California Edison (SCE) Executive Compensation Structure

January 14, 2020

Introduction and Overview

SCE's long-standing executive compensation structure is aligned with the framework set forth by AB 1054, which requires a compensation structure that promotes safety as a priority, and which ensures public safety and utility financial stability. The SCE Board of Directors' Compensation and Executive Personnel Committee (Compensation Committee) determines three compensation elements each year that make up total direct compensation for our Executive Officers[1] – base salary, annual incentive awards and long-term incentive awards. Base salary is a fixed amount of income for the year. Annual incentive awards are variable, paid in cash and designed to focus attention on specific safety, operating, financial and strategic objectives that benefit our customers and other stakeholders. Long-term incentive compensation is largely tied to underlying stock performance, promotes a focus on the company's long-term goals and financial health, in alignment with our customers, investors and other stakeholders. In order to recruit and retain qualified executives, the company must provide all three pay elements in alignment with market practice to effectively compete for and retain the talent necessary to run the utility.

The incentive award elements of compensation are a key component of the market-based total compensation package and are not solely intended to reward exemplary performance. This means that a portion of an executive's overall market-based compensation is placed "at risk" and awarded only if important goals and objectives are met.

The structure of SCE's executive incentive compensation prioritizes and focuses on safety outcomes in a variety of ways, including:

- Potential reduction of annual incentive award payouts if specific, annual company safety and safety-related targets are not achieved.
- Potential reduction or elimination of annual incentive awards if there are employee or contractor fatalities, serious injuries to the public, significant non-compliance events, data breaches or system failures. For example, in 2015, 2016, 2017, and 2018, the Compensation Committee exercised its authority in this area to reduce annual incentive awards for safety performance, including for the impact of wildfires on SCE's service territory in 2018.
- A long-term incentive plan structure that provides a significant portion of compensation which is largely in the form of a grant of company stock. The value of this is primarily tied to underlying share price performance and incentivizes executives to adopt a longer-term view of corporate performance in the decisions they make today. The company's share price is linked to our long-term ability to satisfy the needs and expectations of our many stakeholders including customers, communities, regulators and investors. Significantly, over the past several years, the risks associated with wildfires have

[1] The Compensation Committee determines compensation for all executive officers as defined by the SEC (Executive Officers). It also determines compensation for any Senior Vice Presidents who aren't Executive Officers (Other Senior Officers) and reviews certain aspects of compensation for the two Vice Presidents who respectively serve as SCE's Corporate Secretary and Treasurer (SCE's Corporate Secretary also serves as the Corporate Secretary of its parent company). The Board has delegated to the CEO the authority to determine compensation for SCE's Corporate Secretary and Treasurer, who are executive officers for purposes of AB 1054, but not for SEC purposes. This document focuses on the compensation structure for officers whose compensation is determined by the Compensation Committee, but the same structure applies to the Corporate Secretary and Treasurer.

impacted the long-term incentive plan value for executives. These plans provide a strong incentive for executives to take actions which mitigate risk and improve the safety and resiliency of our communities in an enduring manner.

As shown in the "Summary of Alignment with AB 1054" table below and described at greater length in the sections that follow, the long-established structure of SCE's executive compensation package meets the requirements set forth in Public Utilities Code Section 8389 for evaluation of Investor-Owned Utility compensation structures. SCE's incentive compensation programs prioritize safety and tie to performance metrics that are objective, measurable and enforceable. Additionally, SCE's program contains provisions potentially denying all annual incentive compensation in the event "the electrical corporation causes a catastrophic wildfire that results in one or more fatalities," as outlined in AB 1054. This overall executive compensation plan promotes safety as a priority and ensures public safety and utility financial performance as required by AB 1054.

Summary of Alignment with AB 1054

Element	Form	Alignment with AB 1054
Base Salary	Fixed Pay: Cash	• SCE places limits on guaranteed cash compensation: the company does not have employment contracts; base salaries comprise less than half of each Executive Officer's target total direct compensation; SCE does not offer perquisites
Annual Incentive Awards	Variable Pay: Cash	• Annual incentive awards require achievement of target objectives related to specific initiatives (goal categories) that are assessed through various metrics (success metrics) that promote safety and/or utility financial stability • Safety and compliance are also foundational, and the Compensation Committee can reduce or eliminate awards when these foundational goals are not met • A significant portion of the success measures that are used to determine the payout is based on meeting performance metrics that are objectively measurable • No guaranteed minimum payout, maximum payout is 200% of target; significant "at risk" compensation
Long-Term Incentive Awards	Variable Pay: Equity • 50% stock options • 25% performance shares • 25% restricted stock units	• Promote utility financial stability by enhancing executives' focus on the company's long-term goals • 75% of long-term incentive awards are performance-based, with payouts determined by achievement of objective performance metrics • No guaranteed minimum payout for stock options or performance shares • Restricted stock units are subject to a three-year cliff vesting requirement; performance shares are subject to a three-year performance based-vesting requirement; stock options vest in installments over a four-year period; in addition, stock ownership requirements for officers require significant equity holdings to be maintained and limit sales of stock • Long-term and annual incentive awards comprise the majority of Executive Officers' compensation (e.g., the 2019 target incentive compensation for SCE's CEO comprised 78% of his target total direct compensation for the year) and the variable nature puts these components "at risk" subject to performance, consistent with AB 1054

Elements of Executive Total Direct Compensation

Addresses AB 1054 considerations through independent oversight of compensation by the Compensation Committee. The Compensation Committee relies on third-party data and has discretion to modify compensation outcomes in the case of unforeseen events.

The Compensation Committee is responsible for reviewing and determining the total compensation paid to Executive Officers. The Committee is comprised of independent board members who have a variety of skills and experiences. No management employees serve on the Compensation Committee. The Compensation Committee annually reviews all components of compensation for Executive Officers (and for Other Senior Officers), including base salary and annual and long-term incentives. The Compensation Committee also reviews significant benefits, including retirement and non-qualified deferred compensation plans.

The Compensation Committee retains an independent compensation consultant, Pay Governance, to assist in evaluating Executive Officer compensation. This assistance includes helping the Compensation Committee identify industry trends and norms for executive compensation, reviewing and identifying appropriate peer group companies and pay surveys and evaluating executive compensation data.

In alignment with best practices, SCE generally targets a competitive range of +/-15% around the market median for each element of total direct compensation offered under our program: base salaries, annual cash incentives and long-term equity-based incentives. In the aggregate, above-median target compensation usually is not needed, except occasionally for individual recruitment and retention purposes and to reward exceptional performers. Below-median target compensation would create retention and recruitment difficulties.

The market median for each position is determined using comparative data from companies in the Philadelphia Utility Index and/or data from pay surveys of utilities, other energy companies or companies in other industries with comparable revenues, based on the availability of sufficient comparative data for the position. The Compensation Committee exercises its judgment in setting each Executive Officer's compensation levels within the competitive range described above and may from time-to-time vary from the competitive range, after considering the Executive Officer's experience, time in position, individual performance, internal equity, retention concerns or other factors it considers relevant.

In addition, the Compensation Committee reviews SCE's goals and success measures as they are developed and throughout the year. These goals and success measures are the foundation for the annual incentive awards discussed below. The Compensation Committee can also exercise discretion to reduce or eliminate entirely annual incentive awards should circumstances warrant.

Base Salary and Employment Contracts

SCE does not have employment contracts or guarantees of base pay, in alignment with AB1054. The company has evaluated employment contracts and concluded there are more negatives than positives to providing contracts. SCE does not offer perquisites or "perks."

Every year, each executive's base salary is evaluated according to his or her position and performance. As described above, for each position, a market base salary range is determined.

We do not have employment contracts and our executives do not have contractual rights to receive fixed base salaries. Some of the downsides of employment contracts include (1) the company's ability to terminate at will for performance would be heavily impacted if there was a

specified term of employment, (2) to the extent contract terms differ from later adopted policies or programs, some which could be more favorable to customers, the company would need to renegotiate the contracts, which may result in a contract of higher value to the executive than the company originally intended, (3) once an employment contract is formalized, the company's ability to change its terms becomes limited even if business or other conditions warrant a change and (4) we have found that in some cases, certain contract provisions are later outlawed which would require a contract renegotiation. Our executive compensation policies, payout information and rationale are provided in detail in the company's annual Proxy Statement.

Annual Incentive Awards

Annual incentive awards are structured to promote safety, and ensure public safety and the financial stability of the utility as outlined in AB 1054. The Safety and Operations Committee of the Board will utilize its relevant safety experience and formally participate in establishing safety and operational goals and success measures to be used for the annual incentive awards, including the weight afforded to various goal categories.

Executives are eligible for annual incentive awards for achieving safety, operational, financial and strategic goals that are established at the beginning of each year and are tied to the key objectives that must be achieved to support our customers and other stakeholders. There are two components that determine the payout of the awards: a company multiplier and an individual performance modifier (IPM). The company multiplier is derived by assessing company performance against goals after the completion of the year and applies to all employees, including executives. The IPM reflects individual performance and is tied to achieving individual goals and contributions.

An annual incentive award target value is set for each executive as a percentage of that executive's base salary based on market data for the position. For Executive Officers and Other Senior Officers, these target values are approved by the Compensation Committee.

Each February, the Compensation Committee assesses company performance against goals for the prior year and establishes the company multiplier payout percentage. The Compensation Committee determines the score achieved for each goal category, depending on the extent to which the goals were unmet, met or exceeded to determine the overall company multiplier. The Compensation Committee considers both what was accomplished and the manner in which it was accomplished. While perfect performance is not the standard, there is significant weight given to the efficacy and prudency of the efforts as well as the absolute outcomes. Based on the judgment of the Committee, this may result in a score that varies from "target" or the initial weight afforded to that category. The company multiplier is used to determine the annual incentive for all employees (including executives) and adjusted by an IPM to account for individual performance. When circumstances warrant reductions in executive pay – rather than the entire employee population – executive IPMs may be further modified. This occurred in 2017 and again in 2018, when deductions of 10-15 points were applied to the IPMs of certain executives in response to the company's safety performance. Discussed in more detail below, certain Executive Officers received no annual incentive payment for 2018 due to the impact of wildfires on our communities.

The minimum annual incentive award payout is $0. The maximum award is 200% of target, which Pay Governance advises is the most prevalent practice among our peer group companies.

In order to provide an example of SCE's goals, success measures and scoring matrix, we have summarized in the table below the 2020 goals that were presented to the Compensation Committee at its December 2019 meeting and tentatively approved, subject to refinement at its February 2020 meeting. (The Safety and Operations Committee of the Board will also provide a

final review of the safety and resiliency-focused goals at that time.) The goal categories and success measures reflect the importance of safety and wildfire resiliency.

SCE has traditionally used safety and resiliency measures to determine corporate performance, and these measures have evolved over time. For the 2017 performance year, we introduced the concept of foundational goals to emphasize the importance of certain goals, including the avoidance of worker fatalities and serious injuries to the public. At the discretion of the Compensation Committee, if foundational goals are not met, they can reduce or eliminate the entire annual incentive bonus. Our goals further evolved for 2019 with the introduction of wildfire resiliency goals to measure how well the company mitigated wildfire risks consistent with our Wildfire Mitigation Plan (WMP). The specific grid hardening and situational awareness measures in the WMP are based on risk analysis performed to reduce ignitions associated with utility infrastructure. Generally, as we search for additional ways to highlight the importance of safety, we have included additional success measures in the goals. The safety goal was originally measured exclusively by the DART[2] rate. We then added training metrics to reflect the importance of ongoing training and education as we work to bring our safety culture to new levels.

Our approach to the 2020 corporate goal structure has continued to evolve with increased weighting of our safety and resiliency efforts and the inclusion of an over-arching statement regarding the company's values related to safety and compliance in lieu of a foundational category. We are also now introducing an additional metric – the Serious Injury and Fatality (SIF) rate – to track safety performance that highlights our focus on preventing life-threatening and life-altering events. Further, while safety and resiliency have always been a key component of performance for SCE, we have introduced wildfire safety and resiliency as an additional goals area over the last few years. The WMPs, which are the cornerstone of the work that SCE is doing to harden the grid and reduce the impact of wildfires for our customers, are a critical component of the annual incentive plan. Embedded in the most heavily weighted 2020 category, the focus is on reducing the risk of catastrophic wildfires associated with utility infrastructure. This provides the Compensation Committee the ability to factor in any wildfire impacts to our communities as they review company goals and assess performance.

There is also a strong emphasis on operational and service excellence that supports customer affordability and reliability. The goals also recognize the importance of the regulatory framework and proceedings as well as a need to meet our commitments to effectively deploy the capital that has been authorized by the CPUC. Finally, we have a long-standing commitment to diversity, which has been a part of our corporate goals for many years.

Many success measures are quantitative and often rely on the company's ability to meet targets in various plans or proceedings. Our philosophy is that when an important objective is identified, a robust plan to accomplish that must be established. Once that plan is established, it is critical that the various milestones and activities are completed. Therefore, we often incorporate these milestones or work activities as success measures.

[2] The Days Away, Restricted, or Transferred (DART) Rate is designed to track any OSHA-recordable workplace injury or illness that results in time away from work, restricted job roles, or an employee's permanent transfer to a new position.

2020 SCE CORPORATE PERFORMANCE SCORING MATRIX

Goal Category	Target Score for Goal Category[1]	Representative Success Measures for Goal Category
Overarching Goals Framework	See footnote [2] below	• The goals will be achieved while living the Company's values, which includes safety • Safety and compliance are foundational and events such as fatalities or significant non-compliance issues can result in meaningful or full elimination of short-term incentive compensation
Safety & Resiliency	45	• Worker Safety: Make significant progress to reduce serious injuries Improvements will be measured utilizing metrics such as DART and SIF rates • Improvements in work processes will be also be targeted utilizing data-driven assessment of risk associated with various work orders and subcontractor program changes
		• Public Safety: Reduce risk of public injury related to the electric infrastructure • Improvements will be measured utilizing metrics such as public awareness of hazards, e.g., wire down • Improvements in public safety programs will be measured through execution of vault lid restraints and vegetation line clearing programs
		• Wildfire Resiliency: Reduce the risk of catastrophic wildfires associated with electric infrastructure consistent with the WMP • Improvements will be measured utilizing metrics related to covered conductor deployment, overhead inspection program, hazard tree removal, and weather station deployment • Process improvements related to Public Safety Power Shutoffs (PSPS) will also be targeted and measure through enhancements related to capabilities including weather modelling and customer outreach
		• Cybersecurity: Maintain effective controls to mitigate and prevent significant disruptions, data breach or system failure • Improvements will be measured utilizing metrics such as further deployment of cyber tools and enterprise-wide phishing program click rate
Financial Performance	25	• Core earnings target
Operational Excellence & Strategic Advancement[3]	30	• Capital Deployment: Execute grid, technology, electrification and other improvements to deliver safe, reliable and affordable energy consistent with CPUC direction
		• San Onofre Nuclear Generating Station (SONGS) Decommissioning: Implement SONGS decommissioning milestones including completion of fuel transfer and issuance of Phase II Notice to Proceed and no severity level I, II or III NRC violations
		• Reliability: Achieve targeted reliability for repair outages as measured by System Average Interruption Duration Index (SAIDI)
		• Policy: Advocate for effective wildfire policies and obtain approval of 2020 WMP and Safety Certification, advance 2021 General Rate Case and obtain policy outcomes necessary to support Clean Energy and Electric Pathway in support of California's environmental objectives
		• Customer service: Manage re-platform on-time and on-budget
		• Diversity: Increase diversity of executive and leadership populations
		• Diversity: Diverse Business Enterprise Spend >40%
Total:	100	

(1) The potential score for each goal category (other than Overarching Goals Framework, which is discussed in footnote (2) below) ranges from zero to twice the target score for the goal category. The potential total score is from zero to 200.

(2) The Compensation Committee established certain safety and compliance values that it views as "foundational." The Committee can eliminate up to 100% of the annual incentive awards based on the outcomes in this category.

(3) Many of the operational goals, such as system reliability and SONGS goals, also impact safety.

We have a rigorous and detailed approach to assessing company performance that informs the annual incentive award. However, as noted above, the Compensation Committee can also exercise judgment and independently adjust the company multiplier or IPMs of executives, as it deems appropriate. As noted earlier, over the past several years, the Compensation Committee has reduced and/or eliminated bonuses on several occasions:

- 2018 Annual Incentive Awards: In light of the impact of wildfires on communities within SCE's service territory, the Compensation Committee exercised its discretion and decided, in consultation with management and with its full support and agreement, that no annual incentive award would be paid for 2018 to top Executive Officers (CEO and President). The Compensation Committee's decision was not a reflection on the performance of these executives.
- 2018 Annual Incentive Awards: In addition to this elimination of annual incentive awards for certain executives, the Compensation Committee also modified the award for a broader group of executives in order to reinforce the importance of the foundational safety goals. A 5-point deduction was made for all executives. Then management suggested and the Compensation Committee agreed to apply an *additional* 10-point deduction to the IPM for certain SCE officers. The Compensation Committee made this adjustment based on its determination that despite the many accomplishments of management in 2018, foundational safety goals were not met. The Compensation Committee also reduced the score for the safety goal category to 0 points.
- 2017 Annual Incentive Awards: The Compensation Committee evaluated a fatality and a serious injury that occurred when members of the public came in contact with downed power wires in separate incidents. In order to reinforce the importance of the public safety foundational goal, the Compensation Committee decided to apply a 10-point deduction to the IPM for certain SCE officers. The Compensation Committee also reduced the score for the safety goal category to 0 points.
- 2016 Annual Incentive Awards: The Compensation Committee reduced the score for the safety goal category to 0 points due to four worker fatalities and the company's inability to meet established DART metrics.
- 2015 Annual Incentive Awards: The Compensation Committee reduced the score for the safety goal category to 0 points due to an employee fatality and not meeting established DART metrics.

Long-Term Incentive Awards

AB 1054 is designed to promote the financial stability of the utilities in order to ensure efficient capital market access and cost of capital. This is important for affordable customer rates. Long-term incentive awards are tied to the interests of all stakeholders by emphasizing strong long-term performance, of which safety and the resiliency of our operations plays a crucial part, and financial stability of the utility.

All of our long-term incentives (LTI) are awarded as equity instruments reflecting, or valued by reference to, EIX Common Stock. Seventy-five percent (75%) of our long-term equity mix is performance-based: the non-qualified stock options that comprise 50% of each executive's long-term incentive award value; and the performance shares that comprise 25% of the award value. We believe stock options are performance-based because executives will realize value only if the market value of EIX Common Stock appreciates.

Although LTI rewards executives based on the growth of the share price, this by no means implies that this element of executive compensation only benefits shareholders. Customers benefit from our use of LTI in a number of ways, including:

- SCE's use of LTI helps conserve cash resources. Unlike the fixed cost of base pay and any annual incentive which may be awarded, there is no immediate cash payment to employees for an LTI award due to the multi-year vesting schedule applicable to each form of LTI. Employees who voluntarily leave prior to the full vesting of the LTI award will forfeit all or a substantial portion of the unvested award.
- As a variable pay component of total compensation, LTI awards do not cause increases in an executive's annual/fixed pension and benefits costs that are a function of base pay.
- LTI promotes stability of a strong leadership team at SCE as LTI awards and payouts depend on multiple years of continuous employment, strong executive performance and strong SCE financial health.
- While the ultimate value of a fully vested LTI award for the recipient is a function of the stock price, this price is largely based on the company's successful operations which drives financial health. Those metrics translate directly into SCE's ability to lower borrowing costs and reasonably obtain funds for capital projects and other programs to maintain and modernize SCE's power grid and support reliability of service to customers. LTI advances customer interests by aligning them with the strategic goals and initiatives of the company.

Risk Considerations

Our compensation policies have been designed to discourage inappropriate risk-taking, which further supports stability as emphasized by AB 1054 and helps ensure long-term viability and financial strength needed to effectively execute plans needed to support customer needs and California's policy objectives.

Finally, and as a best practice, our executive compensation policy directs that our total compensation structure should not encourage inappropriate or excessive risk-taking. The Compensation Committee takes risk into consideration when reviewing and approving executive compensation.

As specified in its charter, and with the assistance of its independent compensation consultant and company management, the Compensation Committee regularly reviews the company's compensation programs for executives and for employees generally and has concluded these programs do not create risks reasonably likely to have a material adverse effect on the company.

In concluding that the current executive compensation program does not encourage inappropriate or excessive risk-taking, the Compensation Committee noted the following characteristics that limit risk:

- Annual incentives are balanced with long-term incentives to lessen the risk that short-term objectives might be pursued to the detriment of long-term value creation;
- Goals for annual incentive programs are varied (not focused on just one metric), include safety and compliance goals and are subject to Compensation Committee review and discretion as to the ultimate award payment for executives;
- Long-term incentive awards are subject to a multi-year vesting schedule;
- Annual incentive and performance share payouts are capped at 200% of target;
- Stock ownership guidelines require Vice Presidents and more senior officers to own company stock worth one to three times their base salary;
- All board directors and employees are prohibited from hedging company securities;
- Executive Officers are prohibited from pledging company securities, as are Vice Presidents and more senior officers who report directly to the Chief Financial Officer;

- The company has an incentive compensation clawback policy that allows the Compensation Committee or the Board to recoup incentive compensation overpayments in the event of a restatement of company financial statements; and
- Executive retirement and deferred compensation benefits are unfunded and thus depend in part on the continued solvency of the company.

Appendix L.
SCE Comments on TURN and CEJA Comments on Executive Compensation Structure
(February 11, 2020)

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

February 11, 2020

Caroline Thomas Jacobs
Director, Wildfire Safety Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94702
Email: wildfiresafetydivision@cpuc.ca.gov

Re: Southern California Edison's Comments on TURN and CEJA Comments on Executive Compensation Structure

Dear Director Thomas Jacobs:

Southern California Edison (SCE) is responding to the correspondence that the Wildfire Safety Division (WSD) received on February 5, 2020 from The Utility Reform Network (TURN) and from the California Environmental Justice Alliance (CEJA). In their correspondence, TURN and CEJA expressed concerns about SCE's executive compensation structure, as summarized in SCE's January 14, 2020 submission (Initial Submission). This letter responds to their concerns and supplements our Initial Submission in separate sections below. As you know, SCE's document was provided prior to the WSD's issuance of its January 17 letter in large part because of the importance of finalizing and communicating corporate goals to executives and other employees early in the year, so that they can help the company achieve its safety, operating, financial, and strategic objectives that benefit our customers and other stakeholders. Accordingly, SCE continues to request that the WSD promptly approve the structures as compliant with Assembly Bill 1054.

I. Pay Mix

As discussed in the Initial Submission, the pay mix for SCE's Executive Officers[1] is aligned with AB 1054. Long-term incentive (LTI) awards are a significant portion of compensation and are based completely on the achievement of objective performance metrics. Annual incentives are a smaller, but also a significant portion of compensation, and are based mostly on the achievement of objective performance metrics. As a result, the primary portion of Executive Officers' target total direct compensation is based on achievement of objective performance metrics, and those metrics prioritize safety and utility financial stability. As of the end of 2019, SCE's Executive Officers had the following mix of pay (shown as a percentage of target total direct compensation):

Position	Base Pay %	Target Annual Incentive Award %	Target Long-Term Incentive Award %
President and CEO	22.2%	16.6%	61.2%
EVP, Operations	37.0%	22.2%	40.7%
SVP and Chief Financial Officer	39.4%	21.7%	39.0%
SVP and General Counsel	39.4%	21.7%	39.0%
SVP, Customer Service	40.2%	20.1%	39.8%
SVP, Strategic Planning & Power Supply	44.4%	22.2%	33.3%
SVP, Transmission & Distribution	38.0%	20.9%	41.1%

[1] See footnote 1 of the Initial Submission for the definition of "Executive Officers."

