BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

Application of PACIFIC GAS AND ELECTRIC COMPANY for Authority Among Other Things, To Decrease its Rates And Charges for Electric and Gas Service, and Increase Rates and Charges for Pipe Expansion Service.	Application 94-12-005
Commission Order Instituting Investigation Into the Rates, Charges, Service And Practices of Pacific Gas and Electric Company.	Investigation 95-02-015
Order Instituting Rulemaking for Electric Distribution Facility Standard Setting.	Rulemaking 96-11-004

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) 2019 ANNUAL REPORT OF COMPLIANCE WITH GENERAL ORDER 166

PUBLIC VERSION

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Dated: **October 31, 2019**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

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SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E)
2019 ANNUAL REPORT OF COMPLIANCE WITH GENERAL ORDER 166

Southern California Edison Company (SCE) hereby submits its 2019 Annual Report of Compliance with General Order 166 ("G.O.166"), Standards for Operation, Reliability, and Safety during Emergencies and Disasters, and Section 364(b) of the Public Utilities Code, for the period July 1, 2018 – June 30, 2019.

Compliance Statement: Summarizing SCE's compliance with G.O. 166 for the twelve-month period ending June 30, 2019 (the "compliance period")
SCE Storm Plan: submitted in accordance with G.O. 166 Standards 1 and 11 (Redacted/Public version)
Appendix A-Recommended Organizational Structures
Appendix B-2019 Wildfire Mitigation Plan
Appendix C-GO166 Corporate Emergency Communications Plan
Appendix F-SCE Trained Emergency Personnel-Field and IMT
Appendix G-Mutual Assistance Agreements
Appendix H-SCE Full Scale Exercise After Action Report-10-25-2019

Respectfully submitted,

KRIS G.VYAS

/s/ Kris G. Vyas

By: Kris G. Vyas

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October 31, 2019

2019 Annual Report for Southern California Edison Company (U338-E) of Compliance with General Order 166

Compliance Statement
Public Version

October 31, 2019

ANNUAL COMPLIANCE REPORT OF
SOUTHERN CALIFORNIA EDISON (U338-E)
FOR THE PERIOD JULY 1, 2018 - JUNE 30, 2019
(GENERAL ORDER NO. 166)

This report is submitted by Southern California Edison Company ("SCE") in compliance with General Order No. 166 ("G.O.166"), Standards for Operation, Reliability, and Safety during Emergencies and Disasters, and Section 364(b) of the Public Utilities Code. This compliance report comprises the following:

	Compliance Statement: Summarizing SCE's compliance with G.O. 166 for the twelve-month period ending June 30, 2019 (the "compliance period")
Vol. I Confidential	SCE Storm Plan: submitted in accordance with G.O. 166 Standards 1 and 11 (Unredacted/Confidential version) • Appendix D-SCE Mobile Command Center and EOC Phone Numbers • Appendix E-900 MHZ Talk Groups • Confidentiality Statement
Vol. 2 Public	SCE Storm Plan: submitted in accordance with G.O. 166 Standards 1 and 11 (Redacted/Public version) • Appendix A-Recommended Organizational Structures • Appendix B-2019 Wildfire Mitigation Plan • Appendix C-GO166 Corporate Emergency Communications Plan • Appendix F-SCE Trained Emergency Personnel-Field and IMT • Appendix G-Mutual Assistance Agreements • Appendix H-SCE Full Scale Exercise After Action Report-10-25-2019

G.O. 166 Compliance Statement:

STANDARD 1. Emergency Response Plan

As part of SCE's continued commitment to effective damage assessment, restoration, communication and situational awarenessfollowing Incident Command System (ICS) principles, we have trained approximately 3,196 personnel in ICS general and position scpedific classes in 2019. We also routinely train our field personnel on storm plans, processes and procedures to include damage assessment and restoration protocols.

Routine Updates

In compliance with the requirements of Standard 1 of General Order No. 166, all details of the 2019 Storm Plan have been validated and updated as necessary. The SCE Storm Plan has been extensively revised during both the 2017 and 2018 compliance periods. The material was aligned to the phases of response and actions were tied to execution checklists. Restoration priorities (strategic and tactical), restoration strategies, roles and responsibilities, storm classification, and mutual assistance portions of the planning did not change but were reviewed and updated with internal and external stakeholders.

STANDARD 2: Mutual Assistance Agreement(s)

SCE is a member of the Mutual Assistance Agreement among Members of the California Utilities Emergency Association. As such, we maintain contact with the Authorized Representatives of other utilities and periodically discuss issues surrounding the utilization of the agreement. SCE is also a member of the Western Regional Mutual Assistance Agreement and the Edison Electric Institute Mutual Assistance Agreement. Copies of all executable mutual assistanct agreements are included with the compliance submittal.