The SCE Board of Directors' Compensation and Executive Personnel Committee (Compensation Committee) has not yet approved 2020 compensation for Executive Officers. We expect that none of the percentages in the table above will change by more than 3 percentage points for 2020.

II. Proposed 2020 Safety Metrics

The Compensation Committee is scheduled to approve specific annual incentive goals for 2020 at its February 26, 2020 meeting. It has already approved general goals, which were summarized in the Initial Submission, including a 45% weighting for the Safety & Resiliency goal category, a 25% weighting for Financial Performance, a 30% weighting for Operational Excellence & Strategic Advancement,[2] and an overarching goals framework, with foundational safety and compliance values that allow the Compensation Committee to reduce annual incentive awards by up to 100% based on the outcomes for those values.

The following are the currently proposed targets for representative success measures for the Safety and Resiliency goal category and, where applicable, threshold and maximum metrics as well.[3] The worker safety goals in the table are outcome-based. The other goals in the table measure critical safety milestones and activities. However, if safety outcomes do not meet SCE's foundational safety and compliance values, the Compensation Committee has discretion to eliminate up to 100% of the annual incentive award. The Compensation Committee retains discretion to adjust for real-world events in recognition of the fact that every situation cannot be contemplated when annual goals and success measures are developed. This discretion allows the Compensation Committee to move beyond a circumscribed evaluation of goal performance when it is appropriate to reflect real-world developments.

Safety & Resiliency Goal	Representative Success Measures	Threshold	Target	Maximum
1. Worker Safety: Make significant progress toward eliminating serious injuries and fatalities (SIF)	Improve employee EEI SIF Injury Rate: ≤	0.091	0.055	0.020
	Reduce employee DART Injury Rate: ≤	1.05	0.93	0.80
2. Public Safety: Reduce risk of public injuries related to our electric infrastructure	Cover Pressure Relief and Restraint: ≥ vault lids	450	500	550
	Vegetation Line Clearing: execute trims within 60 days of planned trim month to ensure compliance with GO 95 requirements ≥	80%	85%	90%
3. Wildfire Resiliency: Reduce the risk of catastrophic wildfires associated with electric infrastructure by executing our Wildfire Mitigation Plan and programs	Miles of Covered Conductor: install ≥	700	1,000	1,300
	Remediate P2 findings from T&D overhead inspections 30 days before due date, subject to further risk assessment[(4)]≥	50%	65%	80%
	Hazard Tree Removal: perform WMP assessment scope and complete prescribed mitigations in active inventory[(5)] within 180 days of schedule ≥	72%	82%	92%
	Weather stations: install ≥	375	475	575

[2] Many of the goals in the Operational Excellence & Strategic Advancement goal category, such as system reliability and SONGS goals, also impact safety.

[3] The following success measures are also included in the Safety & Resiliency goal category: enhance worker safety programs; improve public awareness of safety around electric lines and equipment; and improve capability of Public Safety Power Shutoffs.

[4] Includes structures with compliance inspections due in 2020. Remediation of P2 findings for goal measurement exclude those with GO95 exceptions and worker/public safety conditions.

[5] Active inventory consists of trees that SCE has authority and access to remove.

4. **Cybersecurity:** Maintain effective controls to prevent and mitigate significant disruptions, data breach or system failure	Cyber tool deployment, % of computers	N/A	97%	N/A
	Mature enterprise-wide phishing program as measured by simulation exercise click rate of ≤	11%	8%	5%

III. Deductions for Safety Performance Since 2015

Although both TURN and CEJA have expressed concern over the Compensation Committee's discretion in determining annual incentive payouts, as the table below shows, the Compensation Committee has been rigorous in evaluating and scoring safety performance, including imposing multiple significant deductions. The target score for each year's annual incentive award is 100. This target score was reduced each year from 2015 through 2018 due to unmet safety, wildfire resiliency, or foundational goals, as explained in the table.

Plan Year	Total Deduction for Executive Officers Due to Unmet Safety, Wildfire Resiliency or Foundational Goals	Summary of Unmet Safety, Wildfire Resiliency and/or Foundational Goals
2019	Performance to be determined by the Compensation Committee at its 2/26/20 meeting	Performance to be determined by the Compensation Committee at its 2/26/20 meeting
2018	Bonus completely eliminated for SCE CEO and for SCE President;[6] 20-point deduction for other Executive Officers[7]	Impact of wildfires on communities within SCE's service territory; fatalities of (i) two contractors and (ii) a private tree trimmer who came in contact with a power line; DART injury rate above target
2017	17-point deduction[8]	Fatality and a serious injury occurred when members of the public came in contact with downed power wires in separate incidents; DART injury rate above target
2016	10-point deduction	Four worker fatalities; DART injury rate above target
2015	10-point deduction	Employee fatality; DART injury rate above target

IV. Alignment of Long-Term Incentives and Safety Performance

In its February 5 correspondence, TURN takes the position that: "SCE erroneously claims that its Long-Term Incentive Plan provides a strong incentive for risk mitigation and safety improvements." We disagree with this statement. LTI awards make up a large portion of each executive's total compensation and provide a strong incentive to safely manage operations to increase the value of those awards. Wildfires, for example, can result in significant decreases in both stock price and the value of LTI awards. As of the end of 2018, top officers had lost an average of 31% of the value of their stock option grants, 12% of the value of restricted stock units and 48% of the value of performance shares when measured against the original value of those grants, which were awarded over a number of years.

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[6] In light of the impact of wildfires on communities within SCE's service territory, the Compensation Committee decided, in consultation with management and with its full support and agreement, that no annual incentive award would be paid for 2018 to the SCE CEO or the SCE President. This action was not a reflection on the performance of SCE or these officers.

[7] The 20-point deduction was comprised of: 5-point deduction to Safety portion of Operational & Service Excellence goal category due to DART injury rate; 5-point deduction to overall company modifier due to unmet foundational goal; 10-point deduction to individual performance modifier due to unmet foundational goal.

[8] The 17-point deduction was comprised of: 7-point deduction to Safety goal category due to DART injury rate; 10-point deduction to individual performance modifier due to unmet foundational goal.

A further example of the impact of safety performance on LTI is to focus solely on the performance shares payout in early 2019. As a result of the impact of the wildfires on the share price, the value of the performance share payout was only 57% of the target, a significant reduction particularly when considered in conjunction with the impacts on the safety components of the annual incentives and the Compensation Committee's decision to eliminate annual incentives for both the SCE CEO and the SCE President. This type of loss provides a strong incentive for risk mitigation and safety improvements and focuses executives' efforts on the long-term interests of the company and its stakeholders. We feel that this long-term view is an imperative, which is why we have continued to offer long-term incentives even though the CPUC has disallowed customer funding of that compensation element.

V. Conclusion

As explained in our Initial Submission and supplemented in this correspondence, we believe SCE's executive compensation structure fully complies with the requirements of AB 1054. As a result, we ask that the WSD not delay its final approval of SCE's executive compensation structure. SCE has demonstrated that it ensures safety through a combination of both output-based metrics as well as more subjective analysis using our Compensation Committee's experience in evaluating company goals for the purpose of promoting safety and ensuring public safety. We have further demonstrated that the Committee plays an active role in this analysis and has continually exercised its discretion over incentive payouts, including completely eliminating bonus payments for the company's top executives for 2018. The executive compensation structure that SCE has adopted relies on multiple forms of total compensation to incentivize executives toward achieving those goals, both in the short- and long-term, which we feel is important to achieving the goals set forth in AB 1054. We urge WSD to take prompt action in this matter and oppose any delay or rejection of the renewal of our current safety certification.

Sincerely,

Carla Peterman

Carla Peterman

Senior Vice President, Regulatory Affairs
Southern California Edison Company

Appendix M.
Updates to Tables Included in SCE's February 11, 2020 Comments

UPDATES TO TABLES INCLUDED IN SCE'S FEBRUARY 11, 2020 COMMENTS

SCE's executive compensation structure meets the requirements of AB 1054, as SCE explained its January 14, 2020 submission to the Wildfire Safety Division and February 11 comments in response to TURN and CEJA.

On February 26, the SCE Compensation and Executive Personnel Committee ("Compensation Committee") approved the final 2020 company goals. The Compensation Committee also approved executive officers' 2020 base pay and target amounts for 2020 annual and long-term incentive awards, and determined the payout of 2019 annual incentive awards. The Compensation Committee's February 26 actions are reflected in the following tables, which are updated versions of the tables included in SCE's February 11 comments.

I. Pay Mix

	% of Target 2020 Total Direct Compensation*		
Position	**Base Pay**	**Target Annual Incentive Award**	**Target Long-Term Incentive Award**
President and CEO	23.42%	17.56%	59.02%
EVP, Operations	35.59%	21.35%	43.06%
SVP and Chief Financial Officer	40.82%	22.45%	36.73%
SVP and General Counsel	40.00%	22.00%	38.00%
SVP, Customer Service	43.01%	21.51%	35.48%
SVP, Transmission & Distribution	39.25%	21.59%	39.16%

* The percentages shown are for SCE's current Executive Officers and reflect their current compensation on an annualized basis.

II. Final 2020 Goals Including Final Safety Metrics

The final 2020 goals that the Compensation Committee approved for SCE on February 26, 2020 are attached as the third and fourth pages of this Appendix.[1]

[1] The target and scoring levels for SCE's 2020 core earnings goals are not included in the document. They have not been disclosed yet to employees or the public.

III. Deductions for Safety Performance Since 2015

Plan Year	Total Deduction for Executive Officers Due to Unmet Safety, Wildfire Resiliency or Foundational Goals	Summary of Unmet Safety, Wildfire Resiliency and/or Foundational Goals
2019	14-point deduction[2]	Three contractor fatalities; transformer failure that seriously burned a member of the public; DART injury rate above target
2018	Bonus completely eliminated for SCE CEO and for SCE President;[3] 20-point deduction for other Executive Officers[4]	Impact of wildfires on communities within SCE's service territory; fatalities of (i) two contractors and (ii) a private tree trimmer who came in contact with a power line; DART injury rate above target
2017	17-point deduction[5]	Fatality and a serious injury occurred when members of the public came in contact with downed power wires in separate incidents; DART injury rate above target
2016	10-point deduction	Four worker fatalities; DART injury rate above target
2015	10-point deduction	Employee fatality; DART injury rate above target

[2] The 14-point deduction was comprised of: 10-point deduction to company modifier due to unmet foundational goals; Safety portion of Operational & Service Excellence goal category was scored 4 points below target due to DART injury rate.

[3] In light of the impact of wildfires on communities within SCE's service territory, the Compensation Committee decided, in consultation with management and with its full support and agreement, that no annual incentive award would be paid for 2018 to the SCE CEO or the SCE President. This action was not a reflection on the performance of SCE or these officers.

[4] The 20-point deduction was comprised of: 5-point deduction to Safety portion of Operational & Service Excellence goal category due to DART injury rate; 5-point deduction to overall company modifier due to unmet foundational goal; 10-point deduction to individual performance modifier due to unmet foundational goal.

[5] The 17-point deduction was comprised of: 7-point deduction to Safety goal category due to DART injury rate; 10-point deduction to individual performance modifier due to unmet foundational goal.

2020 SOUTHERN CALIFORNIA EDISON GOALS

Goal Category	Target Score for Goal Category [1]	Representative Success Measures for Goal Category
Overarching Goals Framework	See footnote [2] below	• The goals will be achieved while living the Company's values, which include safety • Safety and compliance are foundational and events such as fatalities or significant non-compliance issues can result in meaningful or full elimination of short-term incentive compensation
Safety & Resiliency	45	• Worker Safety: Make significant progress toward eliminating serious injuries and fatalities (SIF) o Improve employee EEI SIF Injury Rate: ≤ 0.091, **0.055**, 0.020 o Reduce employee DART Injury Rate: ≤ 1.05, **0.93**, 0.80 o Enhance worker safety programs (e.g., work order risk score, contractor program) • Public Safety: Reduce risk of public injuries related to our electric infrastructure o Improve public awareness of safety around electric lines and equipment as measured by awareness survey results and key outreach activities performed o Execute programs to reduce safety hazards for contact with energized equipment and underground equipment failure ▪ Cover Pressure Relief and Restraint: ≥ 450, **500**, 550 vault lids ▪ Vegetation Line Clearing: execute ≥ 80%, **85%**, 90% of trims within 60 days of planned trim month to ensure compliance with GO 95 requirements • Wildfire Resiliency: Reduce the risk of catastrophic wildfires associated with electric infrastructure by executing our Wildfire Mitigation Plan (WMP) and programs o Covered Conductor: install ≥ 700, **1,000**, 1,300 miles o Overhead Inspections: inspect ≥ 198,000 riskiest transmission and distribution structures in HFRA through ground and aerial inspections. Remediate 2019 findings by end of Q2. Remediate ≥ 50%, **65%**, 80% of 2020 P2 findings 30 days before due date, subject to further risk assessment [3] o Hazard Tree Removal: perform WMP assessment scope and complete ≥ 72%, **82%**, 92% of prescribed mitigations in active inventory [4] within 180 days of schedule o Weather stations: install ≥ 375, **475**, 575 o Improve capability of Public Safety Power Shutoffs (PSPS) (e.g., weather modeling, operational protocols, and customer outreach) • Cybersecurity: Maintain effective controls to prevent and mitigate significant disruptions, data breach or system failure o Execute cybersecurity improvements to mitigate risk of compromise (e.g., cyber tools deployed on at least 97% of computers, availability of foundational tools, and timely completion of cybersecurity projects) o Mature enterprise-wide phishing program as measured by simulation exercise click rate of ≤ 10%, **7%**, 4%
Financial Performance [5][6]	25	• Achieve SCE core earnings target
Operational Excellence & Strategic Advancement	30	• Capital Deployment: Execute grid, technology, electrification, and other improvements to deliver safe, reliable, clean, and affordable energy for customers o Achieve CPUC and FERC jurisdictional capital improvement plan execution, consistent with CPUC direction • Policy Outcomes: Shape California legislative and regulatory policies to align with SCE's strategy o Advocate for effective implementation of wildfire policies and obtain Wildfire Mitigation Plan and annual Safety Certification o Advance support for a favorable, timely outcome in 2021 General Rate Case to secure funding to meet Company and customer needs o Build support for Clean Energy & Electrification Pathway/Pathway 2045 and achieve key policy outcomes that accelerate its development

Operational Excellence & Strategic Advancement	• Diversity and Inclusion: Improve diversity in our leadership and supplier base ○ Improve diversity at supervisor through officer levels over 2019 baseline ○ Achieve Diverse Business Enterprise spend ≥ **40%**
	• Customer Service Re-Platform: Complete critical Customer Service Re-Platform milestones and scope while staying on schedule and budget ○ Complete testing and Organizational Change Management (OCM) milestones in line with plan ○ Maintain project spend in line with plan
	• San Onofre Nuclear Generating Station (SONGS) Decommissioning: Safely and effectively manage SONGS decommissioning ○ Incur no severity Level I, II, or III NRC violations ○ Effectively manage contractors to complete Decommissioning and Dismantlement critical path activities, including safe transfer of used fuel to dry storage (ISFSI) ○ Complete prerequisite requirements and submit Notice to Proceed for Phase II for Decontamination and Dismantlement
	• Reliability: Improve reliability performance for repair outages ○ Achieve System Average Interruption Duration Index (SAIDI), Repair: 97 minutes; **86 minutes**; 75 minutes

Total:	100

(1) The potential score for each goal category (other than Overarching Goals Framework, which is discussed in footnote (2) below) ranges from zero to twice the target score for the goal category. The potential total score is from 0 to 200.

(2) The Compensation Committee established certain safety and compliance values that it views as "foundational." The Committee can eliminate up to 100% of the annual incentive awards based on the outcomes in this category.

(3) Includes structures with compliance inspections due in 2020. 2020 P1 findings will be remediated within the compliance timeframes. Remediation of P2 findings for goal measurement excludes those with GO95 exceptions and worker/public safety conditions.

(4) Active inventory consists of trees that SCE has authority and access to remove (excludes customer refusals, environmental restrictions, etc.)

(5) The Core Earnings goal will be adjusted to exclude incremental wildfire-related insurance premiums and cost recovery for wildfire-related insurance premiums in excess of the amount embedded in the Core Earnings goal.

(6) Bonus payout may be zero if core earnings fall below threshold.

Appendix N.
Advice 4089-E, Q3 2019

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations

October 23, 2019

ADVICE 4089-E
(U 338-E)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
ENERGY DIVISION

SUBJECT: Southern California Edison Company's Quarterly Advice Letter Pursuant to Assembly Bill 1054 Regarding the Implementation of Its Approved Wildfire Mitigation Plan and Its Safety Recommendations

Southern California Edison Company (SCE) hereby submits this Tier 1 Advice Letter (AL) detailing the implementation of its approved 2019 Wildfire Mitigation Plan (WMP),[1] recommendations of the most recent safety culture assessment, and a statement of the recommendations of its board of directors' safety committee[2] meetings that occurred during the quarter.

PURPOSE

The purpose of this AL filing is to comply with the provisions of Public Utilities Code (PUC) Section 8389(e)(7), established by California Assembly Bill (AB) 1054, for the first quarter following SCE's receipt of its Initial Safety Certification. As directed by the statute, the AL provides details of the implementation of SCE's 2019 WMP, a status update relative to SCE's most recent safety culture assessment, and a statement of the recommendations of SCE's Committee meetings that occurred during the quarter.

BACKGROUND

AB 1054 was signed into law by Governor Newsom on July 12, 2019. Section 8389(e)(7), which was added to the PUC by AB 1054, reads:

> The executive director of the commission shall issue a safety certification to an electrical corporation if the electrical corporation provides documentation of the following . . . The electrical corporation is implementing its approved wildfire mitigation plan. The electrical corporation shall file a tier 1 advice letter on a

[1] *See* Decision (D.)19-05-038.
[2] SCE's board of directors safety committee is known as the Safety and Operations Committee of the Board of Directors and referred to herein as the "Committee."

quarterly basis that details the implementation of both its approved wildfire mitigation plan and recommendations of the most recent safety culture assessment, and a statement of the recommendations of the board of directors safety committee meetings that occurred during the quarter. The advice letter shall also summarize the implementation of the safety committee recommendations from the electrical corporation's previous advice letter filing. If the division has reason to doubt the veracity of the statements contained in the advice letter filing, it shall perform an audit of the issue of concern.

SCE provides the required information as indicated below:

(1) **Implementation of Wildfire Mitigation Plan**

On October 25, 2018, the California Public Utilities Commission (Commission or CPUC) opened Rulemaking (R.)18-10-007 to implement the provisions of Senate Bill (SB) 901 related to electric utility wildfire mitigation plans. New provisions of PUC 8386, enacted as part of SB 901, require all California electric utilities to prepare and submit wildfire mitigation plans that describe the utilities' plan to prevent, combat, and respond to wildfires affecting their service territories. On February 6, 2019, SCE submitted its 2019 WMP that describes strategies, programs, and activities that were in place, being implemented, or were under development at the time, to proactively address and mitigate the threat of electrical infrastructure-associated ignitions that could lead to wildfires, further harden the electric system against wildfires, and enhance wildfire suppression efforts.

After an extensive review process that included discovery, workshops and comments, the Commission, on May 30, 2019, found that SCE's WMP contained each of the required elements and approved SCE's 2019 WMP in D.19-05-038, subject to certain reporting, metrics, data and advice letter requirements. Since approval of its 2019 WMP, SCE has complied with the follow-up requirements ordered in D.19-05-038 and D.19-05-036[3] including filing three Tier 1 advice letters[4] and submitting its Data Collection on Wildfire Mitigation Plans Report.

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[3] The requirement to file two Tier 3 advice letters entitled "Reports on Possible Off Ramps" describing any concerns about the effectiveness of any program in the WMPs are due to be filed six and twelve months post the May 30, 2019 effective data of D.19-05-036 and SCE is on track to meet these advice letter requirements.

[4] On July 5, 2019, SCE submitted the following three Tier 1 advice letters in compliance with D.19-05-038: Advice 4030-E that describes SCE's wildfire mitigation work that it has completed, plans to complete, and may do during the 2019 WMP year in high fire risk areas (HFRA) outside the Commission's High Fire Threat District (HFTD) map; Advice 4031-E that describes SCE's Enhanced Overhead Inspections (EOI) initiative by clarifying the differences from SCE's existing inspections, explaining what the EOI involve, the specific activities that will be performed, and the data that will be collected as well as databases

SCE is tracking 58 specific wildfire-related mitigation activities included in its 2019 WMP. Some of these activities such as risk-based tree removals, Enhanced Overhead Inspections, and installing covered conductors are designed to reduce the risk of ignitions associated with utility infrastructure. Others are targeted towards situational awareness and emergency preparedness in the event a wildfire occurs. Still others are associated with customer and community notifications during Public Safety Power Shutoff (PSPS). SCE is also exploring and evaluating several alternative technologies to potentially improve its ability to prevent and better respond to wildfire-related events. In Exhibit A, SCE presents detailed information about the implementation status of each of these wildfire-related mitigation activities. Exhibit A sets forth SCE's current (as of August 31, 2019) progress towards meeting the wildfire mitigation programs and activities along with 2019 goals and metrics in its Commission-approved 2019 WMP. Overall, SCE is on track to meet the vast majority of those targets by year-end 2019. Exhibit A is similar to SCE's presentation to the Commission at the September 17, 2019 workshop in Phase 2 of R.18-10-007 updated to reflect the progress made through August 2019.

(2) **Implementation of Most Recent Safety Culture Assessment**

As noted in its initial safety certification, SCE has not yet undergone a CPUC-led safety culture assessment. Pursuant to PUC Section 8389(d)(4), a CPUC-led safety culture assessment for SCE may not occur until early 2021. Notwithstanding this, safety is the first of SCE's core values and this is demonstrated through the company's commitment to creating and maintaining a safe environment for employees, contractors, and the public. Over the past several years, SCE has increased management focus on safety oversight, accountability, and partnering with employees, contractors, and communities to improve worker and public safety. SCE continues to improve its safety culture via in-person meetings, trainings, corporate messaging and the incorporation of feedback from all levels of the organization. SCE looks forward to working with the CPUC and other interested stakeholders to further review its safety culture and build upon existing efforts to strengthen it.

(3) **Recommendations of Safety and Operations Committee**

In this section, SCE briefly describes the role, purpose, and general qualifications of members who serve on the Committee. It also describes recent items which came before the Committee.

Overall, the entire SCE Board of Directors (Board) is committed to the safety of SCE's workers, its customers and the community. The Board provides oversight for all aspects of SCE's business including safety, and various committees of the

related to EOI; Advice 4032-E that describes and justifies covered conductor installation outside the Commission's HFTD map as part of SCE's Wildfire Covered Conductor Program.