STANDARD 3: Emergency Training and Exercises

There were no major outages in 2019 that required the use of the 2019 Storm Plan. The 2019 Storm Plan was exercised in October 2019 as a function of training and exercising emergency responders and a copy of the after action report is included with this compliance update.

STANDARD 4: Communications Strategy

During the compliance period, SCE updated and enhanced its communications strategy in conformity with this standard. A copy of this communications strategy is attached in Vol II.

STANDARDS 5 – 8:

These standards prescribe specific actions to be taken by the utility during major outages. SCE experienced no major outages during the compliance period.

STANDARD 9: Personnel Redeployment Planning

During the compliance period, SCE conducted training for selected employees on the performance safety standby and damage assessment activities during emergencies and major outages. SCE's Call Center Plan provides that all emergency and outage related calls receive priority queuing to trained representatives.

STANDARD 10: Annual Pre-Event Coordination

During the compliance period, SCE complied with this standard through participative planning, exchange of contact information, and participation in emergency exercises with external agencies, including Cal OES.

STANDARD 11: Annual Report

This compliance statement complies with the first paragraph of this standard. In addition, a report of the number of repair and maintenance personnel for 2018/19 has been included in the updated 2019 Storm Plan in compliance with the second paragraph of this standard.

STANDARDS 12 – 13:

These standards prescribe specific actions to be taken by the utility during a measured event. SCE did not experience a measured event during the compliance period.

Southern California Edison
2019 Storm Response Plan

Prepared by:
Business Resiliency

Plan Technical Specialist:
Business Resiliency Duty Manager (BRDM)

Table of Contents

PURPOSE

The ***Southern California Edison (SCE) Storm Response Plan*** outlines a threat-specific strategy for mitigating, planning for, responding to and recovering from disruptions to the electrical system that cause an outage incident. Based on scenarios most likely to occur, it is intended to guide how SCE will monitor conditions in anticipation of a potential incident and coordinate critical preparedness, response, and restoration activities before, during and after an actual outage incident in the service territory. This plan outlines the roles and responsibilities for Incident Management Teams (IMT) during response operations. It is designed to help ensure safe and efficient restoration for any type of outage through consistent use of the Incident Command System, identification of applicable prioritization and restoration strategies, and the development of a common operating picture for communicating situational awareness to internal and external stakeholders. This plan does not supersede or replace existing procedures for safety, hazardous materials response, or other similar procedures adopted and in place. Including and not limited to specific response plans prepared to address individual circumstances or to comply with regulatory requirements.

SCE's storm response and associated emergency response and recovery plans are governed by the following:

- California Public Utilities Commission's General Order Number 166: Standards for Operation, Reliability, and Safety during Emergencies and Disasters (Revised January 12, 2012)
- General Order Number 95 and General Order Number 128
- California Independent System Operator (ISO) Standards for Reliability and Safety during Emergencies and Disasters (December 1997)
- Edison System Operating Bulletin No.21: Capacity Shortage Contingency Plan (Revised June 13, 2012)
- SB 901 Wildfire Mitigation Plan (formerly Fire Prevention Plan)

PLAN ACRONYMS

AREP-Agency Representatives

CMC-Crisis Management Council

ICS-Incident Command System

ICT-Incident Communications Team

IMT-Incident Management Team

IST-Incident Support Team

LNO-Liaison Officer

SCE-Southern California Edison

TSP-Technical Specialist

DRIVERS AND ASSUMPTIONS

SCE is actively engaged in managing potential reliability and safety impacts from a storm incident that may cause disruption to the electrical system by prioritizing damage assessment, restoring critical infrastructure and communicating with internal and external stakeholders to increase situational awareness.

Specific drivers and assumptions for these events include, but are not limited to the following:

- Storm Incidents may be “notice” or “no-notice” incidents. For “notice incidents,” response operations may be deployed prior to the incident occurring. For “no-notice” incidents, response operations may require immediate activation of an Incident Management Team to prioritize and manage response operations
- Damage assessment operations will be performed when safe to do so
- Restoration activities may need to be prioritized based on response operations
- Organizational units may be required to modify their daily operations to assist with Storm incident management
- Business Continuity and/or Disaster Recovery Teams may be activated for Storm incident response operations
- Additional assistance from emergency responders and other utilities in the form of mutual assistance may be needed to coordinate response activity where necessary
- Local EOC’s may be activated to coordinate city, county and state government response to an SCE Storm incident
- SCE personnel may be deployed to communicate and coordinate activities with city, county and state EOC’s where necessary

SCENARIOS AND POTENTIAL IMPACTS

The SCE Storm Plan uses four incident intensity levels: Mild, Moderate, Severe and Catastrophic. These intensity levels are established for the SCE service territory as a whole; as well as for individual districts. The overall incident intensity level is based on an aggregation of the district level information that has been augmented with consideration for widespread incidents such as transmission or substation interruptions.