Board have responsibility for oversight of specific areas. The Committee is responsible primarily for safety oversight at SCE, and links oversight of safety to SCE's operational practices. The Committee oversees SCE's safety performance, culture, goals, risks (including wildfire) and significant safety-related incidents involving employees, contractors, or members of the public. It consists of five members of SCE's Board with relevant safety experience, each of whom meets the independence requirements of the New York Stock Exchange. The Chair of the Committee (Chair), Timothy O'Toole, who is also a board member of the National Safety Council, is a recognized safety leader both in the United States and internationally and has decades of direct management experience in the rail and bus transportation industry where worker and public safety is a paramount concern.

The Committee members take an active role in overseeing SCE's safety and operational practices. Significant focus areas for the Committee include oversight of the implementation of SCE's Grid Safety and Resiliency Program and WMP, worker and public safety, SCE's safety culture, safe decommissioning of the San Onofre Nuclear Generating Station, the safety and security of SCE's grid assets, safety metrics and benchmarking, and operational response plans in the event of earthquakes or other natural disasters.

The Committee members actively engage in each meeting, asking probing and thoughtful questions of management, and bringing their relevant safety experience to bear. The meetings provide a forum for the Committee to hold management accountable for achieving the company's safety goals. At each meeting, the Committee has an opportunity to meet in executive session without management present to discuss Committee priorities. Feedback is provided to management by the Chair regarding issues raised during the meeting, which is useful to management in prioritizing its initiatives and developing the agenda for the next meeting. After each meeting, the Chair then reports on the Committee meeting to the Board at its next meeting, which is typically held the following day. The Committee had one meeting in the preceding quarter, on August 21, 2019. At this meeting, the Committee discussed several topics relating to worker and public safety, and the 2019 WMP.

At the August 21 meeting, management reported on safety performance and metrics, including a reduction in serious injuries and no employee fatalities year-to-date. The Committee discussed the metric that tracks lost employee time due to injuries, challenges to reducing incidents, and the safety training and other actions being taken to address the challenges. Management provided reports on the circumstances regarding two recent contract worker fatalities. Management also reported on two incidents in which third-party tree trimmers, not affiliated with or hired by SCE, were fatally injured. Efforts to influence third-party tree trimmers to engage with SCE prior to working near high voltage lines in order to ensure their safety and reduce and eliminate these types of accidents were discussed. The Committee and management also discussed SCE's safety

culture, the AB 1054 safety certification requirements, and the Board's role in the process. The Committee and management discussed continued efforts to implement effective safety and performance metrics and discussed safety-related goals for 2020.

The Committee also had discussions regarding the implementation of SCE's 2019 WMP including the process to refine the PSPS protocols. Management's presentation included an overview of the EOI initiative and prioritization of remediation plans to reduce the risk of ignitions in High Fire Risk Areas (HFRA). The Committee and management discussed vegetation management, including challenges experienced with software tools and plans to address these challenges and resources being acquired to address the volume of work.

Throughout the meeting, the Committee provided input and guidance to management, probed management's plans and assumptions, and discussed actions to be taken by SCE. The Committee recommended that management follow up with the Committee at its next meetings on the topics of proposed changes in safety performance metrics and implementation of the 2019 WMP.

The Committee has meetings scheduled in the next quarter on October 23 and December 11, 2019.

PROPOSED TARIFF CHANGES

There are no tariff changes triggered or are being requested through this AL.

No cost information is required for this AL.

This AL will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule or rule.

TIER DESIGNATION

Pursuant to General Order (GO) 96-B, Energy Industry Rule 5.1, this AL is submitted with a Tier 1 designation.

EFFECTIVE DATE

SCE respectfully requests that this AL become effective October 23, 2019, which is the same date as submitted.

NOTICE

Anyone wishing to protest this AL may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice letter. Protests should be submitted to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, California 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address above).

In addition, protests and all other correspondence regarding this AL should also be sent by letter and transmitted via facsimile or electronically to the attention of:

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations
Southern California Edison Company
8631 Rush Street
Rosemead, California 91770
Telephone (626) 302-9645
Facsimile: (626) 302-6396
E-mail: AdviceTariffManager@sce.com

Laura Genao
Managing Director, State Regulatory Affairs
c/o Karyn Gansecki
Southern California Edison Company
601 Van Ness Avenue, Suite 2030
San Francisco, California 94102
Facsimile: (415) 929-5544
E-mail: Karyn.Gansecki@sce.com

There are no restrictions on who may file a protest, but the protest shall set forth specifically the grounds upon which it is based and must be received by the deadline shown above.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this AL to the interested parties shown on the attached GO 96-B, R.18-10-007, R.18-12-005, and A.18-09-002 service lists. Address change requests to the GO 96-B service list should be directed by electronic mail to AdviceTariffManager@sce.com or at (626) 302-4039. For changes to all other service lists, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

Further, in accordance with PUC Section 491, notice to the public is hereby given by submitting and keeping this AL at SCE's corporate headquarters. To view other SCE advice letters submitted with the Commission, log on to SCE's web site at https://www.sce.com/wps/portal/home/regulatory/advice-letters.

For questions, please contact Ryan Stevenson at (626) 302-3613 or by electronic mail at ryan.stevenson@sce.com

Southern California Edison Company

/s/ Gary A. Stern, Ph.D.
Gary A. Stern, Ph.D.

GAS:rs:jm
Enclosures



California Public Utilities Commission

ADVICE LETTER SUMMARY

ENERGY UTILITY

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

Company name/CPUC Utility No.: Southern California Edison Company (U 338-E)

Utility type:
☑ ELC ☐ GAS ☐ WATER
☐ PLC ☐ HEAT

Contact Person: Darrah Morgan
Phone #: (626) 302-2086
E-mail: AdviceTariffManager@sce.com
E-mail Disposition Notice to: AdviceTariffManager@sce.com

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

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 4089-E

Tier Designation: 1

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

Keywords (choose from CPUC listing): Compliance

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☑ One-Time ☐ Other:

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

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

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

Confidential treatment requested? ☐ Yes ☑ No

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

Resolution required? ☐ Yes ☑ No

Requested effective date: 10/23/19

No. of tariff sheets: -0-

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

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

Tariff schedules affected: None

Service affected and changes proposed[1]:

Pending advice letters that revise the same tariff sheets: None

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

Clear Form

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

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

Name: Gary A. Stern, Ph.D.
Title: Managing Director, State Regulatory Operations
Utility Name: Southern California Edison Company
Address: 8631 Rush Street
City: Rosemead
State: California Zip: 91770
Telephone (xxx) xxx-xxxx: (626) 302-9645
Facsimile (xxx) xxx-xxxx: (626) 302-6396
Email: advicetariffmanager@sce.com

Name: Laura Genao c/o Karyn Gansecki
Title: Managing Director, State Regulatory Affairs
Utility Name: Southern California Edison Company
Address: 601 Van Ness Avenue, Suite 2030
City: San Francisco
State: California Zip: 94102
Telephone (xxx) xxx-xxxx: (415) 929-5515
Facsimile (xxx) xxx-xxxx: (415) 929-5544
Email: karyn.gansecki@sce.com

Clear Form

ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtailable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	

Exhibit A

SCE's 2019 Wildfire Mitigation Plan (WMP) Progress Update

(All data is as of August 31, 2019 or later)

WMP Activities Summary

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Evaluation of HFRA

EVAL-1: Complete evaluation of non-CPUC HFRA for retention or exclusion

PSPS

PSPS-1: De-Energization Notifications

- PSPS-1.1: Notifications to public safety agencies and local gov't
- PSPS-1.2: Notifications to Cal OES via State warning system
- PSPS-1.3: Notifications to the CPUC
- PSPS-1.4: Enhance Emergency Outage Notification System

Operation Practices

- OP-1: Review and update Annual System Operating Bulletin 322
- OP-2: Hire additional staff for Wildfire Infrastructure Protection Team

Risk Analysis

RA-1: Conduct risk analysis based on new expanded scope

Emergency Preparedness

DEP-1: Customer Education and Engagement

- DEP-1.1: Conduct a direct mail campaign for HFRA
- DEP-1.2: Develop local gov't ed. and engagement meeting plan
- DEP-1.3: Execute local gov't ed. and engagement meeting

DEP-2: Emergency Responder Training

- DEP-2.1: Wildfire response training for new or existing responders
- DEP-2.2: Conduct Internal IMT Training around WF response and de-energization protocols

DEP-3: Bolster Incident Mgmt. & Support

- DEP-3.1: Determine positions that need enhanced staffing
- DEP-3.2: Train, exercise, and qualify new staff to meet identified need

System Hardening

- SH-1: Install 96 circuit miles of Covered Conductor
- SH-2: Conduct evaluation of Undergrounding in HFRA
- SH-3: Install at least 1,100 composite poles
- SH-4: Install 7,500 Current Limiting Fuses (CLFs)
- SH-5: Install 50 Remote Controlled Automatic Reclosers (RARs)
- SH-6: Update at least 150 existing RAR Settings
- SH-7: Circuit Breaker Fast Curve
  - SH-7.1: Develop Engineering plan to upgrade Circuit Breaker relays and Settings
  - SH-7.2: Conduct Circuit breaker upgrades and setting updates according to plan

Situational Awareness

- SA-1: Install new additional weather units
- SA-2: Fire Potential Index Phase II. Enhance capabilities of FPI
- SA-3: Install additional HD Cameras
- SA-4: Procure and Install high performance computing cluster weather and fuels modeling system
- SA-5: Develop Asset Reliability & Risk Analytics Capability

Inspections

- IN-1: Distribution Enhanced Overhead Inspections and Remediation in HFRA
  - IN-1.1: Complete visual inspection for all distribution circuits in HFRA
  - IN 1.2: Remediate all conditions that create fire risk under distribution
- IN-2: Transmission Enhanced Overhead Inspections and Remediation in HFRA
  - IN-2.1: Complete visual inspection for all transmission circuits in HFRA
  - IN 2.2: Remediate all conditions that create fire risk under transmission
- IN-3: Perform quality review on transmission and distribution structures
- IN-4: Infrared Inspection of hot spots on overhead distribution facilities and equipment
  - IN-4.1: Inspect 50% of overhead lines in HFRA
  - IN-4.2: Remediate condition's as required based on inspection results
- IN-5: Infrared Inspection, Corona Scanning, and High Definition imagery of overhead transmission facilities and equipment
  - IN-5.1: Complete infrared (IR), corona and HD image scanning of all overhead transmission lines in HFRA
  - IN-5.2: Integrate remediation with EOI activities

Vegetation Management

- VM-1: Hazard Tree Management Program (HTMP)
  - VM-1.1: Perform tree specific threat assessments
  - VM-1.2: Perform risk-based tree removals
- VM-2: Inspect and clear brush around poles
- VM-3: Achieve tree-to-line clearance distance of 12 feet in HFRA
- VM-4: DRI quarterly inspections and removals
  - VM-4.1: Perform all quarterly DRI inspections
  - VM-4.2: Remove trees in accordance with Veg Mgmt program
- VM-5: LiDAR inspections of transmission (220kV and above)
- VM-6.1: Inspect vegetation adjacent to Distribution Circuit Miles
- VM-6.2: Inspect vegetation adjacent to Transmission Circuit Miles

Alternative Technologies

- AT-1: Alternative Technology Pilots
  - AT-1.1: Pilot installation of 50 CAL FIRE-exempt surge arrestor units
  - AT-1.2: Pilot Meter Alarming for Downed Energized Conductor
- AT-2: GSRP Wildfire Mitigation
  - AT-2.1: Evaluate Distribution Fault Anticipation devices
  - AT-2.2: Evaluate Beyond Visual Line of Sight Unmanned Aerial System
- AT-3: Alternative Technology Evaluations
  - AT-3.1: Evaluate Rapid Earth Fault Current Limiters/Arc Suppression Coils
  - AT-3.2: Evaluate alternate fault detection technology
  - AT-3.3: Evaluate fire retardant barrier for wood poles
  - AT-3.4: Evaluate substation-class electronic fuses
  - AT-3.5: Evaluate branch line protection to include single phase reclosing
- AT-4: Alternative Technology Implementation
  - AT-4.1: Develop standard installation practices for aeolian vibration dampers
  - AT-4.2: Develop standard installation practices for ridge pin construction for conductor rebuild
  - AT-4.3: Update distribution overhead requirements for connector selection in HFRA

Q3 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Operational-related Activities

PSPS: De-Energization Notifications (PSPS-1):

Local Govt and Agency PSPS Notifications
On Track

Notifications to Public Safety Agencies and Local Government (PSPS-1.1)
Volume vs 2019 Goal: Sent notifications for each of the 10 events to date in 2019
Key Actions: This Activity is triggered by a PSPS event where SCE is required to submit ESRB-8 documentation to confirm it met the requirements outlined by the CPUC.

State PSPS Notifications
On Track

Notifications to Cal OES via State Warning System (PSPS-1.2)
Volume vs 2019 Goal: Sent notifications for each of the 10 events to date in 2019
Key Actions: This Activity is triggered by a PSPS event where SCE is required to submit ESRB-8 documentation to confirm it met the requirements outlined by the CPUC.

CPUC PSPS Notifications
On Track

Notifications to the CPUC (PSPS-1.3)
Volume vs 2019 Goal: Sent notifications for each of the 10 events to date in 2019
Key Actions: This Activity is triggered by a PSPS event where SCE is required to submit ESRB-8 documentation to confirm it met the requirements outlined by the CPUC.

Emergency Notification Enhancements
On Track

Enhance Emergency Outage Notification System (PSPS-1.4)
Volume vs 2019 Goal: PSPS messaging will be delivered in English plus the five primary additional languages within SCE's service area
Key Actions: All work tracks for this goal have begun. SCE is in the process of creating landing pages for In-language PSPS notifications. Translation vendor is in process of voice and text translations into the 5 additional languages. PSPS notification vendor ready to begin work to integrate voice messaging into their platform as soon as translation recordings are delivered.

HFRA Boundary Evaluation
Complete

Evaluation of HFRA (EVAL-1)
Volume vs 2019 Goal: Evaluation complete; PFM filed on 8/19/2019
Key Actions: The technical review of non-CPUC HFRA evaluation results was completed and the non-CPUC HFRA boundary Petition for Modification (PFM) was submitted.

Wildfire Risk Analysis
On Track

Expansion of Wildfire Risk Analysis (RA-1)
Volume vs 2019 Goal: On track to conduct risk analysis incorporating 2018 fire ignition data, additional system information, and consequence modeling to evaluate wildfire risk at a circuit segment level.
Key Actions: SCE is developing and testing revisions to its wildfire risk modeling methodology that include segment-level probability of ignition calculations that incorporate system characteristics, fault / fire history, and local conditions, as well as localized ignition consequence risk.

SOB Review and Update
Complete

Review and Update Annual System Operating Bulletin 322 for Non-CPUC HFRA (OP-1)
Volume vs 2019 Goal: Review and update to non-CPUC HFRA complete
Key Actions: Non-CPUC HFRA was revised to include additional details on operating restrictions during elevated fire weather threats, blocking subtransmission reclosers, fast curve settings, and operations during PSPS events.

Hire Additional Meteorologist
Complete

Hire Additional Staff for Wildfire Infrastructure Protection Team (OP-2)
Volume vs 2019 Goal: Hired one additional meteorologist
Key Actions: Completed hiring of one additional meteorologist for the Wildfire Infrastructure Protection Team.

Q3 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Inspection-related Activities

EOI

Dist.	Trans.
100%	100%
Inspected	
84%	43%
Remediated	

Enhanced Overhead Inspections (IN-1 & IN-2)

Volume vs 2019 Goal:

Distr. 100% of structures inspected
Distr. 84% of notifications remediated
Trans. 100% of structures inspected
Trans. 43% of notifications remediated

Key Actions: Continued monitoring of past due P2 notifications and work execution cycle. Achieving year-end 2019 goal is dependent on the number of PSPS and storm events that draw upon the same resources.

QC HFRA Inspections

228%

Structures Inspected

QC HFRA Inspections (IN-3)

Volume vs 2019 Goal: 17,116 of 7,500 structures inspected

Key Actions: Performed quality reviews on transmission and distribution structures in HFRA based on EOI inspections, more than doubled the goal amount, no further actions expected.

Overhead Line Inspections

26%

IR Scans Completed

Infrared Inspection of Hot Spots on Overhead Distribution Facilities and Equipment (IN-4)

Volume vs 2019 Goal: 1,167 of 4,532 miles scanned

Key Actions: The projected completion date has been extended to December due to initial data issues; however a definitive schedule has been created and distributed for the IR team to execute accordingly. The scanning project has produced approximately 24 hotspot findings in multiple district and a majority (11) of the findings have been P1 notifications.

Infrared Inspections & HD Imagery

On Track

Infrared Inspection, Corona Scanning, and High Definition Imagery of Overhead Transmission Facilities and Equipment: Complete IR, Corona and HD Image Scanning of All Overhead Transmission Lines in HFRA (IN-5.1)

Volume vs 2019 Goal: 5,716 of 6,513 miles planned of overhead transmission lines have been flown utilizing IR and corona scanning. 452 miles were loaded above 40% of rated capacity.

Key Actions: Data collection was temporarily restarted in June to collect IR/corona data on generation ties coming out of Big Creek and Bishop. That data has been analyzed. Additional data collection is currently on hold until ground temperatures decrease.

Integrate Remediation w/EOI Activities

On Track

Infrared Inspection, Corona Scanning, and High Definition Imagery of Overhead Transmission Facilities and Equipment: Integrate Remediation with EOI Activities (IN-5.2)

Volume vs 2019 Goal: Working to integrate remediation with EOI work.

Key Actions: Any Priority 1 conditions or notification items are immediately evaluated and remediated. Priority 2 and 3 notifications will go through internal validation prior to being entered into SAP with a completion date based on HFRA Tier compliance timelines.

Q3 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

System Hardening Activities

WCCP

107%

Circuit Miles Installed

WCCP (SH-1)

Volume vs 2019 Goal: 103 of 96 (107%) circuit miles installed
Key Actions: 324 circuit miles of non-Grid Resiliency overhead conductor work has been redesigned for covered conductor in HFRA. Some of this work will be executed in 2019. Advancing a portion of work scheduled to begin construction in 2020 to 2019.

Composite Poles

18%

Poles Installed

Composite Pole Installation (SH-3)

Volume vs 2019 Goal: 202 of 1,100 (18%) poles installed
Key Actions: The current plan to meet the 1,100 composite pole installations is more heavily weighted with installations in Q4 2019 as compared to the original goal plan created in 2018. Working with vendor on production issue for 50' composite poles that is limiting installations at that size. Current outlook is Activity is expected to meet goal by year-end.

Underground work in HFRA

On Track

Evaluation of Undergrounding in HFRA (SH-2)

Volume vs 2019 Goal: On track to conduct assessment of undergrounding for HFRA
Key Actions: SCE has identified high risk circuit segments in HFRA for internal evaluation and consideration as a potential wildfire risk mitigation. SCE is evaluating potential underground scope at a local level for mitigation effectiveness, construction feasibility, and conditions/attributes that support undergrounding of overhead lines to mitigate wildfire risk.

Fuses

101%

Fuse locations completed

Current Limiting Fuses (SH-4)

Volume vs 2019 Goal: 7,575 of 7,500 (101%) fuse locations completed
Key Actions: Met threshold target of 7,500 in August. Expect to reach 8,000 installs by end of October. Inventory of X-limiter fuses has been swapped out for SMU-20s.

Q3 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

System Hardening Activities

RARs

28%

RARs Installed

Install 50 Remote Controlled Automatic Reclosers (RARs) (SH-5)

Volume vs 2019 Goal: 14 of 50 (28%) RARs installed. Although the goal plan assumed 10 installations per month from August through December, the current plan accelerates RAR installations and will result in being ahead of plan each month until the goal is met.

Key Actions: Additional 8 RARs are being accelerated from 2020 to help ensure the successful 2019 outcome for RAR installations.

Circuit Breaker Fast Curve

On Track

Circuit Breaker Fast Curve: Develop Engineering Plan to Upgrade Remaining Circuit Breaker Relays and Update Settings (SH-7.1)

Volume vs 2019 Goal: CB relays and update settings
SH-7.1.A: 60 Substations with 300 circuits scoped
SH-7.1.B: 45 Substations with 68 circuits being scoped

Key Actions: 7.1.A Projects scoped and handed off for design. 7.1.B Job walks scheduled for scoping activities to be completed by year-end.

RAR Settings

93%

RARs Updated

Update At Least 150 Existing RAR Settings (SH-6)

Volume vs 2019 Goal: 139 of 150 (93%) updated RAR settings

Key Actions: Install remaining 11 RAR settings in substations by year end to meet 2019 goal.

Circuit Breaker Fast Curve

On Track

Circuit Breaker Fast Curve: Execute Circuit Breaker Relay and Settings Upgrades according to plan (SH-7.2)

Volume vs 2019 Goal: All projects have commenced engineering design, engineering contracts have been issued to the regional engineering vendors who are currently working on the design.

Key Actions: Construction dates are being scheduled for 2020.

Q3 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Situational Awareness Activities

Weather Stations

97%

Weather Stations

Weather Stations (SA-1)

Volume vs 2019 Goal: 307 of 315 (97%) Weather stations complete
Key Actions: Preparing crews for more rural areas; install pace will slow due to accessibility challenges with remote locations of remaining sites.

FPI Phase 2

Complete

Fire Potential Index Phase 2: Enhance Capabilities of FPI (SA-2)

Volume vs 2019 Goal: Enhanced capabilities of FPI by increasing granularity, adding historical climatology data, and expanding to cover all of SCE's service territory.
Key Actions: Fire Potential Index (FPI) Phase 2 consisted of the FPI being calculated at the circuit level across its HFRA below 6,000 feet.

HD Cameras

90%

Cameras Installed

HD Cameras (SA-3)

Volume vs 2019 Goal: 56 of 62 (90%) HD cameras installed
Key Actions: SCE working closely with local fire agencies and SCE fire management team to site the remaining locations.

HPCC Modeling System

On Track

Procure and Install High Performance Computing Cluster Weather and Fuels Modeling System (SA-4)

Volume vs 2019 Goal: 1 out of 2 HPCCs operational
Key Actions: Backup HPCC will be moved from PSSC Labs to the Alhambra Data Center on October 24th. Expecting to meet goal by year end.

Analytics

On Track

Develop Asset Reliability & Risk Analytics Capability (SA-5)

Volume vs 2019 Goal: Complete implementation of advanced analytics platform and tools.
Key Actions: Completed demo of fire simulation software. Historical fire data is now being analyzed by High Performance Computer Cluster. SCE will continue to develop and mature its ignition modeling and the ability of wildfire mitigations to reduce risk at a structure/pole/conductor level.

Q3 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Vegetation Management Activities

Enhanced Veg. Mgmt
50%
Trees Assessed

Perform Tree Specific Threat Assessments (VM-1.1)
Volume vs 2019 Goal: 62,365 of 125,000 trees
Short of plan by 12,495 (17%)
Key Actions: An accelerated plan for assessment has been defined: new assessor resources have been obtained and productivity is anticipated to increase. Likely will meet goal by year-end 2019.