SCE will base all prevention, mitigation, preparedness, response and recovery operations related to storm incidents on the following scenarios and potential impacts based on intensity:

LEVEL	INCIDENT (STORM) INTENSITY
Level 1 MILD	Incidents or planned events with no potential for severe harm but require management visibility. "Sunny Day or Blue Sky" situations.
Level 2 MODERATE	Incidents with little potential for severe harm, but can escalate rapidly if not managed properly.
Level 3 SEVERE	Incidents with the potential to result in severe harm to the company, but there is a higher level of familiarity or expectation.
Level 4 CATASTROPHIC	A rare and unanticipated emergency with the potential to do, or in the process inflicting irreparable and severe harm to the company. The most severe type of incident.

SCENARIOS
Scenario #1-Mild Storm A mild incident is typically localized to districts within a single region and resources at the district or local level are sufficient to manage response and recovery activities. Mild incidents are frequent, occurring several times in one season. Such incidents can be characterized by average to slightly higher than average number of storm-related sustained incidents resulting in: • Customer interruptions: Typically, less than 2.5% of total customers affected in a district or sector. Region or territory wide: the number of customers impacted is typically less than 1%. • Restoration: sufficient distribution, transmission, substation, and other design, construction, and maintenance resources can be deployed to provide assistance with extended shifts for personnel. • Resources available within the locally impacted area or adjacent areas to respond (or equivalent area of responsibility for other departments). • Majority of customers are typically expected to be restored in less than 24 hours. • Assets damaged are typically readily available. • Other significant events requiring an elevated response, as determined by management.

SCENARIOS
Scenario #2-Moderate Storm A moderate incident is typically spread over multiple districts or in a more intense isolated incident that requires additional resources to manage response and recovery activities. Moderate incidents are experienced only a few times in any one year. Such incidents can be characterized by a higher than normal number of storm-related sustained incidents resulting in: • Customer interruptions: Typically, between 2.5-10% of total customers impacted in a district or sector. Region or territory wide: less than 2-3%. • Restoration: sufficient distribution, transmission, substation, and other design, construction, and maintenance resources from the surrounding Regions can be deployed / reallocated to provide assistance with extended shifts for personnel. • Resources scheduled within the impacted areas or adjacent areas to respond (or equivalent area of responsibility for other departments). • Majority of customers are typically expected to be restored in less than 48 hours. • Assets damaged are typically available. • Isolated damage to transmission or substation facilities within a local region. • Other significant events requiring this elevation of response, as determined by management
Scenario #3-Severe Storm A severe incident is typically either an incident with escalating affecting across multiple regions or a severe intensity isolated incident. Such incidents are rarely experienced on a yearly basis, occurring on average once or twice every ten years and are characterized by an extremely high number of storm related incidents resulting in: • Customer interruptions: Typically, between 10-20% of total customers impacted. Region or territory wide: 5-10%. • Restoration: insufficient distribution, transmission, substation, and other design, construction, and maintenance resources. Assistance from non-adjacent areas may be required. • Resource requirements (>100% of area resources) that affect multiple zones and require coordinated effort to manage response and recovery activities. • Majority of customers are expected to be restored in less than 72 hours. • Assets damaged may exceed those available. • Extensive damage to transmission and/or distribution facilities. • Other significant events requiring this elevation of response, as determined by management.

SCENARIOS
Scenario #4-Catastrophic Storm A catastrophic emergency or incident may require additional assistance if the resources required to respond exceed the available SCE resources and restoration may be prolonged beyond 72 hours. Such incidents are extremely rare and may cause such significant damage to the system resulting in: • A company-wide need to focus on electrical restoration efforts. • Customer interruptions: Greater than 20% of total customers affected in district or sector. • Greater than 10% region or territory wide. • Restoration: insufficient distribution, transmission, substation, and other design, construction, and maintenance resources. Assistance from non-adjacent areas is required (>100% of SCE resources). • Restoration may be prolonged beyond 72 hours. • Assets damaged may exceed those available. • Extensive damage to transmission and/or distribution facilities. • Potential safety and/or health concerns. • Other significant events requiring this elevation of response, as determined by management.
POTENTIAL IMPACTS
SCE facilities as a potential contributor to creating a hazardous condition
Service outages that may pose a life safety risk to critical care customers or essential services
Impacts to SCE facilities and employees
Limited access to damaged infrastructure, facilities and employees
Damage to critical dependencies such as gas, water, oil and telecommunications
Possible hazardous materials release