Enhanced Veg. Mgmt
18%
Trees Removed

Perform Risk-based Tree Removals (VM-1.2)
Volume vs 2019 Goal: 1,347 of 7,500 trees
Short of plan by 4,653 (78%)
Key Actions: SB 901 / GSRP Settlement amount of 7,500 removals threatened by lack of permission from private and public property owners; Developing strategy to unlock these and target alternative locations. Likely will not meet goal due to lack of approvals.

Poles
63%
Poles Cleared

Inspect and Clear Brush Around Poles (VM-2)
Volume vs 2019 Goal: 62,652 of 100,000 poles (63% of YE target)
Key Actions: Contractor continues to add resources needed to complete work on increased pole population. On track to meet goal by year-end 2019.

Annual Pruning
New Clearance Distance Implemented

Achieve Tree-to-line Clearance Distance of 12 Feet in HFRA (VM-3)
Volume vs 2019 Goal: Obtain clearance distance of 12' as achievable
Key Actions: New standard (12' at time of trim) for distribution voltages piloted in Q1 and Q2. Implemented across HFRA for pruning taking place in June and beyond. Tree-specific exceptions evaluated to ensure required clearance distance maintained. Hired "notification consultants" to provide direct customer interaction and address local opposition to deeper pruning. Working with local governments that have imposed additional restrictions/approvals to deeper cuts.

DRI Inspection
8,838
Trees Identified

Perform All Quarterly DRI Inspections (VM-4.1)
Volume vs 2019 Goal:
- Quarterly DRI Inspections on track
- 8,838 trees identified for removal in 2019 YTD

Key Actions: Continue historical program for inspections (repeating approximately every 3 months) of areas identified by the CA Tree Mortality Task Force to identify trees that are dead, diseased, or dying.

DRI Removals
97%
% Active Inv. <180 days

DRI Tree Inspections & Removals (VM-4.2)
Volume vs 2019 Goal: >96% of active inventory removed less than 180 days old
- 8,838 trees identified for removal in 2019 YTD
- 8,355 trees removed in 2019 YTD
- Year-end outlook tracking to ~50% of ~30,000 WMP metric forecast

Key Actions: Continue historical program for removal of trees identified as dead, diseased, or dying. Easing of drought conditions has reduced the volume of trees requiring removal (30,000 originally forecast based on historical average).

LiDAR
23%
Circuit Miles Inspected

LiDAR Inspections of Transmission (220kV and above) (VM-5)
Volume vs 2019 Goal: 232 of 1,000 circuit miles flown
70% of YTD target, Short of plan by 101 (30%)
Key Actions: Continue to monitor and control vendor efforts. With all vendors flying in month of September, forecasting to complete 1,000 conductor miles by November 2019. Completed volume to date inspections was revised down from 290 to 232 due to 58 of those miles having been performed in 2018.

QC HFRA Inspections

Dist.	Trans.
225%	146%

Circuit Miles Inspected

Inspect Vegetation Adjacent to T&D Circuit Miles (VM-6.1 & VM-6.2)
Volume vs 2019 Goal: Inspected vegetation adjacent to 1,013 of 450 distribution circuit miles and 584 of 400 transmission circuit miles
Key Actions: Independent QC of annual pruning implemented across territory. Evaluates clearance distance obtained and prioritizes higher QC volume in HFRA. Work is ongoing in accordance with annual cycle.

Q3 WMP Activity Status vs Goal



Alternative Technology Activities

Surge Arrestor Units

82%

Units Installed

Alternative Technology Pilots: Pilot Installation of 50 CAL FIRE-exempt Surge Arrestor Units (AT-1.1)
Volume vs 2019 Goal: 41 Locations of 50 pilot locations installed
Key Actions: Pilot units being installed in Victorville District and plan to have all pilot locations installed by end of year.

Meter Alarming

Complete

Alternative Technology Pilots: Pilot Meter Alarming for Downed Energized Conductor (AT-1.2)
Volume vs 2019 Goal: Completed pilot meter alarming for downed energized conductor
Key Actions: Pilot is now operational system wide.

Fault Devices

On Track

GSRP Wildfire Mitigation: Evaluate Distribution Fault Anticipation Devices (AT-2.1)
Volume vs 2019 Goal: 3 of 4 milestones completed: Finalizing locations for install, working with vendor to address cyber security and issued PO, received all required material. 4th milestone from September to December. Engineering design is complete for 60 DFA devices to be installed at 7 substations. Installation at 1 substation has been completed as of end of September.
Key Actions: Need to commission the installed devices and complete installations at the remaining substations.

Unmanned Aerial Systems

Slightly Off Track

GSRP Wildfire Mitigation: Evaluate Beyond Visual Line of Sight Unmanned Aerial System (AT-2.2)
Volume vs 2019 Goal: Develop statement of work, issue RFP, select vendor, and perform demonstration flights
Key Actions: Assessing necessary cyber protections to ensure secure data handling. Assessment work can be performed in parallel with demo flight planning. Likely will meet goal by year-end 2019.

Fault Current Limiters/ Arc Suppression Coils

On Track

Alternative Technology Evaluations: Evaluate Rapid Earth Fault Current Limiters/Arc Suppression Coils (AT-3.1)
Volume vs 2019 Goal: Conduct assessment by end of 2019
Key Actions: Candidate substations/circuits identified and engineering models for pilot substation built. CAD model for target substation developed.

Fault Detection

On Track

Alternative Technology Evaluations: Evaluate Alternate Fault Detection Technology (AT-3.2)
Volume vs 2019 Goal: Conduct technology assessment by end of 2019
Key Actions: Open Phase Protection - 12 units installed in alarming mode for monitoring. Pilot radio deployment targeted for Q4, testing of isolation banks completed, work paper in progress, targeted completion in Q4.

Fire Retardant Pole Wraps

Complete

Alternative Technology Evaluations: Evaluate Fire Retardant Barrier for Wood Poles (AT-3.3)
Volume vs 2019 Goal: Evaluate use of wood pole with protective barrier
Key Actions: Completed evaluation of new fire-retardant wrap for wood poles as an alternative to fire-resistant composite poles; published associated design standards. Implementing fire-retardant wrap based on positive testing.

Fuses

On Track

Alternative Technology Evaluations: Evaluate Substation-class Electronic Fuses (AT-3.4)
Volume vs 2019 Goal: Conduct technology assessment by end of 2019
Key Actions: Engineering evaluation is complete and determined to not move forward with this technology, completing evaluation work paper in Q4.

Q3 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Alternative Technology Activities (Cont.)

Branch Line Protection

On Track

Alternative Technology Evaluations: Evaluate Branch Line Protection to Include Single Phase Reclosing (AT-3.5)

Volume vs 2019 Goal: Complete evaluation

Key Actions: Published pilot FuseSaver standards. Material finalized for pilot unit installs. Mock install scheduled for October. Targeting 4th quarter installation of 8 pilot units in Menifee. Evaluation expected to be completed by year end.

Vibration Dampers

On Track

Alternative Technology Implementation: Develop Standard Installation Practices for Aeolian Vibration Dampers (AT-4.1)

Volume vs 2019 Goal: Evaluate need for aeolian vibration dampers publish standards for use. Standards published for use of aeolian dampers with existing conductor.

Key Actions: SCE is working with vendors on product evaluation for need and use of aeolian dampers with covered conductor.

Conductor Rebuild Standards

Complete

Alternative Technology Implementation: Develop Standard Installation Practices for Ridge Pin Construction for Conductor Rebuild (AT-4.2)

Volume vs 2019 Goal: Standards published and operational

Key Actions: Installation practices updated for inclusion of ridge pin construction in high wind areas and is operational.

Dist. Overhead Requirements

Complete

Alternative Technology Implementation: Update Distribution Overhead Requirements for Connector Selection in HFRA (AT-4.3)

Volume vs 2019 Goal: Design and Construction standards published for connector selection for use in HFRA

Key Actions: The connector selection standards updated to require the use of CAL FIRE exempt bolted wedge connectors when working in HFRA.

Q3 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Emergency Preparedness Activities

Direct Mail Campaign

On Track

Customer Education and Engagement: Conduct a Direct Mail Campaign for HFRA (DEP-1.1)
Volume vs 2019 Goal: On track to reach approximately 1.5 million customers in HFRA through 2019 direct mailer
Key Actions: SCE's Dear Neighbor letter has been sent to all customers in HFRA. The Dear Neighbor Letter for customers in non-HFRA has a target mail date of mid-October.

Develop Local Meeting Plans

Complete

Customer Education and Engagement: Develop Local Government Education and Engagement Meeting Plan (DEP-1.2)
Volume vs 2019 Goal: Develop meeting plan
Key Actions: Local Government Education and Engagement Community Meeting Plan has been developed and is the framework for SCE's execution.

Execute Local Meeting Plans

88%
Cities Engaged

Customer Education and Engagement: Execute Local Government Education and Engagement Meetings According to Plan (DEP-1.3)
Volume vs 2019 Goal: 127 of 145 (88%) community meetings
Key Actions: Of the 145 cities in HFRA, SCE has met with 127 cities as of 9/19/2019.

WF Response Training

Complete

Emergency Responder Training: Wildfire Response Training for New or Existing Responders (DEP-2.1)
Volume vs 2019 Goal: Conducted wildfire response training for new or existing responders
Key Actions: Conducted training sessions for initial design of PSPS Incident Management Teams; IMT staffing is being expanded from initial design and trainings will be held as necessary for the remainder of the year.

IMT De-Energization Training

Complete

Emergency Responder Training: Conduct Internal IMT Training Around Wildfire Response and De-energization Protocols (DEP-2.2)
Volume vs 2019 Goal: Conducted internal IMT Training around wildfire response and de-energization protocol
Key Actions: Conducted initial training of 175 persons on PSPS Incident Management Teams; Have continued to train additional persons as needed and identified and will continue trainings as needed.

Enhance Staffing

Complete

Bolster Incident Mgmt. & Support: Determine Positions That Need Enhanced Staffing (DEP-3.1)
Volume vs 2019 Goal: Expanded teams to enable additional scalability and additional training sessions will be held for new personnel being added to the teams
Key Actions: Stood up dedicated PSPS IMT and Task Force effective June, 2019. Provided specialized training and exercises for all PSPS IMT members.

Train New Staff

Complete

Bolster Incident Mgmt. & Support: Train, Exercise, and Qualify New Staff to Meet Identified Need (DEP-3.2)
Volume vs 2019 Goal: Expanded teams to enable additional scalability and additional training sessions will be held for new personnel being added to the teams
Key Actions: Stood up dedicated PSPS IMT and Task Force effective June 2019. Provided specialized training and exercises for all PSPS IMT members.

Appendix

Behind Plan Activities Details

2019 WMP Activities - Details (1/4)

Behind Plan Activities

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Status	Current Goal	Narrative
	SH-3: Install at least 1,100 composite poles **202 of 1,100 composite poles installed (18%)**	**Summary:** Short of plan by 98 (33%). Resources have been re-aligned to balance the installation of poles with the EOI effort. Execution plan for composite poles is backloaded in Q3 and Q4 to coincide with the covered conductor work. Q3 is progressing per plan. Expected to meet the goal at year-end. **Progress/Challenges:** Work orders including approximately 900 composite pole installations are already in construction. Potential shortage of 50-foot poles in some regions, working with vendors to expedite delivery of 50-foot composite poles. **Actions to Improve or Sustain Performance:** Confirming poles and work order completion manually to clearly track composite pole installations. In addition, construction of two circuits has been advanced from 2020 to 2019 that will contribute circuits on which poles may be installed to meet the 2019 goal. Currently, an assumed 30% of these circuits can be completed in 2019.
	AT-2.2: Evaluate Beyond Visual Line of Sight Unmanned Aerial System	**Summary:** A few weeks delay has been incurred due to data streaming and cybersecurity concerns. Approval was granted to move forward with the vendor purchase order and to begin kickoff meetings. **Progress/Challenges:** Using a third-party to livestream video has raised some cybersecurity concerns. Additional encryption of the streaming system will be assessed with the vendor. **Actions to Improve or Sustain Performance:** Further assessing necessary cybersecurity protections to ensure secure data handling. This assessment work can continue in parallel while we plan the demo flights.

2019 WMP Activities - Details (2/4)

Behind Plan Activities

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Status	Current Goal	Narrative
	VM-1.1: Perform tree specific threat assessments **62,365 of 125,000 trees complete (50%)**	**Summary:** Short of plan by 12,495 (17%). On track for year-end goal to meet 125,000 tree-specific threat assessments in HFRA. An accelerated plan for assessment has been defined: new assessor resources have been obtained and productivity is anticipated to increase. **Progress/Challenges:** Daily and weekly tree assessment productivity quota requirements have yielded positive results. Additional assessor contractors on-boarded in September. Weekly status reports on hiring from contractors are being reviewed. SCE personnel to perform or validate palm tree and substation facility assessments. **Actions to Improve or Sustain Performance:** Manage production to accelerated plan requirements to meet year-end goal.
	VM-1.2: Perform risk-based tree removals **1,347 out of 7,500 complete (18%)**	**Summary:** Short of plan by 4,653 (78%). Currently targeting SB 901 goal of 7,500, but success is threatened because permission to remove up to 3,500 trees has not been obtained from the National Forest. **Progress/Challenges:** 8,100 trees have been identified for removal and have not yet been removed. Delays in removal are largely due to challenges in obtaining permission for removal of 3,500 trees in Inyo Forest due to the volume of trees implicated. Exacerbating factors include local contractor performance challenges and customer notifications being behind on 2,400 removals. Efforts are being made to streamline customer refusal process and will be implemented in Q4 2019. **Actions to Improve or Sustain Performance:** Developed plan for staged submittal of 200-300 trees in Inyo Forest to start and build up comfort with program. Developing strategy for targeted sweep of circuits in Lake Arrowhead area to increase removal productivity rate. Additional focus on palm tree removal to contribute to 2019 target. Added two SCE personnel to facilitate work scheduling and expediting access/authorization issues. Obtained agreement to limit environmental review requirements to public lands only, which expedites processing of prescriptions, effective mid-August.

2019 WMP Activities - Details (3/4)

Behind Plan Activities

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Status	Current Goal	Narrative
	VM-5: LiDAR inspections of transmission (220kV and above) **232 out of 1,000 complete (23%)**	**Summary:** Short of plan by 101 (30%). Use LiDAR to inspect/accept at least 1,000 conduct miles in HFRA. **Progress/Challenges:** Multiple vendors are flying lines in September. Still in the process of resolving cybersecurity concerns to enable four LiDAR vendors to securely upload and download data to SCE's data cloud. **Actions to Improve or Sustain Performance:** Continue to monitor and control vendor efforts to track to the goal. With all vendors flying in month of September, monthly goal achievement will be Off Track September-October while data is processed and accepted, but plan will be On Track to complete/accept 1,000 conductor miles by November.
	IN 1.2: Remediate all conditions that create fire risk under distribution	**Summary:** EOI distribution remediation program is off track due to outstanding past-due priority 2 notifications. Work execution plans have been established to ensure year-end date compliance. Data issues (e.g., missing GIS information) have resulted in decreased work execution rates, but data clean-up efforts are close to completion. Plan is being created to follow up on notices sent to third-party renters on SCE structures to remediate identified issues. **Progress/Challenges:** Distribution work scope could increase as additional notifications are identified through aerial inspections, distribution IR scanning, and additional long-span scope. Distribution continues to balance work on EOI notification remediation with other wildfire mitigation work including Wildfire Covered Conductor Program and fire-resistant pole replacements. PSPS activations could impact distribution crews' ability to meet compliance due dates. **Actions to Improve or Sustain Performance:** Distribution has developed tactical reporting to track adherence to established work execution plans. Distribution is coordinating with aerial EOI effort to understand the timing and volume of additional notifications that will trigger remediation requirements. In process of establishing a streamlined and standardized process to improve scope changes and priority of work determinations.

2019 WMP Activities - Details (4/4)

Behind Plan Activities

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Status	Current Goal	Narrative
	IN 2.2: Remediate all conditions that create fire risk under transmission	**Summary:** Within EOI, SCE is balancing the remediation work for both past due and future due notifications. For example, in certain parts of SCE's service territory, work crews are addressing future due notifications because their due dates occur during months where snow conditions are anticipated to create accessibility issues. For certain weed abatement, work crews have experienced slower than expected closure rates primarily due to site access limitations, including the required use of helicopters and other unanticipated measures. **Progress/Challenges:** SCE is currently working on a quality control process for approximately 7,800 inspections that could potentially lead to additional notifications. About 4,000 of these inspections have already been reviewed and will not lead to a notification. The remaining 3,800 are currently under review; SCE anticipates all Tier 3 and Tier 2 notifications to be completed in October 2019. Transmission work scope could increase as additional notifications are identified through aerial EOI. Transmission remediation work could be slowed in certain parts of SCE's service territory by high fire risk conditions, PSPS events, or materials constraints. **Actions to Improve or Sustain Performance:** SCE has developed enhanced reporting capabilities to more effectively process, prioritize, schedule, and complete remediation work. SCE's Transmission organization is coordinating with the aerial EOI effort to anticipate additional notifications requiring remediation. SCE is also working to increase the number of pole brushing crews to reduce past due volumes.

Appendix O.
Advice 4153-E, Q4 2019

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations

January 31, 2020

ADVICE 4153-E
(U 338-E)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
ENERGY DIVISION

SUBJECT: Southern California Edison Company's Quarterly Advice Letter Pursuant to Assembly Bill 1054 Regarding the Implementation of Its Approved Wildfire Mitigation Plan and Its Safety Recommendations

Southern California Edison Company (SCE) hereby submits this Tier 1 Advice Letter (AL) detailing the implementation of its approved 2019 Wildfire Mitigation Plan (WMP),[1] recommendations of the most recent safety culture assessment, and a statement of the recommendations of its board of directors' safety committee[2] (Committee) meetings that occurred during the quarter.

PURPOSE

The purpose of this advice letter is to comply with the provisions of Public Utilities Code (PUC) Section 8389(e)(7), established by California Assembly Bill (AB) 1054, for the second quarter following SCE's receipt of its Initial Safety Certification. As directed by the statute, this AL provides details of the implementation of SCE's 2019 WMP, a status update relative to SCE's most recent safety culture assessment, and a statement of the recommendations of SCE's Committee meetings that occurred during the quarter.

BACKGROUND

AB 1054 was signed into law by Governor Newsom on July 12, 2019. Section 8389(e)(7), which was added to the PUC by AB 1054, reads:

> The executive director of the commission shall issue a safety certification to an electrical corporation if the electrical corporation provides documentation of the following . . . The electrical corporation is implementing its approved wildfire mitigation plan. The electrical corporation shall file a tier 1 advice

[1] *See* Decision (D.)19-05-038.
[2] SCE's board of directors' safety committee is known as the Safety and Operations Committee of the Board of Directors and referred to herein as the "Committee."

letter on a quarterly basis that details the implementation of both its approved wildfire mitigation plan and recommendations of the most recent safety culture assessment, and a statement of the recommendations of the board of directors safety committee meetings that occurred during the quarter. The advice letter shall also summarize the implementation of the safety committee recommendations from the electrical corporation's previous advice letter filing. If the division has reason to doubt the veracity of the statements contained in the advice letter filing, it shall perform an audit of the issue of concern.

SCE provides the required information as indicated below:

(1) **Implementation of Wildfire Mitigation Plan**

On October 25, 2018, the California Public Utilities Commission (Commission or CPUC) opened Rulemaking (R.)18-10-007 to implement the provisions of Senate Bill (SB) 901 related to electric utility wildfire mitigation plans. New provisions of PUC 8386, enacted as part of SB 901, require all California electric utilities to prepare and submit wildfire mitigation plans that describe the utilities' plan to prevent, combat, and respond to wildfires affecting their service territories. On February 6, 2019, SCE submitted its 2019 WMP that describes strategies, programs, and activities that were in place, being implemented, or were under development at the time, to proactively address and mitigate the threat of electrical infrastructure-associated ignitions that could lead to wildfires, further harden the electric system against wildfires, and enhance wildfire suppression efforts.

After an extensive review process that included discovery, workshops and comments, the Commission, on May 30, 2019, found that SCE's WMP contained each of the required statutory elements and approved SCE's 2019 WMP in D.19-05-038, subject to certain reporting, metrics, data and advice letter requirements. Since approval of its 2019 WMP, SCE has complied with the follow-up requirements ordered in D.19-05-038 and D.19-05-036 including submitting three Tier 1 advice letters[3] and one Tier 3 advice letter Off Ramp

[3] On July 5, 2019, SCE submitted the following three Tier 1 advice letters in compliance with D.19-05-038: Advice 4030-E that describes SCE's wildfire mitigation work that it has completed, plans to complete, and may do during the 2019 WMP year in high fire risk areas (HFRA) outside the Commission's High Fire Threat District (HFTD) map; Advice 4031-E that describes SCE's Enhanced Overhead Inspections (EOI) initiative by clarifying the differences from SCE's existing inspections, explaining what the EOI involve, the specific activities that will be performed, and the data that will be collected as well as databases related to EOI; and Advice 4032-E that describes and justifies covered conductor installation outside the Commission's HFTD map as part of SCE's Wildfire Covered Conductor Program (WCCP).

Report,[4] and submitting its Data Collection on Wildfire Mitigation Plans Report.

SCE is tracking 58 specific wildfire-related mitigation activities included in its 2019 WMP. Some of these activities such as risk-informed tree removals, Enhanced Overhead Inspections, and installing covered conductors are designed to reduce the risk of ignitions associated with utility infrastructure. Others are targeted towards situational awareness and emergency preparedness in the event a wildfire occurs. Still others are associated with customer and community notifications and associated customer-impact mitigations regarding Public Safety Power Shutoff (PSPS) events. SCE is also exploring and evaluating several alternative technologies to potentially improve its ability to prevent and better respond to wildfire-related events. In Exhibit A, SCE presents detailed information about the implementation status of each of these wildfire-related mitigation activities. Exhibit A sets forth SCE's current (as of December 31, 2019) progress towards meeting the wildfire mitigation programs and activities along with 2019 goals and metrics in its Commission-approved 2019 WMP.

Overall, SCE has made substantial progress in implementing its wildfire mitigation plans by year-end 2019. As referenced in Exhibit A, SCE fully completed 54 of the 58 activities identified in its plan and greatly exceeded its plan in some areas, including:

- Installing 372 circuit miles of covered conductor, nearly four times the target, and 1,421 composite poles (relative to a target of 1,100);
- Improving situational awareness by installing 357 weather stations and 91 HD cameras, increases over the targets of 315 and 62, respectively; and
- Clearing brush and vegetation around more than 159,000 poles (target of 100,000).