Common storm scenarios may include the following:

- ***Fires*** - The California fire season typically begins during the summer and peaks in the fall, but fires are becoming a more frequent threat year-round. Most fire recovery efforts involve rebuilding distribution facilities after the fire has passed through affected areas. As fires often affect areas that are relatively inaccessible, outage lengths are usually much longer than other types of storms and catastrophic events. Fires also increase the risk of mudslides by creating burn scarred regions.

- ***Floods*** – While SCE does not typically encounter large scale flood activity, heavy rains may cause temporary and localized flooding. Some areas are prone to mud and rock slides that frequently damage facilities and block access to storm-damaged areas. Historically, rainstorms cause more damage to the distribution system than any other storm type.

- ***Heat*** - Heat storms occur from late spring to early fall and peak during the summer months up until early fall when air conditioner usage increases load. Heat storms frequently cause abnormally high loads and imbalances on distribution circuits. Most heat storm recovery efforts involve identifying and replacing overloaded and failed distribution transformers.

- ***Lightning*** - Lightning storms have the potential to cause extensive damage to transmission and distribution systems. When lightning strikes a circuit it can produce conductor, insulator, and equipment damage including damage to transformers. High lightning areas are primarily located in the deserts, mountains, and Central Valley regions of the service territory. Summer lightning strikes are normally associated with the northwesterly impulses of monsoonal moisture originating in Northern Mexico, coupled with an uplift caused by the mountains and desert heat. This type of lightning typically occurs in the desert and mountain regions at the same time urban districts are experiencing heat storm activity. Winter lightning strikes are normally associated with Pacific rainstorms and can be widespread across the service territory.

- ***Rain*** - Most California rainstorms occur from November to April. These winter rains are the result of cold fronts from the Pacific. Most cold fronts pass through within a day, but often a series of storms move across the service territory causing storm damage for several days, occasionally lasting a week or more. Most rain related damage to the utility's infrastructure is caused by lightning strikes, broken tree limbs, toppled trees, fallen poles due to ground saturation, high winds, snow, and ice on trees and conductors. Heavy rain, particularly in burn scarred regions from recent fires, increase the risk of mudslides.

- ***Snow/Sleet*** - Snow and sleet typically affect only the mountain regions during the winter months. Ice and snow loading on tree limbs can damage equipment when tree limbs break and fall on wires or poles.

- ***Wind*** - Windstorms typically occur from fall to spring. Although strong wind is often associated with winter rain and lightning storms. Typically, damage is sustained when tree limbs break and fall on distribution lines and poles.

OBJECTIVES

The following objectives for Storm incident management within the SCE service territory have been identified:

- Maintain the safety of customers, employees, contractors, first responders and the general public
- Maintain effective communications with internal and external stakeholders (employees, customers, general public, first responder and emergency management agencies, and public officials) on potential impacts of the storm incident
- Perform safe and timely damage assessment of impacts to electrical infrastructure
- Prioritize restoration activities of electrical infrastructure
- Conduct safe and efficient restoration of critical electric infrastructure
- Monitor conditions within the service territory and the need for potential mitigation activities
- Make attempts to notify customers of potential outages and provide on-going outage updates
- Communicate effectively with internal and external stakeholders (employees, customers, general public, public officials)
- Comply with all identified regulatory requirements
- Consider impacts to the environment

SPECIAL CONSIDERATIONS FOR STORM INCIDENTS

ALIGNMENT WITH EXISTING EMERGENCY MANAGEMENT FRAMEWORKS

Storm events can pose coordination and communication challenges for our local Public Safety Partners. Therefore, SCE will actively support and engage stakeholders through existing State and Federal emergency frameworks for collaborative planning and response. This engagement is intended to prevent duplicative effort, increase situational awareness, standardize response operations and integrate existing outreach and collaboration whenever possible.

SCE standardizes planning and response frameworks with Public Safety Partners for Storm events through alignment with the California Governor's Office of Emergency Services, Standardized Emergency Management System (SEMS) guidelines. These alignments include engaging stakeholders for collaborative planning before potential Storm events, creating a process to request agency representation during Storm events, and implementing an Incident Management Team (IMT) structure to manage Storm events.