In many cases, SCE was able to accelerate activities into 2019 that provide greater and earlier reduction of wildfire risk than the plan anticipated as well as additional data to further enhance future plans. In limited instances, SCE did not meet its initial 2019 plans due to resource constraints, operational challenges and reprioritizing activities to address emergent issues such as PSPS events. SCE has and is continuing to analyze operational data and modify its planning and deployment approaches to help improve performance in 2020 and beyond. SCE has already applied some of the lessons learned from implementing the

[4] D.19-05-036 requires IOUs to submit two Tier 3 advice letters entitled "Reports on Possible Off Ramps" describing any concerns about the effectiveness of any program in the WMPs, which are due six and twelve months after the May 30, 2019 effective date of D.19-05-036, respectively. On December 2, 2019, SCE submitted a Tier 3 advice letter on Possible Off Ramps for its 2019 WMP. Advice 4120-E describes SCE's proposals to modify, reduce, increase, or end wildfire mitigation measures in SCE's 2019 WMP, as appropriate.

wildfire mitigation activities and made appropriate modifications to its WMP activities as outlined in SCE's "Off Ramp" Advice Letter report.[5]

(2) **Implementation of Most Recent Safety Culture Assessment**

As noted in its initial safety certification and in its last quarterly advice letter submittal,[6] SCE has not yet undergone a CPUC-led safety culture assessment. Pursuant to PUC Section 8389(d)(4), a CPUC-led safety culture assessment for SCE may not occur until early 2021. Notwithstanding this, safety is the first of SCE's core values and this is demonstrated through the company's commitment to creating and maintaining a safe environment for employees, contractors, and the public. Over the past several years, SCE has increased management focus on safety oversight, accountability, and partnering with employees, contractors, and communities to improve worker and public safety. In 2019, SCE completed safety culture training for its employees and leaders: (1) Switch, a cognitive behavioral training course designed to help employees take ownership of safety and strengthen safety leadership; and (2) Engage/Connect workshops that provide practical tools for leaders to support a strong safety culture and influence safe behaviors aligned with SCE's values. The core concepts of this training have been embedded in new employee orientation and new leader trainings. SCE continues to improve its safety culture via in-person meetings, trainings, corporate messaging and the incorporation of feedback from all levels of the organization. SCE looks forward to working with the CPUC and other interested stakeholders to further review its safety culture and build upon existing efforts to strengthen it.

(3) **Recommendations of Safety and Operations Committee**

The Committee had two meetings during the fourth quarter of 2019 (on October 23 and December 11). In addition, on October 23, SCE's Board of Directors elected Ms. Carey Smith to the Board and appointed her to the Committee. Ms. Smith is the President and Chief Operating Officer of Parsons Corporation and brings extensive safety and operational management expertise to the Committee. See Exhibit B for details on Ms. Smith's qualifications and safety experience. During the fourth quarter meetings, the Committee focused on wildfire and safety issues in the following main categories: Wildfire Safety; Employee, Contractor, and Public Safety; and SCE Safety Goals, Performance and Metrics. Each of these areas is separately addressed below.

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5 *See* December 2, 2019 Advice 4120-E.
6 Advice 4089-E.

Wildfire Safety

The Committee discussed wildfire safety and mitigation issues and developments at both fourth quarter 2019 meetings and discussions covered, among other subjects, WMPs, the PSPS program, lessons learned from wildfires, and potential additional wildfire risk reduction measures. The Committee discussed with management the lessons learned from the report issued by the Commission's Safety and Enforcement Division (SED) on the Camp Fire and the Pacific Gas and Electric Company (PG&E) inspection procedures. Management reported that it is reviewing SCE's inspection procedures in light of the findings in the SED report and the Committee recommended that management report back on its lessons learned from the review. Management also presented the Committee with their analysis of ignition drivers (as of October 2019). The analysis confirmed that SCE's wildfire mitigation activities are focused on the appropriate risk reduction measures and that a significant percentage of year-to-date ignitions in high fire threat areas would have been avoided by the mitigations being deployed as per the WMP. The deployment of the mitigations is largely on schedule as noted in Section 1 above and is appropriately informed by risk-prioritization. The Committee recommended that management provide an overview of the additional engineering and design standard changes that could reduce ignition risk in addition to the ongoing 2019 WMP work at the next Committee meeting.

As previously recommended by the Committee at the August 2019 meeting, the Committee received updates on the implementation of the 2019 WMP, including the status of each of the nine metrics and factors contributing to the status. Management reported on the reasons that SCE is not expected to timely remediate certain P2[7] notifications but noted that the highest-risk remediation work had been completed. SCE's inability to timely remediate all P2 notifications found during EOI was primarily due to weather and end-of-year resource constraints. Management noted that external factors such as permitting delays and internal operational challenges also contributed to the less-than-targeted number of hazard tree removals. The Committee and management discussed the upcoming 2020 WMP filing, which has been informed by risk analyses to help reduce the likelihood of utility infrastructure-related fires, allocate funding and resources to higher risk assets and locations, and reduce customer impact from wildfire risk mitigation activities such as PSPS events. The Committee agreed to add a meeting to specifically review the 2020 WMP before it is submitted to the Commission.

The Committee and management discussed SCE's PSPS implementation, in particular, the lessons learned from SCE's and from PG&E's experience during the October 2019 statewide PSPS events and the resulting operational enhancements and mitigations under consideration. Management reported on its initiatives to improve the public notification process by working with the California

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[7] *See* slides 13 and 14 of Exhibit A hereto.

Office of Emergency Services (Cal OES) and to ease customer burdens by working with local communities to establish additional community resource centers and to add mobile community crew vehicles in frequently de-energized areas, providing potable water to customers who rely on well water systems, and establishing a program to grant food and medication spoilage claims under specified circumstances. SCE's sectionalization capability to isolate circuit segments and reliance on actual field conditions prior to activating PSPS events has helped reduce the number of customers impacted by PSPS in its service territory. For example, during the statewide October 2019 events, largely as a result of sectionalization and more precise weather forecasting, SCE was able to limit the cumulative impact of the events to less than 200,000 customers, as compared to more than 2 million in Northern California. Though the frequency and scope of PSPS events are expected to lessen as more of SCE's WMP mitigations are implemented, the Committee continues to expect PSPS to be a tool used during severe weather and high Fire Potential Index (FPI) events to mitigate wildfire risk, along with ongoing WMP work.

Employee/Contractor/Public Safety

The Committee discussed employee, contractor and public safety issues and initiatives at its fourth quarter 2019 meetings. Management updated the Committee on significant safety events and the immediate actions that were taken while the cause evaluations of the events are underway at each meeting. On employee safety, the Committee discussed the employee injury rates, as well as the planned 2020 employee safety activities that are intended to reinforce the ongoing safety culture transformation, as referenced in section 2 above, and expand the tools available to employees to reduce the risk of serious injuries and fatalities. On contractor safety, the Committee discussed the actions taken by management to hold contractors accountable for recent significant safety events and their safety performance. The Committee also discussed the areas of focus for 2020 on contractor accountability, oversight and collaboration. On public safety, the Committee discussed the newly launched outreach plan to educate private landscapers and gardeners on electrical hazards. The Committee recommended that an update on public safety be provided at the next Committee meeting.

SCE Safety Goals, Performance and Metrics

As discussed with the full Board of Directors in June 2019, the Committee discussed potential changes to SCE's safety and operational goals and related performance metrics at both of the fourth quarter 2019 meetings. As recommended by the Committee, management and the Committee discussed the need to revise the performance metrics to increase emphasis on public safety and wildfire resiliency, and management presented a revised goals framework at the October 2019 meeting. The Committee and management discussed how risk analyses to reduce ignitions associated with SCE infrastructure inform SCE's WMP focus areas, including grid hardening, situational awareness and

operational enhancements. The WMP outlines the activities that, based on risk assessment and measurement tools, effectively reduce risk and the associated work and conformance with this plan is tracked through performance metrics and targets. The Committee discussed the role of the Compensation Committee in determining compensation decisions based on performance and factors including the impact of any catastrophic wildfires on SCE's customers and its service territory. In response to the October discussions, management presented additional updates to the goals and metrics at the December 2019 meeting and these were discussed.

Among other topics, the Committee and management discussed the alignment of the focus on safety and risk management in SCE's proposed revised safety and operational goals with AB 1054 principles. Management also reported to the Committee that SCE had met its safety training goal in 2019, which rolled out cognitive safety training for all employees as well as additional training for leaders. After discussion with management, the Committee agreed that a standing agenda item should be added to provide a summary update to the Committee on various safety and operations metrics so that reporting on traditional operations metrics will be maintained while the focus on particular significant safety and operational issues, such as wildfire, is ongoing. The Committee also recommended that the discussion on operational goals should be continued at the next Committee meeting.

The Committee has meetings scheduled in the first quarter of 2020 on January 31 and February 26.

TIER DESIGNATION

Pursuant to General Order (GO) 96-B, Energy Industry Rule 5.1, this AL is submitted with a Tier 1 designation.

EFFECTIVE DATE

SCE respectfully requests that this AL become effective January 31, 2020, which is the same date as submitted.

NOTICE

Anyone wishing to protest this AL may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice letter. Protests should be submitted to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, California 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address above).

In addition, protests and all other correspondence regarding this AL should also be sent by letter and transmitted via facsimile or electronically to the attention of:

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations
Southern California Edison Company
8631 Rush Street
Rosemead, California 91770
Telephone (626) 302-9645
Facsimile: (626) 302-6396
E-mail: AdviceTariffManager@sce.com

Laura Genao
Managing Director, State Regulatory Affairs
c/o Karyn Gansecki
Southern California Edison Company
601 Van Ness Avenue, Suite 2030
San Francisco, California 94102
Facsimile: (415) 929-5544
E-mail: Karyn.Gansecki@sce.com

There are no restrictions on who may submit a protest, but the protest shall set forth specifically the grounds upon which it is based and must be received by the deadline shown above.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this AL to the interested parties shown on the attached GO 96-B, R.18-10-007, R.18-12-005, and A.18-09-002 service lists. Address change requests to the GO 96-B service list should be directed by electronic mail to AdviceTariffManager@sce.com or at (626) 302-4039. For changes to all other service lists, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

Further, in accordance with PUC Section 491, notice to the public is hereby given by submitting and keeping this AL at SCE's corporate headquarters. To view other SCE advice letters submitted with the Commission, log on to SCE's web site at https://www.sce.com/wps/portal/home/regulatory/advice-letters.

For questions, please contact Kavita Srinivasan at (626) 302-3709 or by electronic mail at kavita.srinivasan@sce.com

Southern California Edison Company

/s/ Gary A. Stern, Ph.D.
Gary A. Stern, Ph.D.

GAS:ks:jm
Enclosures



California Public Utilities Commission

ADVICE LETTER SUMMARY

ENERGY UTILITY

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

Company name/CPUC Utility No.: Southern California Edison Company (U 338-E)

Utility type:
☑ ELC ☐ GAS ☐ WATER
☐ PLC ☐ HEAT

Contact Person: Darrah Morgan
Phone #: (626) 302-2086
E-mail: AdviceTariffManager@sce.com
E-mail Disposition Notice to: AdviceTariffManager@sce.com

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

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 4089-E

Tier Designation: 1

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

Keywords (choose from CPUC listing): Compliance

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☑ One-Time ☐ Other:

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

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

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

Confidential treatment requested? ☐ Yes ☑ No

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

Resolution required? ☐ Yes ☑ No

Requested effective date: 10/23/19

No. of tariff sheets: -0-

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

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

Tariff schedules affected: None

Service affected and changes proposed[1]:

Pending advice letters that revise the same tariff sheets: None

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

Clear Form

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

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

Name: Gary A. Stern, Ph.D.
Title: Managing Director, State Regulatory Operations
Utility Name: Southern California Edison Company
Address: 8631 Rush Street
City: Rosemead
State: California Zip: 91770
Telephone (xxx) xxx-xxxx: (626) 302-9645
Facsimile (xxx) xxx-xxxx: (626) 302-6396
Email: advicetariffmanager@sce.com

Name: Laura Genao c/o Karyn Gansecki
Title: Managing Director, State Regulatory Affairs
Utility Name: Southern California Edison Company
Address: 601 Van Ness Avenue, Suite 2030
City: San Francisco
State: California Zip: 94102
Telephone (xxx) xxx-xxxx: (415) 929-5515
Facsimile (xxx) xxx-xxxx: (415) 929-5544
Email: karyn.gansecki@sce.com

Clear Form

ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtailable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	

Clear Form

Exhibit A

SCE's 2019 Wildfire Mitigation Plan (WMP) Progress Update – Dec 31, 2019

SCE's 2019 Wildfire Mitigation Plan (WMP) Progress Update

(All data is as of December 31, 2019)

WMP Activities Summary

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Evaluation of HFRA

EVAL-1: Complete evaluation of non-CPUC HFRA for retention or exclusion

PSPS

PSPS-1: De-Energization Notifications

- PSPS-1.1: Notifications to public safety agencies and local gov't
- PSPS-1.2: Notifications to Cal OES via State warning system
- PSPS-1.3: Notifications to the CPUC
- PSPS-1.4: Enhance Emergency Outage Notification System

Operation Practices

- OP-1: Review and update Annual System Operating Bulletin 322
- OP-2: Hire additional staff for Wildfire Infrastructure Protection Team

Risk Analysis

RA-1: Conduct risk analysis based on new expanded scope

Emergency Preparedness

DEP-1: Customer Education and Engagement

- DEP-1.1: Conduct a direct mail campaign for HFRA
- DEP-1.2: Develop local gov't ed. and engagement meeting plan
- DEP-1.3: Execute local gov't ed. and engagement meeting

DEP-2: Emergency Responder Training

- DEP-2.1: Wildfire response training for new or existing responders
- DEP-2.2: Conduct Internal IMT Training around WF response and de-energization protocols

DEP-3: Bolster Incident Mgmt. & Support

- DEP-3.1: Determine positions that need enhanced staffing
- DEP-3.2: Train, exercise, and qualify new staff to meet identified need

System Hardening

- SH-1: Install 96 circuit miles of Covered Conductor
- SH-2: Conduct evaluation of Undergrounding in HFRA
- SH-3: Install at least 1,100 composite poles
- SH-4: Install 7,500 Current Limiting Fuses (CLFs)
- SH-5: Install 50 Remote Controlled Automatic Reclosers (RARs)
- SH-6: Update at least 150 existing RAR Settings
- SH-7: Circuit Breaker Fast Curve
  - SH-7.1: Develop Engineering plan to upgrade Circuit Breaker relays and Settings
  - SH-7.2: Conduct Circuit breaker upgrades and setting updates according to plan

Situational Awareness

- SA-1: Install new additional weather units
- SA-2: Fire Potential Index Phase II. Enhance capabilities of FPI
- SA-3: Install additional HD Cameras
- SA-4: Procure and Install high performance computing cluster weather and fuels modeling system
- SA-5: Develop Asset Reliability & Risk Analytics Capability

Inspections

- IN-1: Distribution Enhanced Overhead Inspections and Remediation in HFRA
  - IN-1.1: Complete visual inspection for all distribution circuits in HFRA
  - IN 1.2: Remediate all conditions that create fire risk under distribution
- IN-2: Transmission Enhanced Overhead Inspections and Remediation in HFRA
  - IN-2.1: Complete visual inspection for all transmission circuits in HFRA
  - IN 2.2: Remediate all conditions that create fire risk under transmission
- IN-3: Perform quality review on transmission and distribution structures
- IN-4: Infrared Inspection of hot spots on overhead distribution facilities and equipment
  - IN-4.1: Inspect 50% of overhead lines in HFRA
  - IN-4.2: Remediate conditions as required based on inspection results
- IN-5: Infrared Inspection, Corona Scanning, and High Definition imagery of overhead transmission facilities and equipment
  - IN-5.1: Complete infrared (IR), corona and HD image scanning of all overhead transmission lines in HFRA
  - IN-5.2: Integrate remediation with EOI activities

Vegetation Management

- VM-1: Hazard Tree Management Program (HTMP)
  - VM-1.1: Perform tree specific threat assessments
  - VM-1.2: Perform risk-based tree removals
- VM-2: Inspect and clear brush around poles
- VM-3: Achieve tree-to-line clearance distance of 12 feet in HFRA
- VM-4: DRI quarterly inspections and removals
  - VM-4.1: Perform all quarterly DRI inspections
  - VM-4.2: Remove trees in accordance with Veg Mgmt program
- VM-5: LiDAR inspections of transmission (220kV and above)
- VM-6.1: Inspect vegetation adjacent to Distribution Circuit Miles
- VM-6.2: Inspect vegetation adjacent to Transmission Circuit Miles

Alternative Technologies

- AT-1: Alternative Technology Pilots
  - AT-1.1: Pilot installation of 50 CAL FIRE-exempt surge arrestor units
  - AT-1.2: Pilot Meter Alarming for Downed Energized Conductor
- AT-2: GSRP Wildfire Mitigation
  - AT-2.1: Evaluate Distribution Fault Anticipation devices
  - AT-2.2: Evaluate Beyond Visual Line of Sight Unmanned Aerial System
- AT-3: Alternative Technology Evaluations
  - AT-3.1: Evaluate Rapid Earth Fault Current Limiters/Arc Suppression Coils
  - AT-3.2: Evaluate alternate fault detection technology
  - AT-3.3: Evaluate fire retardant barrier for wood poles
  - AT-3.4: Evaluate substation-class electronic fuses
  - AT-3.5: Evaluate branch line protection to include single phase reclosing
- AT-4: Alternative Technology Implementation
  - AT-4.1: Develop standard installation practices for aeolian vibration dampers
  - AT-4.2: Develop standard installation practices for ridge pin construction for conductor rebuild
  - AT-4.3: Update distribution overhead requirements for connector selection in HFRA

2019 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Operational-Related Activities

Local Gov't and Agency PSPS Notifications

Complete

PSPS – De-Energization Notifications: Public Safety Agencies and Local Government (PSPS-1.1)

Volume vs 2019 Goal: Sent notifications for each of the 16 events to date in 2019

Key Takeaways: Public Safety Partners and local officials are notified of potential PSPS De-energization's 3 days in advance and are provided with more detailed circuit information such as type of customer (critical care, essential service, etc.) and period of concern.

State PSPS Notifications

Complete

PSPS – De-Energization Notifications: Cal OES via State Warning System (PSPS-1.2)

Volume vs 2019 Goal: Sent notifications for each of the 16 events to date in 2019

Key Takeaways: During a PSPS event, SCE conducts daily conference calls with Cal OES and submits daily reports to the State Warning Center regarding circuits in scope and potentially impacted customers.

CPUC PSPS Notifications

Complete

PSPS – De-Energization Notifications: CPUC (PSPS-1.3)

Volume vs 2019 Goal: Sent notifications for each of the 16 events to date in 2019

Key Takeaways: This Activity is triggered by a PSPS event where SCE is required to submit ESRB-8 documentation to confirm it met the requirements outlined by the CPUC.

Emergency Notification Enhancements

Complete

Enhance Emergency Outage Notification System (PSPS-1.4)

Volume vs 2019 Goal: PSPS messaging will be delivered in English plus the five primary additional languages within SCE's service area

Key Takeaways: In Language Solution implemented 11/25/19. PSPS messaging will be delivered in English plus the 5 primary additional languages within SCE Service Territory.

HFRA Boundary Evaluation

Complete

Evaluation of HFRA (EVAL-1)

Volume vs 2019 Goal: Evaluation complete; PFM filed on 8/19/2019

Key Takeaways: The technical review of non-CPUC HFRA evaluation results was completed and the non-CPUC HFRA boundary Petition for Modification (PFM) was filed in August 2019.

Wildfire Risk Analysis

Complete

Expansion of Wildfire Risk Analysis (RA-1)

Volume vs 2019 Goal: To evaluate wildfire risk at a circuit segment level. Conducted a risk analysis incorporating 2018 fire ignition data, additional system information, and consequence modeling

Key Takeaways: SCE has a Wildfire Risk Model to inform granular wildfire risk. The Ignition Module has been enhanced through the incorporation of granular asset characteristics. The Fire Propagation Module leverages data and fire modeling developed by Reax Engineering. The Fire Consequence Module evaluates the consequence of conditional burns based on analysis of population and structure density within each perimeter.

SOB Review and Update

Complete

Review and Update Annual System Operating Bulletin 322 for Non-CPUC HFRA (OP-1)

Volume vs 2019 Goal: Review and update to SOB 322 (operating Procedures regarding the operation of subtransmission and distribution voltage lines traversing high fire areas) complete

Key Takeaways: Revised SOB 322 to include more details on operating restrictions during elevated fire weather threats, blocking transmission reclosers, fast curve settings, operations during PSPS events, lessons-learned from actual PSPS events, and best practices from other utilities.

Hire Additional Meteorologist

Complete

Hire Additional Staff for Wildfire Infrastructure Protection Team (OP-2)

Volume vs 2019 Goal: Hired one additional meteorologist

Key Takeaways: Completed hiring of one additional meteorologist for the Wildfire Infrastructure Protection Team.

2019 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Inspection-Related Activities

EOI

Dist.	Trans.
100%	100%
Inspected	
98%	82%
Remediated	

Enhanced Overhead Inspections (IN-1 & IN-2)

Volume vs 2019 Goal:
Distr. 100% of structures inspected/98% of notifications remediated
Trans. 100% of structures inspected/82% of notifications remediated
Key Takeaways: Remediation goals were not achieved in 2019 due to various reasons, pushing past due notifications into 2020. Goal is to ensure all past due notifications are scheduled and remediated by the end of Q1 2020 putting Transmission and Distribution into compliance.

QC HFRA Inspections

228%

Structures Inspected

QC HFRA Inspections (IN-3)

Volume vs 2019 Goal: 17,109 of 7,500 structures inspected
Key Takeaways: The Quality Control group performed field validations of 17,109 EOI inspections completed by Distribution and Transmission work crews as part of the EOI effort. The inspections were performed in the HFRA between December 21, 2018 and August 2, 2019.

Overhead Line Inspections

Complete

Infrared Inspection of Hot Spots on Overhead Distribution Facilities and Equipment (IN-4.1)

Volume vs 2019 Goal: 4,962 of 4,532 miles scanned
Key Takeaways: Distribution IR Scanning program was activated on 6/19 and completed scanning 4,962 circuit miles. The results of the IR scanning produced 81 findings. The project is 100% complete. Completed on 12/17/19.

Overhead Line Inspections

Off Track

Infrared Inspection of Hot Spots on Overhead Distribution Facilities and Equipment: Remediate Conditions (IN-4.2)

Volume vs 2019 Goal: SCE to remediate distribution IR findings based on established remediation timeline criteria.
Key Takeaways: All E1P1 notifications have been either completed or made safe in the field. All E1P2 notifications that were due in 2019 were completed with the exception of one notification that was rescheduled due to weather and subsequently completed on 1/6/20.

Infrared Inspections & HD Imagery

Complete

Infrared Inspection, Corona Scanning, and High Definition Imagery of Overhead Transmission Facilities and Equipment: Complete IR, Corona and HD Image Scanning of All Overhead Transmission Lines in HFRA (IN-5.1)

Volume vs 2019 Goal: 6,788 of 6,788 miles planned of overhead transmission lines have been flown utilizing IR and corona scanning.
Key Takeaways: All flying has been completed for 2019. In total, 6,788 miles were flown. 6,126 miles were flown in Phase 1, between 2/1/19 and 6/28/19. 662 miles were flown in Phase 2, between 10/14/19 and 11/2/19.

Integrate Remediation w/EOI Activities

Complete

Infrared Inspection, Corona Scanning, and High Definition Imagery of Overhead Transmission Facilities and Equipment: Integrate Remediation with EOI Activities (IN-5.2)

Volume vs 2019 Goal: Working to integrate remediation with EOI work.
Key Takeaways: Any Priority 1 conditions or notification items are immediately evaluated and remediated. Priority 2 and 3 notifications will go through internal validation prior to being entered into SAP with a completion date based on HFRA Tier compliance timelines.

2019 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

System Hardening Activities

WCCP

388%

Circuit Miles Installed

WCCP (SH-1)

Volume vs 2019 Goal: 372 of 96 circuit miles installed
Key Takeaways: Completed installation of 372 circuit miles of covered conductor through December.

Underground Work in HFRA

Complete

Evaluation of Undergrounding in HFRA (SH-2)

Volume vs 2019 Goal: Undergrounding Selection methodology was established, with initial scope selection completed in support of 2021 execution.
Key Takeaways: Developed selection methodology to identify scope for consideration for wildfire undergrounding. Through this process, identified ~45 circuit miles of potential scope for additional feasibility review, in support of 2021 GRC scope amount of six miles.

Composite Poles

129%

Poles Installed

Composite Pole Installation (SH-3)

Volume vs 2019 Goal: 1,421 of 1,100 poles installed
Key Takeaways: Installed 1,421 composite poles through December vs. target of 1,100. Exceeded target of 1,100 composite poles due to acceleration of 2020 scope

Fuses

104%

Fuse Locations Completed

Current Limiting Fuses (SH-4)

Volume vs 2019 Goal: 7,765 of 7,500 fuse locations completed
Key Takeaways: Met target of 7,500 in August.

RARs

110%

RARs Installed

Install 50 Remote Controlled Automatic Reclosers (RARs) (SH-5)

Volume vs 2019 Goal: 55 of 50 RARs installed.
Key Takeaways: Installed and fully commissioned 55 RARs through December. Exceeded target of 50 RARs installed and commissioned through December 2019

RAR Settings

101%

RARs Updated

Update At Least 150 Existing RAR Settings (SH-6)

Volume vs 2019 Goal: 151 of 150 updated RAR settings
Key Takeaways: Met 2019 goal of updating RAR settings.

Circuit Breaker Fast Curve

Complete

Circuit Breaker Fast Curve: Develop Engineering Plan to Upgrade Remaining Circuit Breaker Relays and Update Settings (SH-7.1)

Volume vs 2019 Goal: CB relays and update settings
SH-7.1.A: 60 Substations with 300 circuits scoped
SH-7.1.B: 45 Substations with 68 circuits being scoped
Key Takeaways: All job walks completed, projects scoped and updated into IWP for design/execution.

Circuit Breaker Fast Curve

Complete

Circuit Breaker Fast Curve: Execute Circuit Breaker Relay and Settings Upgrades according to plan (SH-7.2)

Volume vs 2019 Goal: All projects have commenced engineering design, engineering contracts have been issued to the regional engineering vendors who are currently working on the design.
Key Takeaways: There are no overdue projects as of 12/31/19 and therefore the 2019 goal is complete. Construction dates are being scheduled for 2020.

2019 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Situational Awareness Activities

Weather Stations

113%

Weather Stations

Weather Stations (SA-1)

Volume vs 2019 Goal: 357 of 315 Weather stations complete
Key Takeaways: Lessons learned from 2019 PSPS events have driven SCE's decision to install more weather stations next year than the 375 originally planned for 2020. Planning is in progress for 2020 installations

FPI Phase 2

Complete

Fire Potential Index Phase 2: Enhance Capabilities of FPI (SA-2)

Volume vs 2019 Goal: Enhanced capabilities of FPI by increasing granularity, adding historical climatology data, and expanding to cover all of SCE's service territory.
Key Takeaways: Fire Potential Index (FPI) Phase 2 consisted of the FPI being calculated at the circuit level across its HFRA below 6,000 feet.

HD Cameras

147%

Cameras Installed

HD Cameras (SA-3)

Volume vs 2019 Goal: 91 of 62 HD cameras installed
Key Takeaways: At conclusion of this initiative in 2020, SCE will have reached 90% coverage of its Tier 2 and Tier 3 HFRA.

HPCC Modeling System

Complete

Procure and Install High Performance Computing Cluster Weather and Fuels Modeling System (SA-4)

Volume vs 2019 Goal: 1 out of 1 HPCCs operational
Key Takeaways: Goal of 1 HPCC installed was completed. Second backup HPCC will be moved from PSSC Labs to the Alhambra Data Center on January 27th.

Analytics

Complete

Develop Asset Reliability & Risk Analytics Capability (SA-5)

Volume vs 2019 Goal: Complete implementation of advanced analytics platform and tools.
Key Takeaways: Completed demo of fire simulation software. High-Performance Computer Cluster is now analyzing historical fire. SCE has developed an Asset Risk Model to prioritize wildfire activities, including the deployment of covered conductor. SCE will continue to enhance and improve the maturity of this model, its ignition modeling, and the ability to reduce risk at the asset level.

2019 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Vegetation Management Activities

Enhanced Veg. Mgmt
104%
Trees Assessed

Perform Tree Specific Threat Assessments (VM-1.1)

Volume vs 2019 Goal: 129,485 of 125,000 trees
Key Takeaways: New assessor resources were obtained for Q3-Q4, team met the goal of 125,000 removals by year-end 2019.

Enhanced Veg. Mgmt
79%
Trees Removed

Perform Risk-based Tree Removals (VM-1.2)

Volume vs 2019 Goal: 5,917 of 7,500 trees
Short of plan by 1,583 (21%)
Key Takeaways: Permitting issues resulted in a revised forecast of approximately 4,500 trees to be removed, as communicated in September. While the team did not meet the SB901 goal of 7,500 removals, the team did meet the revised forecast by year-end 2019.

Poles
160%
Poles Cleared

Inspect and Clear Brush Around Poles (VM-2)

Volume vs 2019 Goal: 159,545 of 100,000 poles
Key Takeaways: Contractor continued to add resources throughout the year to complete work on increased pole population. The team met, and exceeded, the goal of 100,000 poles by year-end 2019.

Annual Pruning
Complete

Commence Implementation of Tree-to-line Distance of 12 Feet in HFRA (VM-3)

Volume vs 2019 Goal: N/A (2019 Goal was implementation of the new standard, to be fully implemented within 12 to 18 months)
Key Takeaways: The new standard (12' at time of trim) for distribution voltages piloted in Q1 and Q2 and was implemented across SCE's HFRA in June. Post-implementation, SCE pruned to 12' when feasible, and tree-specific exceptions were evaluated to ensure the regulatory compliance requirement distance(s) were maintained. SCE worked with local governments and hired "notification consultants" to directly interact with customers. The goal to begin implementation of the new pruning distance standard was met by year-end 2019, and the work needed to achieve all applicable trim distances will continue in 2020.

DRI Inspection
13,015
Trees Identified

Perform All Quarterly DRI Inspections (VM-4.1)

Volume vs 2019 Goal:
- Quarterly DRI Inspections on track
- 13,015 trees identified for removal in 2019 YTD

Key Takeaways: Continued historical program for inspections (repeating approximately every 3 months) of areas identified by the CA Tree Mortality Task Force to identify trees that are dead, diseased, or dying.

DRI Removals
97%
% Active Inv. <180 days

DRI Tree Inspections & Removals (VM-4.2)

Volume vs 2019 Goal: >96% of active inventory removed less than 180 days old
- 13,015 trees identified for removal in 2019 YTD
- 13,627 trees removed in 2019 YTD
- Year-end outlook tracking to ~50% of ~30,000 WMP metric forecast

Key Takeaways: Continued historical program for removal of trees identified as dead, diseased, or dying. Easing of drought conditions has reduced the volume of trees requiring removal (30,000 originally forecast based on historical average).

LiDAR
156%
Circuit Miles Inspected

LiDAR Inspections of Transmission (220kV and above) (VM-5)

Volume vs 2019 Goal: 1,559 of 1,000 circuit miles flown
Key Takeaways: The team met, and exceeded, the goal of 1,000 miles by year-end 2019.

QC HFRA Inspections

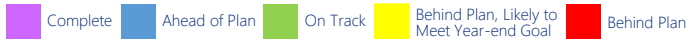
Dist.	Trans.
505%	218%

Circuit Miles Inspected

Inspect Vegetation Adjacent to T&D Circuit Miles (VM-6.1 & VM-6.2)

Volume vs 2019 Goal: Inspected vegetation adjacent to 2,271 of 450 distribution circuit miles and 870 of 400 transmission circuit miles
Key Takeaways: Independent QC of annual pruning implemented across territory. Evaluated clearance distance achieved post-pruning. The team met, and exceeded, the goal of 850 total circuit miles by year-end 2019.

2019 WMP Activity Status vs Goal



Alternative Technology Activities

Surge Arrestor Units

100%

Units Installed

Alternative Technology Pilots: Pilot Installation of 50 CAL FIRE-exempt Surge Arrestor Units (AT-1.1)

Volume vs 2019 Goal: 50 Locations of 50 pilot locations installed

Key Takeaways: All pilot units installed in Victorville District.

Meter Alarming

Complete

Alternative Technology Pilots: Pilot Meter Alarming for Downed Energized Conductor (AT-1.2)

Volume vs 2019 Goal: Completed pilot meter alarming for downed energized conductor

Key Takeaways: Pilot is now operational system wide.

Fault Devices

Complete

GSRP Wildfire Mitigation: Evaluate Distribution Fault Anticipation Devices (AT-2.1)

Volume vs 2019 Goal: Exceeded goal of 10 units.

Key Takeaways: 54 of 60 units installed in field. 24 of the 54 installed units fully commissioned. Remaining units will be commissioned/installed Q1/2020.

Unmanned Aerial Systems

Complete

GSRP Wildfire Mitigation: Evaluate Beyond Visual Line of Sight Unmanned Aerial System (AT-2.2)

Volume vs 2019 Goal: Goal Completed; Final Advanced UAS Study report socialized

Key Takeaways: Merge learnings from the Advanced UAS study with successes/lessons learned from the Aerial Inspection program and incorporate into a revised UAS Strategy presentation.

Fault Current Limiters/ Arc Suppression Coils

Complete

Alternative Technology Evaluations: Evaluate Rapid Earth Fault Current Limiters/Arc Suppression Coils (AT-3.1)

Volume vs 2019 Goal: Conduct assessment by end of 2019

Key Takeaways: Assessment completed with a recommendation to proceed with a pilot install.

Fault Detection

Complete

Alternative Technology Evaluations: Evaluate Alternate Fault Detection Technology (AT-3.2)

Volume vs 2019 Goal: Conduct technology assessment by end of 2019

Key Takeaways: Assessment completed with a recommendation to proceed with pilot installs.

Fire Retardant Pole Wraps

Complete

Alternative Technology Evaluations: Evaluate Fire Retardant Barrier for Wood Poles (AT-3.3)

Volume vs 2019 Goal: Evaluate use of wood pole with protective barrier

Key Takeaways: Completed evaluation of new fire-retardant wrap for wood poles as an alternative to fire-resistant composite poles; published associated design standards. Implementing fire-retardant wrap based on positive testing.

Fuses

Complete

Alternative Technology Evaluations: Evaluate Substation-class Electronic Fuses (AT-3.4)

Volume vs 2019 Goal: Conduct technology assessment by end of 2019

Key Takeaways: Engineering evaluation is complete and determined to not move forward with this technology, evaluation work paper completed.

2019 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Alternative Technology Activities (Cont.)

Branch Line Protection

Complete

Alternative Technology Evaluations: Evaluate Branch Line Protection to Include Single Phase Reclosing (AT-3.5)

Volume vs 2019 Goal: Complete evaluation

Key Takeaways: Evaluation paper completed. 8 pilot units installed.

Conductor Rebuild Standards

Complete

Alternative Technology Implementation: Develop Standard Installation Practices for Ridge Pin Construction for Conductor Rebuild (AT-4.2)

Volume vs 2019 Goal: Standards published and operational

Key Takeaways: Installation practices updated for inclusion of ridge pin construction in high wind areas and is operational.

Vibration Dampers

Complete

Alternative Technology Implementation: Develop Standard Installation Practices for Aeolian Vibration Dampers (AT-4.1)

Volume vs 2019 Goal: Evaluate need for aeolian vibration dampers publish standards for use. Standards published for use of aeolian dampers with existing conductor.

Key Takeaways: SCE is working with vendors on product evaluation for need and use of aeolian dampers with covered conductor.

Dist. Overhead Requirements

Complete

Alternative Technology Implementation: Update Distribution Overhead Requirements for Connector Selection in HFRA (AT-4.3)

Volume vs 2019 Goal: Design and Construction standards published for connector selection for use in HFRA

Key Takeaways: The connector selection standards updated to require the use of CAL FIRE exempt bolted wedge connectors when working in HFRA.

2019 WMP Activity Status vs Goal

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Emergency Preparedness Activities

Direct Mail Campaign

Complete

Customer Education and Engagement: Conduct a Direct Mail Campaign for HFRA (DEP-1.1)

Volume vs 2019 Goal: Reached approximately 1.5 million customers in HFRA through 2019 direct mailer
Key Takeaways: SCE's Dear Neighbor letter has been sent to all customers in HFRA and in non-HFRA.

Develop Local Meeting Plans

Complete

Customer Education and Engagement: Develop Local Government Education and Engagement Meeting Plan (DEP-1.2)

Volume vs 2019 Goal: Meeting plan developed
Key Takeaways: Local Government Education and Engagement Community Meeting Plan has been developed and is the framework for SCE's execution.

Execute Local Meeting Plans

100%

Cities Engaged

Customer Education and Engagement: Execute Local Government Education and Engagement Meetings According to Plan (DEP-1.3)

Volume vs 2019 Goal: 145 of 145 (100%) community meetings
Key Takeaways: SCE has met with all 145 cities in HFRA as of 12/31/2019.

WF Response Training

Complete

Emergency Responder Training: Wildfire Response Training for New or Existing Responders (DEP-2.1)

Volume vs 2019 Goal: Conducted wildfire response training for new or existing responders
Key Takeaways: Conducted training sessions for initial design of PSPS Incident Management Teams; IMT staffing is being expanded from initial design and trainings will be held as necessary for the remainder of the year.

IMT De-Energization Training

Complete

Emergency Responder Training: Conduct Internal IMT Training Around Wildfire Response and De-energization Protocols (DEP-2.2)

Volume vs 2019 Goal: Conducted internal IMT Training around wildfire response and de-energization protocol
Key Takeaways: Conducted initial training of 175 persons on PSPS Incident Management Teams; Have continued to train additional persons as needed and identified and will continue trainings as needed.

Enhance Staffing

Complete

Bolster Incident Mgmt. & Support: Determine Positions That Need Enhanced Staffing (DEP-3.1)

Volume vs 2019 Goal: Expanded teams to enable additional scalability and additional training sessions will be held for new personnel being added to the teams
Key Takeaways: Stood up dedicated PSPS IMT and Task Force effective June 2019. Provided specialized training and exercises for all PSPS IMT members.

Train New Staff

Complete

Bolster Incident Mgmt. & Support: Train, Exercise, and Qualify New Staff to Meet Identified Need (DEP-3.2)

Volume vs 2019 Goal: Expanded teams to enable additional scalability and additional training sessions will be held for new personnel being added to the teams
Key Takeaways: Stood up dedicated PSPS IMT and Task Force effective June 2019. Provided specialized training and exercises for all PSPS IMT members.

Appendix

Behind Plan Activities Details

2019 WMP Activities - Details (1/4)

Behind Plan Activities

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Status	Current Goal	Narrative
	VM-1.2: Perform risk-based tree removals **5,917 out of 7,500 removals complete (79%)**	**Summary:** Short of 2019 YE Goal by 1,583 (21%). Permitting issues have resulted in a revised forecast of approximately 4,500 trees to be removed, as communicated in September. Exceeded 4,500 revised outlook. **Progress/Challenges:** *Progress:* • Exceeded 2019 tree assessment goal reaching 129,485 total assessments (4,485 above goal) • Increase in assessors/assessments, expedited customer notification process, increased tree crew counts and program staffing ramp up resulted in a >600% increase in the average monthly tree removal in Q4 • Increased December removals to 1,874, which represents continued increases in month-over-month volume *Challenges:* • Impediments included: weather, permitting issues, crew resources and customer authorization • Additional crew resources were limited, based on competing SCE work (including storm), and contract terms for price and duration of contract **Actions to Improve or Sustain Performance:** • 2020 strategy applies lessons learned in 2019 and assigns work in potential accessible geographical locations • Software redesign launching in January 2020 will improve reporting capabilities and ease of use

2019 WMP Activities - Details (2/4)

Behind Plan Activities

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Status	Current Goal	Narrative
	IN 1.2: Remediate all conditions that create fire risk under distribution	**Summary:** All distribution priority 1 (immediate risk of high potential impact to safety or reliability) notifications have been completed. The EOI distribution remediation program is off track due to past-due priority 2 (any other risk of at least moderate potential impact to safety or reliability) notifications. While all 2019 vegetation management work type notifications and most 2019 electrical crew work type notifications have been completed, there are approximately 110 electrical crew work type priority 2 notifications that are past due in 2020 due to weather and resource constraints. SCE is currently planning on remediating these past-due notifications in Q1 2020. **Progress/Challenges:** *Progress:* • In 2019, SCE completed in excess of 49,000 EOI-specific priority 1 and priority 2 distribution-level remediation notifications • All vegetation management EOI notifications have been completed • All electrical crew EOI notifications in 6 of SCE's 8 regions have been completed • In SCE's remaining two regions, North Coast and Rurals, approximately 110 electrical crew priority 2 EOI notifications are past-due in 2020 *Challenges:* • Winter storms and end-of-year resource constraints such as, in some instances, resources that had to be reallocated to emergencies, including PSPS events, negatively impacted year-end completions. • In addition to the past-due notifications, there are over 600 notifications currently subject to a GO 95 exception, primarily due to delays caused by permits and customer issues. GO 95, Rule 18.B(1)(b) permits correction times to be extended under such reasonable circumstances. **Actions to Improve or Sustain Performance:** • The team is working to better align EOI remediation reporting with other programs • The team also plans to regularly generate reports showing new notifications in order to improve work tracking for remediation crews

2019 WMP Activities - Details (3/4)

Behind Plan Activities

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Status	Current Goal	Narrative
	IN 2.2: Remediate all conditions that create fire risk under transmission	**Summary:** All transmission priority 1 (immediate risk of high potential impact to safety or reliability) notifications have been completed. The EOI transmission remediation program is off track due to approximately 320 priority 2 (any other risk of at least moderate potential impact to safety or reliability) notifications that are past-due in 2020, primarily due to weather constraints. Work for these past-due notifications has been scheduled for Q1 2020. **Progress/Challenges:** *Progress:* • All past due notifications have been scheduled for remediation *Challenges:* • Weather restrictions (including rain, wind, and fog) generated helicopter and access restrictions • End-of-year resource constraints due to resources that had to be reallocated to emergencies, including PSPS events, negatively impacted year-end completions • In addition to the past-due notifications, there are approximately 85 notifications currently subject to a GO 95 exception. GO 95, Rule 18.B(1)(b) permits correction times to be extended under reasonable circumstances. • SCE will need to coordinate remediation of past-due 2019 notifications with remediation of 2020 notifications in order to balance resources **Actions to Improve or Sustain Performance:** • New tool will help with updating SAP with notifications completed in the field, increasing data accuracy and resolving close out issues • In order to allow a holistic view of all remediation work (and to assist in balancing resources), the 2020 schedule will be integrated to show both past-due 2019 work and new 2020 work

2019 WMP Activities - Details (4/4)

Behind Plan Activities

Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan

Status	Current Goal	Narrative
	IN 4.2: Infrared Inspection of Hot Spots on Overhead Distribution Facilities and Equipment: Remediate Conditions	**Summary:** SCE to remediate distribution IR findings based on established remediation timeline criteria. All E1P1 notifications have been either completed or made safe in the field. All E1P2 notifications that were due in 2019 were completed with the exception of one notification that was rescheduled due to weather and subsequently was completed on 1/6/2020. **Progress/Challenges:** Distribution IR Scanning has produced a total of 81 findings (23 E1P1s and 58 E1P2s). All E1P1 notifications have been either completed or made safe in the field. All E1P2 notifications without a valid GO95 exception were completed with the exception of one which was rescheduled due to weather. The notification was rescheduled and completed on 1/6/2020. **Actions to Improve or Sustain Performance:** Continuing to monitor results of IR Scanning and producing reporting which will give Regional visibility of all findings.

Exhibit B

Carey Smith Biography

Exhibit B

Carey Smith Biography

Ms. Smith serves as president and chief operating officer of Parsons Corporation, a disruptive technology provider for global defense, intelligence and critical infrastructure markets. She has served as president since November 2019 and as chief operating officer since 2018. From 2016 to 2018, Ms. Smith served as president of Parsons' Federal Solutions business. Before joining Parsons, she served in progressive leadership roles at Honeywell International Inc. from 2011 to 2016, including president of the Defense and Space business unit, vice president of Honeywell Aerospace Customer and Product Support, and president of Honeywell Technology Solutions, Inc. Prior to joining Honeywell, Ms. Smith served in several leadership roles at Lockheed Martin Corporation from 1985 to 2011. She serves on the board of the Professional Services Council and previously served on the board of NN, Inc.

Ms. Smith's relevant safety experience includes her responsibility over global operations at Parsons, and her operational experience in the safety-intensive aerospace and defense industries. As president and chief operational officer at Parsons, Ms. Smith has ultimate management responsibility for the health and safety of Parsons' more than 15,000 employees across 24 countries. Parsons is recognized as a leader in occupational health and safety and was most recently recognized for its ability to integrate its environmental, health and safety systems into its business practices when it was awarded the National Safety Council's Robert W. Campbell award in September 2019. Ms. Smith has been a member of the Safety and Operations Committee since she joined the SCE Board of Directors in October 2019.

Appendix P.
Advice 4204-E, Q1 2020

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations

April 30, 2020

ADVICE 4204-E
(U 338-E)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
ENERGY DIVISION

SUBJECT: Southern California Edison Company's Quarterly Advice Letter Pursuant to Assembly Bill 1054 Regarding the Implementation of Its Approved Wildfire Mitigation Plan and Its Safety Recommendations

Southern California Edison Company (SCE) hereby submits this Tier 1 Advice Letter (AL) detailing the implementation of its 2020-2022 Wildfire Mitigation Plan (WMP),[1] recommendations of the most recent safety culture assessment, and a statement of the recommendations of its board of directors' safety committee[2] (Committee) meetings that occurred during the first quarter of 2020.

PURPOSE

The purpose of this advice letter is to comply with the provisions of Public Utilities Code (PUC) Section 8389(e)(7), established by California Assembly Bill (AB) 1054, following SCE's receipt of its Initial Safety Certification.

BACKGROUND

AB 1054 was signed into law by Governor Newsom on July 12, 2019. Section 8389(e)(7), which was added to the PUC by AB 1054, reads:

> The executive director of the commission shall issue a safety certification to an electrical corporation if the electrical corporation provides documentation of the following . . . The electrical corporation is implementing its approved wildfire mitigation plan. The electrical corporation shall file a tier 1 advice letter on a quarterly basis that details the implementation of both its

[1] Although Public Utilities Code Section 8389 requires a quarterly advice letter detailing the implementation of a utility's *approved* WMP, SCE is reporting on the implementation of its 2020-2022 WMP, which is pending approval. Advice 4153-E (submitted January 31, 2020) and SCE's *2019 WMP Compliance Report* (filed April 2, 2020) provide details on implementation of SCE's approved 2019 WMP.

[2] SCE's board of directors' safety committee is known as the Safety and Operations Committee of the Board of Directors and referred to herein as the "Committee."