SCE's Business Resiliency organizational unit is responsible for the creation, implementation, maintenance, training, and testing of SCE's emergency plans. Its staff also works to create relationships with state and local governments, Public Safety Partners, and other community stakeholders before events occur to increase communication and collaboration during PSPS events. SCE maintains a direct line of communication with impacted communities, the Safety and Enforcement Division of the Commission, CalOES, the California State Warning Center, and the California Utilities Emergency Association as applicable during PSPS events.

SCE utilizes specialized Fire Management staff to monitor, respond to, and report on all fires affecting or having the potential to affect SCE infrastructure. These personnel represent SCE by serving as a Cooperator[1] in the field fire incident management structure. Fire Management staff assist in coordinating SCE's response to fires by providing information to manage the bulk electric system, repairing damage, restoring the electric system, and providing safe access to begin restoration work. These personnel maintain close working relationships with fire and emergency management agencies throughout the service territory and serve as consultants and subject matter experts on fire risk management.

During times of response, SCE staff may also act as an Agency Representative (AREP), operating as a liaison between SCE's Incident Management teams and the affected communities. AREPs work to identify outages, real and potential issues associated with those outages, and information requests regarding restoration. This relationship allows for increased situational awareness to make informed decisions regarding evacuations, necessary fire-fighting operations and critical restoration times for essential and critical use facilities. SCE also makes every effort to provide space in its Emergency Operations Center for representatives from CalOES, Public Safety Partners, and water and communications infrastructure providers when requested.

[1] A federal, tribal, state, or local agency that participates with another agency(s) in planning and conducting fire or emergency management projects and activities as defined by the National Wildland Coordination Group (NWCG)

SCE also aligns Incident Command System response with Federal structures to include use of Federal Incident Management team structures during Storm events. This is a fundamental form of management, with the purpose of enabling incident managers to identify the key concerns associated with the incident, often under urgent conditions, without sacrificing attention to any component of the command system. This alignment allows SCE to respond to both single and multiple incidents simultaneously if need be, while still effectively scaling operations and maintaining appropriate response levels.

CAISO Coordination

The CAISO has the responsibility to dispatch available generation assets to meet the electric load requirements of its statewide control area. SCE's internal plans, protocols and procedures work in conjunction with the CAISO's Operating Procedures to achieve a balance between available system resources and system loads when a statewide or regional Operating Reserve deficiency is imminent or exists. SCE will coordinate directly with the CAISO through the Grid Control Center as necessary to manage any Storm incidents.

Electrical System Monitoring

Grid Operations is responsible for monitoring and operating SCE's electrical grid in a safe and reliable manner in conjunction with appropriate regulatory agencies. Operating 24 hours per day, 365 days per year, Grid Ops responds first to emergent incidents and monitors situations that might require a significant emergency response. Grid Ops makes the appropriate notifications through the Grid Control Center's notification process as well as notifying the appropriate emergency response personnel whenever a possible or current situation might require a significant response.

DAMAGE ASSESSMENT AND RESTORATION PRIORITIZATION

SCE may have more than one Storm incident concurrently and may employ different damage assessment and restoration strategies based on the size, scope, and intensity of each incident. In smaller, more isolated incidents, SCE typically employs the standard order-based strategy that it uses under routine outage circumstances. As described below, this strategy is not effective in larger incidents where there is an overwhelming volume of orders. When incidents are larger, SCE moves to an area-based strategy where repair priorities are assigned by areas and circuits. This is a tactical decision made during the planning process for a given operational period and documented in the IAP. The two strategy types, order- and area-based can be used together within an event as needed

Order-Based Strategy

Order based restoration is most frequently applied during less complex incidents where the number of trouble orders is within the capacity of the available workforce to efficiently process and complete. Order based strategies may also be useful during less complex, distributed incidents where there is not a significant amount of physical damage experienced by the system (e.g., a heat storm). It is also useful before and concurrently with the initial damage assessment before the extent of the damage has been discerned.

The order-based restoration strategy is used when there are a relatively small number of trouble orders. Under this strategy, day-to-day restoration processes predict, locate, and repair faulty equipment or line sections. The Outage Management System (OMS) is used for prioritization of trouble orders based on number of outages and availability of responders.
Order based restoration is very effective when the instances of damage are not substantial and when the number of trouble orders allows efficient work package development and prioritization. The effectiveness of this type of restoration strategy may be diluted when the physical damage is substantial because the time necessary to restore a specific trouble order is not easily incorporated into the analysis, which prioritizes and assigns work. Consequently, during significant incidents where there is widespread damage resulting in numerous trouble orders with physical damage, an area-based restoration strategy may be more appropriate to optimize the restoration effort.