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

SCE provides the required information as indicated below:

(1) **Implementation of Wildfire Mitigation Plan**

On October 25, 2018, the California Public Utilities Commission (Commission or CPUC) opened Rulemaking (R.)18-10-007 to implement the provisions of Senate Bill (SB) 901 related to electric utility wildfire mitigation plans. New provisions of PUC 8386, enacted as part of SB 901, require all California electric utilities to prepare and submit wildfire mitigation plans that describe each utility's plan to prevent, combat, and respond to wildfires affecting their service territories.

On February 7, 2020, SCE submitted its second comprehensive WMP covering the years 2020 through 2022 and building on its 2019 WMP, including successes and lessons learned. In 2020 SCE is tracking 69 specific wildfire-related programs and activities included in its 2020-2022 WMP. As in SCE's 2019 WMP, the 2020-2022 plan includes wildfire mitigation activities such as infrastructure hardening, vegetation management, detailed inspections and remediations, and situational awareness. SCE's WMP also emphasizes Public Safety Power Shutoff (PSPS) resilience and community engagement, particularly for under-represented groups and access and functional needs (AFN) customers. SCE's 2020-2022 plan increases the use of data, advanced risk analytics and innovative technologies to help the company prioritize the activities with the greatest potential to mitigate wildfire risks and improve public safety.

In Exhibit A, SCE presents detailed information about the implementation status of meeting WMP 2020 Program Targets for each of these wildfire-related mitigation activities and programs. As referenced in Exhibit A, SCE is currently substantially on track to meet all of the 2020 goals listed in its 2020-2022 WMP.

As noted in SCE's 2019 WMP Compliance Report, SCE did not meet its initial plans in a few WMP activities by the end of 2019 due to resource constraints, operational challenges, inclement weather conditions that are outside of the direct control of SCE, and reprioritizing activities to address emergent issues such as PSPS events. These activities, mainly related to distribution and

transmission enhanced overhead inspections and remediations[3], were subsequently completed in the first quarter of 2020 or will be completed in the second quarter of 2020.

COVID-19-related restrictions are beginning to have an impact on the implementation plans for a handful of WMP activities. These include cancelled or delayed planned outages due to work and permit restrictions imposed by local jurisdictions (causing delays to certain system hardening activities) and social distancing restrictions (preventing customer site visits and reducing the number of inspectors who can be concurrently accommodated on-site to analyze aerial images). SCE is also monitoring material delivery from suppliers for potential delays but does not expect any major disruptions at this time. In some instances, SCE has adjusted some of its planned activities to accommodate social distancing restrictions (e.g. community meetings will be hosted virtually instead of in person). At this time, SCE remains cautiously optimistic that it will be able to meet the year-end program targets. SCE will continue to monitor and, where possible, accommodate COVID-19-related impacts and will report on any additional developments in its subsequent quarterly advice letters.

(2) **Implementation of Most Recent Safety Culture Assessment**

As noted in its initial safety certification and in past quarterly advice letters,[4] SCE has not yet undergone a CPUC-led safety culture assessment pursuant to PUC Section 8389(d)(4). A CPUC-led safety culture assessment for SCE may not occur until early 2021. Notwithstanding this, safety is the first of SCE's core values and this is demonstrated through the company's commitment to creating and maintaining a safe environment for employees, contractors, and the public. Over the past several years, SCE has increased management focus on safety oversight, accountability, and partnering with employees, contractors, and communities to improve worker and public safety. In 2019, SCE completed the following safety culture training for its field and office employees and leaders: (1) Switch, a cognitive behavioral training course designed to help all employees take ownership of safety and strengthen safety leadership; and (2) Engage/Connect workshops that provide practical tools for leaders to support a strong safety culture and influence safe behaviors aligned with SCE's values. The core concepts of this training have been embedded in new employee orientation and new leader trainings. SCE continues to improve its safety culture via in-person meetings, trainings, corporate messaging and the incorporation of feedback from all levels of the organization. SCE looks forward to working with the CPUC and other interested stakeholders to further review its safety culture and build upon existing efforts to strengthen it.

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3 These activities were tracked as IN-1 and IN-2 in SCE's 2019 WMP and are tracked as IN-6 and SH-12 in SCE's 2020-2022 WMP.

4 Advice 4089-E and Advice 4153-E.

(3) **Recommendations of Safety and Operations Committee**

The Committee had two meetings during the first quarter of 2020 (on January 31 and February 26). During these first quarter meetings, the Committee focused on wildfire and safety issues in the following main categories: Wildfire Safety; Employee, Contractor, and Public Safety; and SCE Safety Goals, Performance and Metrics. Each of these areas is separately addressed below.

Wildfire Safety

The Committee discussed wildfire safety and mitigation issues and developments at both first quarter 2020 meetings. These discussions covered, among other subjects, WMPs, wildfire analyses, and potential additional wildfire risk reduction measures.

The January 31 meeting was added at the Committee's request and was devoted to discussing the content and approach of SCE's 2020-2022 WMP prior to its filing on February 7. Discussions at this meeting covered the regulatory framework for the WMPs, 2020 WMP targets, differences from the 2019 WMP, changes to the enhanced inspection program in high fire risk areas, and ongoing and regular communication with the Commission on the quality and availability of data. Management indicated that the risk reduction achieved through the 2020-2022 WMP was one part of the overall statewide need for risk reduction in areas such as fire suppression, forest health and management, and residential development in wildland urban interface areas. The Committee and management discussed prioritization of resource deployment to the higher fire risk areas through the inspection program. Management responded to questions from the Committee, including elements of SCE's 2020-2022 WMP regarding expected third-party evaluation and validation of the Wildfire Mitigation Capability maturity model self-assessment, changes to the hazard tree management program target, and further investigation of technologies in addition to those included in the 2020-2022 WMP. The Committee and management also discussed a comprehensive external engagement plan to address intervenor and other stakeholder concerns.

At the February 26 meeting, management provided an update on the ongoing WMP work and reported on the ongoing analysis of its past ignitions. The Committee and management discussed the potential reduction in ignition risk due to covered conductor deployment planned in the 2020-2022 WMP. The Committee and management also discussed the timing of the deployment of covered conductor and factors that impact acceleration, including resources, permitting and planner training. Management reported on the engineering and design changes being implemented based on ongoing ignition analysis as a follow up item to the Committee's request for additional information on this topic. Further, in response to the Committee's recommendation, management provided

a follow-up on the review of SCE inspection procedures and programs based on observations in the report issued by the Commission's Safety and Enforcement Division on the Camp Fire and the Pacific Gas and Electric Company inspection procedures. Management also provided an update on ongoing efforts to redesign how SCE's inspections are conducted, as well as other efforts, including the reevaluation of the pole loading program and replacement of transformer mineral oil with non-flammable oil. The Committee and management also discussed the challenge of having telecommunication infrastructure on utility poles.

Employee/Contractor/Public Safety

The Committee concentrated on public safety and particularly on the risk of underground equipment failure at its February 26 meeting. In response to the Committee's recommendation, management reported on its underground equipment failure program and the program's evolution from its prior focus on overall reliability, which included safety, to a more explicit public safety focus supported by data and risk analysis. The Committee and management also discussed benchmarking against industry peers and utilizing research from organizations like the Electric Power Research Institute to support improvements in the program. Management indicated it would provide an update to the Committee as the program progresses.

SCE Safety Goals, Performance and Metrics

As recommended by the Committee in December 2019, management began the February 26 meeting with a standing agenda item that provided a summary update on various safety and operations metrics. Management provided an update on three contractor safety incidents, including one fatality, and the Days Away, Restricted, or Transferred ("DART") rate. Management reviewed the circumstances of the contractor safety incidents and responded to questions from the Committee, including regarding SCE's traffic control practices and contractor oversight. The Committee and management also discussed the DART rate analysis, potential factors that may contribute to DARTs, data analysis being performed to drive injury reductions, improved information collection for common cause evaluations and continued development of leading indicators. The Committee recommended that management provide additional information on the DART reduction efforts at a future meeting.

In response to the Committee's recommendation, management continued the discussion on operational goals by providing a summary of the 2020 safety and operational goals and addressing the areas of change since the discussion at the December 2019 meeting. The Committee and management discussed the alignment of the goals with the WMP, the focus on reduction in serious injuries and fatalities, and the emphasis on WMP activities such as covered conductor deployment. The Committee acknowledged that it has reviewed the development of the 2020 safety and operational goals over the course of the last

several meetings and expressed support for these goals and metrics in the final corporate goals approved by the Compensation and Executive Personnel Committee.

The Committee has a second quarter 2020 meeting currently scheduled on April 22 and additional meetings will be scheduled as appropriate.

No cost information is required for this AL.

This AL will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule or rule.

TIER DESIGNATION

Pursuant to General Order (GO) 96-B, Energy Industry Rule 5.1, this AL is submitted with a Tier 1 designation.

EFFECTIVE DATE

SCE respectfully requests that this AL become effective April 30, 2020, which is the same date as submitted.

NOTICE

Anyone wishing to protest this AL may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice letter. Protests should be submitted to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, California 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address above).

In addition, protests and all other correspondence regarding this AL should also be sent by letter and transmitted via facsimile or electronically to the attention of:

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations
Southern California Edison Company
8631 Rush Street
Rosemead, California 91770
Telephone (626) 302-9645
Facsimile: (626) 302-6396
E-mail: AdviceTariffManager@sce.com

Laura Genao
Managing Director, State Regulatory Affairs
c/o Karyn Gansecki
Southern California Edison Company
601 Van Ness Avenue, Suite 2030
San Francisco, California 94102
Facsimile: (415) 929-5544
E-mail: Karyn.Gansecki@sce.com

There are no restrictions on who may submit a protest, but the protest shall set forth specifically the grounds upon which it is based and must be received by the deadline shown above.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this AL to the interested parties shown on the attached GO 96-B, R.18-10-007, R.18-12-005, and A.18-09-002 service lists. Address change requests to the GO 96-B service list should be directed by electronic mail to AdviceTariffManager@sce.com or at (626) 302-4039. For changes to all other service lists, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

Further, in accordance with PUC Section 491, notice to the public is hereby given by submitting and keeping this AL at SCE's corporate headquarters. To view other SCE advice letters submitted with the Commission, log on to SCE's web site at https://www.sce.com/wps/portal/home/regulatory/advice-letters.

For questions, please contact Kavita Srinivasan at (626) 302-3709 or by electronic mail at kavita.srinivasan@sce.com

Southern California Edison Company

/s/ Gary A. Stern, Ph.D.
Gary A. Stern, Ph.D.

GAS:ks:jm
Enclosures



California Public Utilities Commission

ADVICE LETTER SUMMARY

ENERGY UTILITY

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

Company name/CPUC Utility No.: Southern California Edison Company (U 338-E)

Utility type:
☑ ELC ☐ GAS ☐ WATER
☐ PLC ☐ HEAT

Contact Person: Darrah Morgan
Phone #: (626) 302-2086
E-mail: AdviceTariffManager@sce.com
E-mail Disposition Notice to: AdviceTariffManager@sce.com

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

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 4089-E

Tier Designation: 1

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

Keywords (choose from CPUC listing): Compliance

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☑ One-Time ☐ Other:

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

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

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

Confidential treatment requested? ☐ Yes ☑ No

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

Resolution required? ☐ Yes ☑ No

Requested effective date: 10/23/19

No. of tariff sheets: -0-

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

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

Tariff schedules affected: None

Service affected and changes proposed[1]:

Pending advice letters that revise the same tariff sheets: None

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

Clear Form

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

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Attention: Tariff Unit
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Clear Form

ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtailable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	

Exhibit A

SCE's 2020 Wildfire Mitigation Plan (WMP) Progress Update – March 31, 2020

SCE's 2020-2022 Wildfire Mitigation Plan (WMP) Progress Update

(All data is as of March 31, 2020 or later)

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

PSPS

PSPS-1: De-Energization Notifications

- PSPS-1.1: Notifications to public safety agencies and local gov't
- PSPS-1.2: Notifications to Cal OES via State warning system
- PSPS-1.3: Notifications to the CPUC
- PSPS-1.4: Enhance Emergency Outage Notification System

- PSPS-2: Have 23 available Community Resource Centers
- PSPS-3: Develop a customer resiliency equipment incentive pilot program
- PSPS-4: Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program
- PSPS-5: Support MICOP partnership
- PSPS-6: Support Independent Living Centers Partnership
- PSPS-7: Have 5 available Community Care Vehicles
- PSPS-8: Assess microgrid resiliency projects

Risk Analysis

- RA-1: Implement Wildfire Risk Reduction Model (WRRM) module of Technosylva

Emergency Preparedness

DEP-1: Customer Education and Engagement

- DEP-1.1: Send ~915K /~3.2M letters to customers in HFRA / non-HFRA
- DEP-1.2: Host 8-12 community meetings in areas impacted by PSPS
- DEP-1.3: Conduct marketing campaign (reach 5M cust.)

- DEP-2: Hold internal training on de-energization protocols, determine staffing needs, and fill positions
- DEP-3: Participate in a multi-channel, multi-lingual campaign to provide information on wildfire mitigations *
- DEP-4: Develop a measure to track customer awareness of, preparedness for, and satisfaction with outage experiences

Vegetation Management

- VM-1: Hazard Tree Management Program. Assess 75,000 trees
- VM-2:. Perform brush clearance of 200,000 poles
- VM-3: Expand clearances for legacy generation facilities
- VM-4: Perform annual DRI inspection scope and compete mitigations according to guidelines
- VM-5: Perform 3,000 risk-based quality control vegetation management inspections

System Hardening

- SH-1: Install 700 miles of covered conductor in HFRA
- SH-2: Refine undergrounding overhead conductor methodology
- SH-3: Replace 5,200 poles with fire resistant poles
- SH-4: Install/replace fusing at 3,025 locations
- SH-5: Install 45 RARs/RCSs
- SH-6: Replace/upgrade 55 relay units in HFRA
- SH-7: PSPS-Driven Grid Hardening Work
- SH-8: Deploy Transmission Open Phase Detection on 6 additional circuits
- SH-9: Transmission Overhead Standards (TOH) Review
- SH-10: Remediate 325 tree attachments
- SH-11: Legacy Facilities

SH-12: Remediate all notifications with ignition risk, to be past due compliant by year-end

- SH-12.1: Distribution**
- SH-12.2: Transmission**
- SH-12.3: Generation

Operational Practices

- OP-1: Review and update Annual System Operating Bulletin 322
- OP-2: Hire additional staff for Wildfire Infrastructure Protection Team
- OP-3: Increase the number of UAS operators by an additional 50 crews

Alternative Technologies

- AT-1: Meter Alarming for Downed Energized Conductor
- AT-2.1: Evaluate performance of Distribution Fault Anticipation technology
- AT-2.2: Conduct Extended Visual Light of Sight demonstration UAS flights

AT-3: Alternative Technology Evaluations

- AT-3.1: Initiate design and equipment order for a Ground Fault Neutralizer
- AT-3.2: Initiate design to convert a substation to resonant grounding
- AT-3.3: Install one Rapid Earth Fault Current Limiter - Isolation Transformer
- AT-3.4: Complete Distribution Open Phase Detection pilot

- AT-4: Alternative Technology Implementation – Vibration Dampers
- AT-5: Asset Defect Detection Using Machine Learning Object Detection
- AT-6: Assessment of Partial Discharge for Transmission Facilities
- AT-7: Early Fault Detection (EFD) Evaluation
- AT-8: High Impedance Relay Evaluations

Situational Awareness

- SA-1: Install 375 Weather Stations
- SA-2: Fire Potential Index (FPI) Phase II. Refine current FPI
- SA-3: Complete installation of two High-Performance Computer Clusters
- SA-4: Implement FireCast and FireSim modules of Technosylva
- SA-5: Perform fuel sampling in HFRA
- SA-6: Map surface and canopy fuels across HFRA
- SA-7: Initiate procurement of remote sensing technology
- SA-8: Implement fire science enhancement initiatives

Inspections

IN-1: Ground Inspections

- IN-1.1: Inspect 105,000 distribution structures in HFRA
- IN-1.2: Inspect 22,500 transmission structures in HFRA

IN-6: Aerial Inspections

- IN-6.1: Inspect 165,000 distribution structures in HFRA
- IN-6.2: Inspect 33,500 transmission structures in HFRA

- IN-2: Perform quality review on 15,000 transmission, distribution, and generation structures in HFRA
- IN-3: Infrared Inspection of 50% of distribution circuits in HFRA
- IN-4: Infrared Inspection, Corona Scanning, and High Definition imagery of 1,000 transmission circuit miles in HFRA
- IN-5: Inspect 200 generation assets
- IN-7: Failure Modes and Effects Analysis (FMEA)

Sources: Data as of 03/31/2020 unless otherwise noted. Wildfire Resiliency Corporate Goal Reporting March 2020, 2020 WMP Activity Leads.
* SCE has determined there is no need for a separate statewide customer engagement campaign in addition to SCE's local market campaign and informed CalOES of this change in direction. This modification will be included in SCE's Off Ramp report to be filed in June 2020. ** Activities reporting data as of April 3rd.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

PSPS Activities

Public Safety Agencies and Local Govt

De-Energization Notifications (PSPS-1.1)

Program Target: Notify applicable public safety agencies and local governments of possible de-energization

Status Update: No events to date in 2020.

Cal OES

De-Energization Notifications (PSPS-1.2)

Program Target: Notify Cal OES through the State Warning Center of possible de-energization

Status Update: No events to date in 2020.

CPUC

De-Energization Notifications (PSPS-1.3)

Program Target: Notify the CPUC of possible de-energization

Status Update: No events to date in 2020.

Enhance EONS

Enhance Emergency Outage Notification System (PSPS-1.4)

Program Target: Enhance Emergency Outage Notification System (EONS) to include Zip Code level alerting to include in language notifications to align with its existing notification abilities for SCE customers

Status Update: Discussions have started with vendor to add additional languages to the communications sent and developed a plan through go-live implementation.

Community Resource Centers

61%
confirmed

Community Resource Centers (PSPS-2)

Program Target: Have 23 sites available across SCE service territory for customers impacted by a PSPS

Status Update: Confirmed 14 of 23 CRCs are ready for activation. CRC program managers are continuing to partner with SCE to explore all potential siting options for CRCs.

Customer Resiliency Equipment

Customer Resiliency Equipment Incentives (PSPS-3)

Program Target: Develop a customer resiliency equipment incentive pilot program that provides financial support to customers willing to increase resiliency within its HFRA. One customer will be implemented for this pilot in 2020

Status Update: The pilot program will enable a local high school, with solar and storage, the ability to island itself during a power outage. Work on project is continuing but the school's current closure due to COVID-19 could impact ability to do a full-scale dry run.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

PSPS Activities

IQCC Customer Battery Backup

Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program (PSPS-4)

Program Target: Outreach to eligible customers (low income, critical care, Tier 2/3) to provide portable battery back-up solution. SCE has identified approximately 2,500 customers that it will target for the program in 2020, with efforts to begin in the second quarter

Status Update: The program is experiencing delays due to COVID-19 social distancing restrictions impacting the ability of contractors to conduct customer site visits to determine optimal battery sizing/education and lengthier delivery lead time from potential suppliers.

MICOP Partnership

MICOP Partnership (PSPS-5)

Program Target: Enable communications with indigenous populations and measure the number of customers contacted

Status Update: The Mixteco/Indigena Community Organization Project (MICOP) has conducted 13 outreach events and 2 community meetings in 2020, yielding outreach to 697 people to date.

Independent Living Center Partnerships

Independent Living Centers Partnership (PSPS-6)

Program Target: Conduct outreach activities and workshops/trainings to provide preparedness education and assistance in applying for the Medical Baseline Program and measure the number of customers contacted

Status Update: Three external preparedness workshops have been held to date for 37 customers and an additional 189 customers have been contacted about the Medical Baseline Program.

Community Outreach

Community Outreach (PSPS-7)

Program Target: Minimum of five Community Crew Vehicles (CCVs) ready to be deployed during times when weather and fuel conditions are at critical levels. Communicate with customers in a local targeted way using a variety of channels to ensure timely delivery of notifications

Status Update: The Program Target of five CCVs has been attained and a CRC/CCV locator tool is under development for SCE.com. The locator tool will be promoted via various communication channels during emergency events.

Microgrid Assessment

Microgrid Assessment (PSPS-8)

Program Target: 1) Execute requests for proposals (RFP) for six resiliency microgrid projects
2) Depending on RFP results, implementation of up to 6 resiliency microgrid projects shown to be technically feasible and cost-effective

Status Update: 2020 program target of issuing RFP for six potential 2020 microgrid projects was completed but did not produce any cost-effective results. Initiated efforts to explore 2021 and/or 2022 projects and issue another RFP.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Operational Practices and Risk Analysis Activities

OP: Operational Practices

Annual SOB 322 Review

Annual SOB 322 Review (OP-1)

Program Target: Review and update SOB 322 to reflect lessons learned from past elevated fire weather threats/PSPS events and integrate, where applicable, new and improved situational awareness data, improved threat indicators, and applicable regulatory requirements in an effort to reduce wildfire risk and the impact of outages on customers.

Status Update: Held session to identify and document lessons learned from 2019. Planning to integrate into SOB 322 in Q2.

Wildfire Infrastructure Protection Staffing

Wildfire Infrastructure Protection Team Additional Staffing (OP-2)

Program Target: Hire additional resources including: a senior compliance manager, two compliance advisors, a project/program advisor, a data specialist and a fire-weather meteorologist. PSPS Operations will also be staffed to provide dedicated operational, project management, and compliance capabilities.

Status Update: Initiated staffing process for PSPS Operations organization, including identifying initial resources for placement into positions. Began hiring process for positions to be competitively posted.

UAS Operations Training

Unmanned Aerial (UAS) Operations Training (OP-3)

Program Target: Increase the number of UAS operators by an additional 50 crews

Status Update: 31 of 50 candidates have completed Part 107 course. Of the 31, 8 have already earned their FAA Part 107 Temporary Certificates. There is a soft moratorium on further progress until physical distancing orders are lifted.

RA: Risk Analysis

Expansion of Risk Analysis

Expansion of Risk Analysis (RA-1)

Program Target: Implement Wildfire Risk Reduction Model (WRRM) module of Technosylva (software platform)

Status Update: Workshops are ongoing to finalize the WRRM specifications.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Vegetation Management Activities

HTMP

39%
trees assessed

Hazard Tree Management Program (VM-1)

Program Target: Assess 75,000 trees for hazardous conditions and perform prescribed mitigations in accordance with program guidelines and schedules

Status Update: Assessed ~29,000 of 75,000 trees and performed prescribed mitigations in accordance with program guideline and schedule through Q1.

Expanded Pole Brushing

22%
poles cleared

Expanded Pole Brushing (VM-2)

Program Target: Perform brush clearance of 200,000 poles
SCE will strive to perform brush clearance for 300,000 poles subject to resource constraints and other execution risks

Status Update: Cleared ~43,000 of 200,000 poles. Weather continues to create delays and contractors are working to add sufficient crews. SCE is exploring options to onboard additional resources.

Expanded Clearances for Legacy Facilities

Expanded Clearances for Legacy Facilities (VM-3)

Program Target: Perform assessments of all identified facilities in HFRA. Establish enhanced buffers at 30% of identified facilities

Status Update: Expanded clearance work has begun and continuing to assess remaining identified facilities to be cleared.