Area-Based Strategy

Area-based restoration strategy is used when the number of orders exceeds the ability to assign work on an individual order basis. Work is assigned to crews by areas or circuits and prioritized at the area or circuit level rather than evaluating individual orders. Areas and circuits are prioritized based on considerations such as customer density and critical restoration issues. Crews are typically expected to complete all the work in their assigned area before moving on to the next. The area-based restoration strategy focuses on de-centralizing the management of significant restoration work to improve productivity while simultaneously addressing high priority issues.

This type of restoration strategy capitalizes on directing multiple resource types, including: damage assessors, first responders, company line crews, contract line crews, and mutual assistance resources under one authority; thereby, optimizing their efforts.

Restoration Prioritization

Due to the wide range and nature of incidents, SCE has identified guidelines to restore both the most critical and the largest numbers of customers as quickly as possible while prioritizing public health and safety. With safety of the public and employees as our priority, restoration effort needs to be done in the most efficient manner possible while also maintaining critical infrastructure and reputational considerations. Restoration priority strategy will be based on the following:

- If there is a total or partial system shutdown and subsequent restoration, SCE's priority is to deliver off-site power for bulk power generation start-up. During the process of routing power some customer load may be restored while energizing bulk power transformers for the coordination of protective relaying equipment, for voltage control, and while picking up station light and power
- Startup power for bulk power generation
- Switching Centers station light and power (if not carried by the emergency generator)
- Offsite power to Diablo and Palo Verde Nuclear Generating Stations if required
- Bulk Power Substations station light and power (if not carried by the emergency generator)
- Customer load

If the total system is not shut down:

- Protect public safety and ensure that utilities and public agencies have electricity
- Repair any facilities that have sustained damage
- Repair transmission lines (66 to 500 kV)
- Ensure substations and circuits are energized
- Repair distribution lines (4 to 66 kV) to restore/maintain service to large numbers of customers
- Repair tap lines to restore service to smaller numbers of customers
- Repair individual customer problems

Some examples of the Restoration Strategy & Priority Order (high to low) are:

- Clear electrical hazard with imminent danger as reported by a public agency
- Clear electrical hazard with imminent danger as reported by the public
- Circuit interruptions
- Unclear electrical hazard with unclear imminent danger as reported by a public agency
- Unclear electrical hazard with unclear imminent danger as reported by the public
- Area Outs
- Single No Lights
- Single Part Lights

High Priority Customers
In order to identify customers that provide essential public service as well as critical infrastructure customers who have been pre-identified to be imperative to broader public safety, SCE has developed a method which prioritizes outages in the system based on the combination of several factors:

- Pre-identified criticality (hospitals, critical care facilities, police, fire, utilities, food, community support, etc.)
- Length of time without service addresses the outages by criticality further to be addressed as soon as the system has been repaired to support them
- Number of customers affected

First Responders
A high volume of high priority issues typically occurs at the beginning of a significant incident and often continues throughout the incident. SCE responds to these issues in the order of pre- determined priorities. Personnel are on property throughout SCE territory and on duty 24 hours a day, 365 days a year to respond to these issues. There are qualified personnel throughout SCE who may be called in for additional support. An appropriate number of resources should be reserved to address these critical responses throughout the restoration.

Split Jurisdictions
Substation System Operators manage multiple systems within geographic jurisdictions. In an emergency, it may become necessary for an operator to maintain the entire system while concentrating on a particular sub-system. In this case, the operator may assign a portion of the system to another operator. This frees up the operator to concentrate on the area of elevated activity as well as providing reasonable service to the customers not affected by the incident.

Situational Awareness and Hazard Monitoring

SCE uses in-house meteorologist staff, data analytics and geospatial tools to create tailored weather service products using field-based weather station information and modeling to inform operational decision-making. When severe weather is forecasted, SCE conducts an evaluation of the storm severity using historical response and management judgment to determine the potential intensity and appropriate response. Based on the risk (likelihood and potential extent of damage), controlling authorities shall take all necessary preparatory actions as summarized in this Storm Response Plan in accordance with the predicted incident.

System Operating Bulletins

The National Weather Service may declare “Red Flag Warning” conditions when extreme fire weather conditions are forecast within the next 12-hour period. These conditions are defined as wind speed greater than 25 miles per hour and relative humidity less than 15 percent. During Red Flag Warning periods, system operating restrictions may be implemented.

The CONFIDENTIAL bulletins are maintained in hard copy by the switching centers, Grid Control Center (GCC), and Alternate Grid Control Center (AGCC) for backup purposes. The district may be asked to supply fire observers. These individuals should be assigned and outfitted with proper equipment before they report to the fire scene.

For non-weather incidents, BR is responsible for collecting necessary intelligence information from Corporate Security, state or federal agencies or other sources as they arise. In order to efficiently share critical situational data, SCE employees have access to an information dashboard that displays weather information as well as outage data, statistics, maps, and damage assessment information.

Vegetation Management

In many emergencies, vegetation management is a critical factor for public safety, access, and restoration. Vegetation issues can be a deciding factor in the duration of the restoration during a Storm incident. Given this, vegetation issues often must be addressed early in the restoration to facilitate the repairs. It is common in an emergency incident to require more vegetation resources than are normally employed on a day-to-day basis. Thus, it is imperative that SCE acquire the adequate vegetation resources and have them on property working as soon as possible. In support of this, SCE has emergency vegetation contracts pre-arranged with both existing vegetation contractors and emergency only, non-standard contractors.

Mutual Assistance Agreements

Timely and safe restoration of electrical infrastructure is necessary to maintain reliability of the electrical system that SCE provides. Storm incidents can quickly exhaust available staff resources delaying the ability to restore power. To prepare for this, SCE has taken steps to augment its's existing workforce during storm events by participating in Mutual Assistance Agreements with other utility providers. SCE uses these agreements during large Storm incidents to restore electricity quickly and safely.[2]

Training, Testing and Maintenance of the Plan

Annual updates to the Storm plan are socialized through SCE's established Training and Exercise program. The Storm plan is tested through an annual exercise series created to identify gaps in planning to allow for continuous improvement. SCE also complies with all California Public Utilities Commission (CPUC) requirements through annual updates and submittal of the Storm Plan as required.

[2] Mutual Assistance Agreements SCE participates in can be found in Appendix G

STORM PROTOCOL CONCEPT OF OPERATIONS

SCE will utilize the following phased approach as the foundation for Storm incident management:

Pre-Incident			Response			Recovery
1A	1B	1C	2A	2B	2C	3A
Normal Operation	Increased Likelihood	Credible Threat	Activation	Initial Response	Sustained Response	Long-Term Recovery

Phase 1A: Normal Operations
Outlines the mitigation and preparedness programs regularly practiced throughout the organization. Phase 1A is ongoing and informed by risk assessment and identified mitigation needs.

Phase 1B: Increased Likelihood
Outlines the indicators and actions taken leading up to a potential event, with a focus on gathering initial situational awareness, and ends once the threat has been alleviated or the threat is deemed credible.

Phase 1C: Credible Threat
Outlines the indicator actions taken immediately before an event, with a focus on activating personnel and gathering initial situational awareness and ends once an Incident Management Team (IMT) has been activated or the threat has been alleviated.

Phase 2A: Activation
Outlines the actions taken during the beginning an event, with a focus on activating personnel and gathering initial situational awareness and ends once Incident Command establishes operational control over the incident.

Phase 2B: Initial Response
Details the actions of the IMT in the early response operation, focusing on situational awareness and establishing a regular response cycle allowing all teams to coordinate effectively.

Phase 2C: Sustained Response
Outlines the continuing activities of the IMT once operational control, a regular operational cycle and situational awareness have been established.

Phase 3A: Recovery
Outlines the activities of key personnel following the end of an event. This includes analysis of an affected area to determine the potential for hazards, identifying indicators to inform mitigation and preemptive measures, and developing a schedule for continued monitoring for post-incident hazards.

PHASE 1C: CREDIBLE THREAT

Pre-Incident			Response			Recovery
1A	1B	1C	2A	2B	2C	3
Normal Operations	Increased Likelihood	Credible Threat	Activation	Initial Response	Sustained Response	Long-term Recovery

Indicators:
• Storm event that has the potential to result in a disruption of SCE electrical services more than 24 hours in the future (notice event)
Critical Information Requirements:
• Situational Awareness Center Data • Identification of possible at-risk circuits based on predicted scenario • Storm Damage Modeling
End-State Conditions for Phase 1B: Increased Likelihood:
• The Business Resiliency Duty Manager (BRDM) with input from subject matter experts determine a credible threat to SCE electrical systems exists and that a team must be activated in preparation for the potential storm incident ***(move to Phase 2A: Activation)*** **~~OR~~** • The BRDM, with input from subject matter experts decides that no credible threat to SCE electrical systems exists and no further actions are necessary ***(move back to appropriate Phase and continue to assess)***