DRI Inspections & Mitigations

Drought Relief Initiative (DRI) Inspections and Mitigations (VM-4)

Program Target: Perform DRI annual inspection scope and complete prescribed mitigations in accordance with internal DRI program guidelines

Status Update: DRI inspections are underway. DRI removals are currently off track, due to weather and contractor onboarding delays. Currently, ~80% of active inventory has been removed prior to 180 days. SCE's program requirements state 94% of active inventory should be removed within 180 days.

Vegetation Management Quality Control

Vegetation Management Quality Control (VM-5)

Program Target: Perform 3,000 risk-based HFRA circuit mile vegetation management Quality Control inspections

Status Update: Performed ~1,000 of 3,000 of risk-based HFRA circuit mile quality control inspections.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Situational Awareness Activities

Weather Stations

37%
installed

Weather Stations (SA-1)

Program Target: Install 375 Weather Stations. SCE will strive for installation of 475 Weather Stations subject to resource constraints and other execution risks

Status Update: ~140 of 375 weather stations installed. Potential material supply impact to wind sensor manufacturer due to COVID-19.

Fire Potential Index Phase II

Fire Potential Index (FPI) Phase II (SA-2)

Program Target: Refine the current FPI by integrating historical weather and vegetation data into the index

Status Update: Currently developing a fuel type map to be completed in Q2. FPI Phase II will eventually utilize this map to account for different types of fuels depending on location.

HPCC Weather Modeling System

High-Performing Computer Cluster (HPCC) Weather Modeling System (SA-3)

Program Target: Complete installation of second HPCC

Status Update: Completed the installation of second HPCC weather modeling system and it is in operational use.

Asset Reliability & Risk Analysis

Asset Reliability & Risk Analytics Capability (SA-4)

Program Target: Implement FireCast and FireSim modules of Technosylva

Status Update: Completed the installation of FireCast and FireSim applications. User identification and training is planned before full implementation in Q3.

Fuel Sampling Program

Fuel Sampling Program (SA-5)

Program Target: Perform updated fuel sampling in HFRA in areas deemed appropriate once every two weeks (weather permitting)

Status Update: Collecting fuel data bi-weekly across three regions, with plan to scope additional locations.

Surface and Canopy Fuels Mapping

Surface and Canopy Fuels Mapping (SA-6)

Program Target: Initiate surface and canopy fuels mapping across HFRA

Status Update: Working with Technosylva to map surface and canopy fuels, allowing fire spread modeling to be more accurate.

Remote Sensing / Satellite Fuel Moisture

Remote Sensing / Satellite Fuel Moisture (SA-7)

Program Target: Initiate procurement process for remote sensing technology for future implementation

Status Update: Exploring potential use vegetation management use cases before initiating procurement process.

Fire Science Enhancements

Fire Science Enhancements (SA-8)

Program Target: Implement enhanced forecasting capability and improved fuel modeling

Status Update: Enhancements and latest changes have been made to input data to improve dead fuel moisture modeling.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Emergency Preparedness Activities

Dear Neighbor Letter

Customer Education and Engagement – Dear Neighbor Letter (DEP-1.1)

Program Target: Send ~915,000 letters with information about PSPS, emergency preparedness, and SCE's wildfire mitigation plan to customer accounts in HFRA and ~3,200,000 letters to customer accounts in non-HFRA

Status Update: Dear Neighbor Letter is changing to a newsletter this year but will still consist of two mailings (HFRA and non-HFRA). Initial messaging has been drafted with a target distribution date in Q2.

Community Meetings

Customer Education and Engagement – Community Meetings (DEP-1.2)

Program Target: Host 8-12 community meetings in areas impacted by 2019 PSPS plus other meetings including online as determined to share information about PSPS, emergency preparedness, and SCE's wildfire mitigation plan

Status Update: Targeted Community Meetings were originally scheduled to be in-person, but due to COVID-19 they will now be hosted virtually.

Marketing Campaign

Customer Education and Engagement – Marketing Campaign (DEP-1.3)

Program Target: Marketing campaign to reach 5,000,000 Customer Accounts (goal of 40% awareness about the purpose of PSPS, emergency preparedness, and SCE's wildfire mitigation plan)

Status Update: Marketing is preparing to launch ads in May to raise PSPS and emergency awareness.

SCE Emergency Response Training

SCE Emergency Response Training (DEP-2)

Program Target: Hold SCE IMT member training on de-energization protocols, determine additional staffing needs and train, exercise and qualify new staff

Status Update: Planned to have annual training and drill/exercise completed by the end of June. Virtual trainings are being planned if SCE is unable to congregate in-person, due to social distancing restrictions as a result of COVID-19. Additional staffing needs are being evaluated on an on-going basis.

IOU Customer Engagement*

IOU Customer Engagement (DEP-3)

Program Target: Participate in statewide multichannel and multi-lingual campaign using digital ads, social media ads, and radio ads to provide customers with important and consistent messaging about wildfire mitigation activities happening across the state

Status Update: SCE has determined there is no need for a separate statewide customer engagement campaign in addition to SCE's local market campaign and informed CalOES of this change in direction.

Customer Research and Education

Customer Research and Education (DEP-4)

Program Target: Develop/implement various research activities that gauge customer awareness, preparedness for, and satisfaction with outage experiences; to include but not be limited to: town hall meetings, online & telephone surveys, focus groups, and assessments of programs & services to prepare customers before and after PSPS outages

Status Update: In the planning phase for developing customer research and education activities. Focus groups were originally scheduled to be in-person, but due to COVID-19 they will now be conducted virtually.

* This modification will be included in SCE's Off Ramp report to be filed in June 2020.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

System Hardening Activities

Covered Conductor

17%
Circuit Miles Installed

Covered Conductor (SH-1)

Program Target: Install 700 circuit miles of covered conductor in HFRA. While 700 circuit miles is SCE's program target, SCE will strive to complete 1,000 circuit miles subject to resource constraints and other execution risks

Status Update: ~120 of 700 circuit miles installed. Starting to experience outage cancellations and delays based on work restriction imposed by local jurisdictions due to COVID 19.

Undergrounding Overhead Conductor

Undergrounding Overhead Conductor (SH-2)

Program Target: Refine evaluation methodology for targeted undergrounding as a wildfire mitigation activity

Status Update: Review of existing methodology continues. Refinements to methodology and scope development are planned to take place by Q3 this year.

Fire Resistant Poles

9%
Poles Installed

Fire Resistant Poles (SH-3)

Program Target: Replace 5,200 poles with fire resistant poles in HFRA. SCE will strive to replace 11,700 poles with fire resistant poles in HFRA subject to pole loading assessment results, resource constraints and other execution risks

Status Update: ~490 of 5,200 poles installed. Starting to experience outage cancellations and delays based on work restriction imposed by local jurisdictions due to COVID 19.

Branch Line Protection Strategy

12%
Fuses Installed

Branch Line Protection Strategy (SH-4)

Program Target: Install/replace fuses at 3,025 locations

Status Update: ~370 of 3,025 fuses installed.

Install RAR/RCS

20%
RARs/RCSs Installed

Installation of System Automation Equipment – RAR/RCS (SH-5)

Program Target: Install 45 RARs/RCSs

Status Update: 9 of 45 RARs/RCSs installed and operationalized.

Circuit Breaker Relay Hardware for Fast Curve

Circuit Breaker Relay Hardware for Fast Curve (SH-6)

Program Target: Replace/upgrade 55 relay units in HFRA. SCE will strive to replace up to 110 relay units in HFRA. These targets are subject to resource constraints and other execution risks.

Status Update: Installations are planned to begin in August. No known delays in material supply, construction dates have been set and engineering has started.

PSPS-Driven Grid Hardening Work

PSPS-Driven Grid Hardening Work (SH-7)

Program Target: Review 50% of all distribution circuits within HFRA to determine if modifications may improve sectionalizing capability within HFRA

Status Update: Prioritization methodology of distribution circuits has been developed and circuit plan development will commence in Q2.

Transmission Open Phase Detection

Transmission Open Phase Detection (SH-8)

Program Target: Continue deployment of transmission open phase detection on six additional transmission/subtransmission circuits

Status Update: Pilot locations have been identified and stakeholders have agreed upon target dates. Settings logic and prints have been completed for all pilot locations.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

System Hardening Activities

Transmission Overhead Standards

Transmission Overhead Standards (TOH) Review (SH-9)

Program Target: Review transmission standards to determine if there are any changes that can be made to help reduce wildfire threats, especially during extreme wind events

Status Update: Started review of historical transmission faults/ignitions with regards to existing standards and is on track to complete this review of existing standards in Q2.

Tree Attachment Remediation

Tree Attachment Remediation (SH-10)

Program Target: Remediate 325 tree attachments. SCE will strive to complete 481 tree attachment remediations subject to resource constraints and other execution risks

Status Update: Tree attachment remediations are planned to start in June. The rate of remediations is planned to peak in October.

Legacy Facilities

Legacy Facilities (SH-11)

Program Target: Evaluate risk, scope, and alternatives for identified circuits; evaluation of additional system hardening mitigation for wildlife fault protection and grounding/lightning arresters

Status Update: SCE identified avian protection standards and is working towards a plan for more robust wildlife protection measures for legacy facilities.

Remediations – Distribution

Remediations - Distribution (SH-12.1)

Program Target: Remediate 100% of notifications with ignition risk in accordance with CPUC requirements, non-inclusive of notifications which meet the criteria of a valid exception

Status Update: Based on current production rate SCE is on target to meet year-end goal.

Remediations – Transmission

Remediations - Transmission (SH-12.2)

Program Target: Remediate 100% of notifications with ignition risk in accordance with CPUC requirements, non-inclusive of notifications which meet the criteria of a valid exception

Status Update: SCE is slightly behind the year-to-date plan due to focus on closing out 2019 notifications but based on current production rate SCE is likely to meet year-end goal.

Remediations – Generation

Remediations - Generation (SH-12.3)

Program Target: Remediate 100% of notifications with ignition risk in accordance with CPUC requirements, non-inclusive of notifications which meet the criteria of a valid exception

Status Update: Forecasted to start remediation work in June with the earliest notification not officially due until September.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Alternative Technologies Activities

MADEC

Alternative Technology Pilots - Meter Alarming for Downed Energized Conductor (MADEC) (AT-1)

Program Target: Evaluating algorithm improvements specific to the detection of downed energized covered conductor, which may behave differently than bare conductor

Status Update: SCE is collecting and analyzing field data to build an event database to update the MADEC algorithm effectively.

Distribution Fault Anticipation

Distribution Fault Anticipation (DFA) (AT-2.1)

Program Target: Evaluate technology performance on fault anticipation technology and future deployment

Status Update: SCE will be monitoring the performance of its DFA units installed in the field from now until the end of 2020.

Advanced UAS Study

Advanced Unmanned Aerial Systems Study (AT-2.2)

Program Target: Conduct additional Extended Visual Line of Sight (EVLOS) demonstration UAS flights using lessons learned from 2019 study and validate aerial patrol findings via truck, foot, or helicopter

Status Update: SCE is in the process of short-listing new vendors with more advanced Beyond Visual Line of Sight (BVLOS) capabilities. COVID-19 will likely impact the ability to conduct Technical and Safety Qualification due to distancing restrictions.

Ground Fault Neutralizer

Alternative Technology Evaluations: Rapid Earth Fault Current Limiter – Ground Fault Neutralizer (GFN) (AT-3.1)

Program Target: Initiate engineering design and order equipment for a GFN field installation

Status Update: Pilot location established and equipment specification completed. Preliminary job walks and protection requirements completed. Equipment and design contracts issued.

Resonant Grounding

Alternative Technology Evaluations: Rapid Earth Fault Current Limiter – Resonant Grounding with Arc Suppression Coil (AT-3.2)

Program Target: Initiate engineering design to convert a typical substation to resonant grounding

Status Update: Pilot location established and equipment specification completed. Preliminary job walk completed. Working on issuing equipment and design contracts. Delay in Arc Suppression Coil material receipt expected due to COVID-19 but will not impact overall ability to achieve Program Target.

Isolation Transformer

Alternative Technology Evaluations: Rapid Earth Fault Current Limiter – Isolation Transformer (AT-3.3)

Program Target: Install one Rapid Earth Fault Current Limiter - Isolation Transformer

Status Update: Finalized location for pilot project. Design approval and construction pre-requisites are in progress. Potential delay anticipated for Q2 installation due to COVID-19 impacts but still on track to meet year-end Program Target.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Alternative Technologies Activities

Distribution Open Phase Detection

Alternative Technology Evaluations – Distribution Open Phase Detection (AT-3.4)

Program Target: Complete pilot installation for five circuit locations

Status Update: System criteria requirements have been completed. SCE is working through the cybersecurity evaluation, material procurement and the development of pilot standards.

Partial Discharge Assessment

Assessment of Partial Discharge for Transmission Facilities (AT-6)

Program Target: Evaluate use of a Partial Discharge assessment technology to assess the health of in-service transmission assets

Status Update: SCE is identifying vendors and evaluating current partial discharge assessment technology.

Vibration Dampers

Alternative Technology Implementation – Vibration Dampers (AT-4)

Program Target: Evaluate damper technologies for both small and large diameter covered conductor applications and develop standards for small and large diameter covered conductors

Status Update: Completed testing for small diameter covered conductor vibration dampers and currently working on large diameter testing.

Early Fault Detection Evaluation

Early Fault Detection (EFD) Evaluation (AT-7)

Program Target: Develop installation standards, install, and commission at least 10 EFD sensors. Gather data to determine requirements to support the potential for larger system deployments. SCE will strive to complete an additional 90 sensors for evaluation subject to resource constraints and other execution risks

Status Update: Pilot locations have been identified and a mock installation was completed. Work orders for first set of installs were completed and materials have been staged.

Asset Defect Detection Using

Asset Defect Detection Using Machine Learning Object Detection (AT-5)

Program Target: Begin standardization of data collection for Machine Learning (ML) by cataloging and tagging inspection imagery metadata for ML. Investigate SCE use cases and evaluate feasibility of ML to support objective evaluation of assets

Status Update: Data collection platforms and data tagging tools have been identified. Several thousand images focusing on crossarms and defects have been labeled in a limited experiment.

High Impedance Relay Evaluations

High Impedance Relay Evaluations (AT-8)

Program Target: Investigate and deploy two controllers/relays with a High Impedance (Hi-Z) element in HFRA

Status Update: SCE is developing and reviewing relay settings. Potential pilot locations are also being reviewed.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Inspections Activities

Distribution HFRII in HFRA

45%
structures inspected

Distribution High Fire Risk Informed Inspections (HFRII) in HFRA (IN-1.1)
Program Target: Inspect 105,000 structures in HFRA

Status Update: ~46,900 of 105,000 structures inspected in HFRA.

Distribution Infrared Inspections

Infrared Inspection of Energized Overhead Distribution Facilities and Equipment (IN-3)
Program Target: Inspect 50% of distribution circuits in HFRA

Status Update: ~2,440 circuits miles inspected in HFRA.

Transmission HFRII in HFRA

27%
structures inspected

Transmission High Fire Risk Informed Inspections (HFRII) in HFRA (IN-1.2)
Program Target: Inspect 22,500 structures in HFRA

Status Update: ~6,050 of 22,500 structures inspected in HFRA.

Transmission Infrared Inspections

Infrared Inspection, Corona Scanning, and High Definition Imagery of Energized Overhead Transmission facilities and Equipment (IN-4)
Program Target: Inspect 1,000 transmission circuit miles in HFRA

Status Update: Completed analysis of 2018 and 2019 to help inform the 2020 plan. Currently, holding resource planning discussions planning to start flights in June.

Quality Oversight / Quality Control

13%
structures inspected

Quality Oversight / Quality Control (IN-2)
Program Target: Perform quality control and oversight of inspections of 15,000 transmission, distribution, and generation structures in HFRA

Status Update: Performed quality control on ~1,880 of 15,000 structures in HFRA.

Generation HFRII in HFRA

Generation High Fire Risk Informed Inspections in HFRA (IN-5)
Program Target: Perform inspection of 200 generation-related assets

Status Update: Generation inspections began in April.

WMP Activities Summary

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Inspections Activities

Aerial Inspections – Distribution

Aerial Inspections - Distribution (IN-6.1)

Program Target: Inspect 165,000 structures in HFRA

Status Update: 2020 aerial inspections are planned to begin in Q2 while currently finishing 2019 EOI aerial inspection scope. Refined 2020 approach to incorporate 2019 EOI lessons learned and corresponding training took longer than expected. COVID-19 safety concerns has reduced the number of inspectors analyzing aerial photographs and reduced the number of image capture crews in the field. Increasing the number of inspectors back to steady state through use of remote inspectors and increasing number of image capture crews from local vendors.

Aerial Inspections – Transmission

Aerial Inspections - Transmission (IN-6.2)

Program Target: Inspect 33,500 structures in HFRA

Status Update: 2020 aerial inspections are planned to begin in Q2 while currently finishing 2019 EOI aerial inspection scope. Refined 2020 approach to incorporate 2019 EOI lessons learned and corresponding training took longer than expected. COVID-19 safety concerns has reduced the number of inspectors analyzing aerial photographs and reduced the number of image capture crews in the field. Increasing the number of inspectors back to steady state through use of remote inspectors and increasing number of image capture crews from local vendors.

Failure Modes and Effects Analysis

Failure Modes and Effects Analysis (IN-7)

Program Update: Complete FMEA study for substation assets in HFRA and prepare final report

Status Update: Working group assembled and project kickoff meetings held. The working group will begin developing FMEA risk identification in Q2 and is planning to complete the FMEA risk assessment in Q3.

Appendix

Behind Plan Activities Details

WMP Activities Details (1/4)

Behind Plan Activities

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Status	Current Goal	Narrative
	PSPS-4: Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program Outreach to eligible customers (low income, critical care, Tier 2/3) to provide portable battery back-up solution. **SCE has identified approximately 2,500 customers that it will target for the program in 2020 with efforts to begin second quarter**	**Summary:** The IQCC Customer Battery Backup Incentive Program is behind plan due to COVID-19 social distancing restriction impacting the ability of contractors to conduct customer site visits to determine optimal battery sizing/education and causing lengthier delivery lead time from potential suppliers. **Progress:** • RFP process has been switched to an RFQ to speed up the battery procurement process. • Existing vendors from the Energy Savings Assistance Program are being contacted. **Risks or Challenges:** • Program launch date not yet determined due to uncertainty of when the batteries will be received. **Actions to Improve Performance / Get Well Plan:** • RFQ process is anticipated to be completed by June 1st.

WMP Activities Details (2/4)

Behind Plan Activities

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Status	Current Goal	Narrative
	IN-6: Aerial Inspections in Distribution and Transmission **IN-6.1: Inspect 165,000 structures in HFRA** **IN-6.2: Inspect 33,500 structures in HFRA**	**Summary**: 2020 aerial inspections are planned to begin in Q2 while currently finishing 2019 EOI aerial inspection scope. Refined 2020 approach to incorporate 2019 EOI lessons learned and corresponding training took longer than expected. COVID-19 safety concerns has reduced the number of inspectors analyzing aerial photographs and reduced the number of image capture crews in the field. Increasing the number of inspectors back to steady state through use of remote inspectors and increasing number of image capture crews from local vendors. **Progress**: • SCE readjusted the inspection form to streamline ~150 additional questions from the revised ground inspection form. • Completed pre-requisite planning meetings prior to flight launch to ensure robust inclusion of the 2019 lessons learned. • Statements of Work (SOWs) and 2020 scope packages were provided to Aerial drone vendors in order to receive finalized pricing. **Risks or Challenges**: • COVID-19 safety concerns resulted in the release of aerial inspectors on 3/16/2020 from on-site inspection room. Since then, 17 inspectors have been assigned laptops to continue work remotely (majority in Distribution). • 2020 inspection forms are in user testing prior to finalizing. Inspectors will be trained on new 2020 inspections form which may increase the time to process images. **Actions to Improve or Sustain Performance**: • Developed telework option to continue inspection process (included resolving challenges inspectors faced in accessing computer hardware and software to conduct inspections remotely). Contingencies are in development to ramp up additional resources post COVID-19 telework process.

WMP Activities Details (3/4)

Behind Plan Activities

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Status	Current Goal	Narrative
	SH-3: Fire Resistant Poles **495 of 5,200 (10%) complete**	**Summary:** COVID-19 Impacts have resulted in interim delay of work progress due to outages being cancelled or highly limited for field work in one of our primary high fire regions. **Progress:** • Currently, there are over 1,500 poles assigned to projects (about 29% of the WMP target). **Risks or Challenges:** • COVID-19 has led to cancellation or high limitation of outages in some regions. **Actions to Improve Performance / Get Well Plan:** • Determining how to best negotiate with local agencies under COVID-19 circumstances to accelerate work where possible.
	SH-12.2: Transmission Remediations* Remediate 100% of notifications with ignition risk in accordance with CPUC requirements, non-inclusive of notifications which meet the criteria of a valid exception **~1,510 complete**	**Summary:** Short of March plan but average monthly production has SCE meeting year end goal. **Progress**: • Large focus was put toward closing out remaining 2019 EOI notifications and data clean up efforts in preparation of 2020 work. **Risks or Challenges**: • Q1 2020 focus has been on the 2019 roll over notifications in January & February. • Technology and tool issues (e.g., connectivity, lost data, trouble synching) caused impact to performance • COVID-19 outage and permit challenges are having impact to planned work. **Actions to Improve or Sustain Performance:** • Technology and tool issues (e.g., connectivity, lost data, trouble synching) that have impacted productivity are being addressed. • Increased number of resources closing field completed work and added additional analytical support. • New scheduling SharePoint which replaces last year's remediation GIS dashboard was implemented. • New internal reports developed to increase visibility and accountability.

WMP Activities Details (4/4)

Behind Plan Activities

Inactive | Complete | Ahead of Plan | On Track | Behind Plan, Likely to Meet Year-end Goal | Behind Plan, At-Risk of Not Meeting Year-end Goal

Status	Current Goal	Narrative
	VM-2: Expanded Pole Brushing **~43,000 of 200,000 (22%) complete**	**Summary:** Exceeded March plan by 480, but behind YTD plan by 6,354 **Progress:** • In March 17,147 poles cleared. YTD 43,467 poles cleared. **Risks or Challenges:** • Weather continues to delay the progress of contractors • Onboarded contractors are struggling to add sufficient crews **Actions to Improve Performance / Get Well Plan:** • Exploring option to onboard a third contractor for North Coast • The prime contractor continues to work to add crews that will address the backlog
	VM-4: Drought Relief Initiative (DRI) Inspection and Mitigations **Perform annual DRI inspection scope and compete mitigations according to guidelines**	**Summary:** Drought Relief Initiative (DRI) assessments are underway. DRI removals are currently behind plan, with ~80% of active inventory being removed prior to 180 days. SCE's program requirements state 94% of active inventory should be removed within 180 days. **Progress:** • Successfully migrated all database to application. **Risks or Challenges:** • Snow condition continues to delay progress of both assessment and removal vendors. **Actions to Improve Performance / Get Well Plan:** • Planning for capacity to address inventory that will become available once snows melt. • Onboarding additional resource to support assessments. • Providing assessors with customer phone numbers to avoid physical contact. • Meeting weekly with vendors to provide oversight on meeting targets.