Phase 1C: Credible Threat	
Role	Responsibility
Situational Awareness Center	☐ Provide daily weather forecasts to the Watch Office at the request of the Storm Chief or the Business Resiliency Duty Manager (BRDM)
SCE Watch Office	☐ Notify the BRDM and Storm Chief of the incident ☐ Initiate Coordination Conference Call ○ Coordination conference call details: ▪ Conference #: (877) 920-8203 ▪ Passcode: 65021209 ▪ Attendees: • Business Resiliency Duty Manager (BRDM) • Business Resiliency Coach • Situational Awareness Center • On-Duty IST IC Lead • On-Duty ES IMT IC Lead • Grid Operations Director • Grid Operations Storm Manager • On-Duty Grid Operations Branch Director • Grid Operations Principal Manager, Substations • Grid Operations Principal Manager, Distribution • Fire Management • Business Customer Division • Consumer Affairs • Local Public Affairs • Corporate Communications • Call Center Operations • Claims ▪ Agenda: • Roll Call (Watch Office) • Situational Awareness Center Briefing • Status of the bulk power system • Status of any active fires • Districts/circuits affected • Substation battery requirements[3] • IST/IMT alert/activation considerations • Next call timeframe ☐ Activates IMT/IST members as directed by BRDM

[3] Substation Construction and Maintenance (SC&M) battery and maintenance electricians should be consulted in this phase to manage substation battery needs.

Phase 1C: Credible Threat	
Role	Responsibility
	☐ Includes status updates in the Daily Report ☐ Sends Critical Incident Report
Business Resiliency Duty Manager	☐ Notify the Officer in Charge (OIC) of the incident ☐ Coordinate with the CMC to prepare the Delegation of Authority letter ☐ Based on input from the Storm Chief, Situational Awareness Center, other subject matter experts, and the complexity analysis determine whether a team activation is warranted under the current and projected conditions ☐ If a team activation is warranted, coordinate with the Watch Office to either activate and deploy selected IST and IMT personnel, or place them on alert status ☐ Brief incoming response personnel until a transition of operational control occurs
Storm Chief	☐ Coordinate with organizations (including but not limited to GCC, DOCs, GOC, TCC, and ESOC) and receive initial and projected damage assessments for use by response personnel once they arrive on scene

Phase 2A: Activation

Pre-Incident			Response			Recovery
1A	1B	1C	2A	2B	2C	3
Normal Operations	Increased Likelihood	Credible Threat	Activation	Initial Response	Sustained Response	Long-term Recovery

Indicators:
• Storm event that has the potential to result in a disruption of SCE electrical services (notice/no-notice event)
Critical Information Requirements:
• Situational Awareness Center Data • Identification of possible at-risk circuits • Storm Damage Modeling • Status of any current fire(s) burning in or toward the service territory • Identification of available field resources • Status of the bulk power system and any constraints • Status of ISO warnings/alerts
End-State Conditions for Phase 2A: Activation
• ES IMT responds to the Emergency Operations • Incident Command personnel is activated, deployed, and responding under the Incident Command System • Initial safety concerns have been assessed and protective actions are being implemented as appropriate (***move to Phase 2B: Initial Response)*** **~~OR~~** • The BRDM with input from subject matter experts determines the storm incident no longer poses a significant threat to SCE electrical services and no IMT is activated (***return to Phase 1A: Normal Operations)***

Phase 2A: Activation Execution Checklist:	
Role	Responsibility
Situational Awareness Center	□ Provide daily weather forecast to the Watch Office at the request of the Storm Chief or BRDM
SCE Watch Office	□ Send Critical Incident Report (as needed) □ Distributes update on Watch Office Daily Report
Business Resiliency Duty Manager	□ Provide support to IMT and assist with coordinating response efforts □ Make contact with impacted jurisdictions (local, State, federal) □ Interfaces with the Crisis Management Council (CMC)
Incident Commander (IC)	□ Evaluate the needs of the incident and define the appropriate organizational structure for the incident □ Assess the need to activate supplemental emergency action and/or business continuity plans for different regions of the SCE service territory and critical applications
Public Information Officer (PIO)	□ Develop and distribute pre-event messaging (stay away from downed wires, etc.) to public □ Coordinate the production and distribution of employee notifications outlining safety information and providing guidance on the upcoming incident
Liaison Officer (LNO)	□ LNO establishes contact with EOCs □ Determine need to use SCE Alert process or other means to inform elected officials
Safety Officer (SOF)	□ Monitor potential health and safety risks at external locations where SCE personnel are operating □ Evaluate and report on potential hazards related to projected work
Operations Section Chief (OSC)	□ Determine resource needs and arrange to have crews on site for anticipated impacts □ Stay informed of GCC restoration strategy and support efforts through allocation and assignment of resources □ Review system abnormals for potential return to service □ Coordinate with the Air Operations Branch Director to allocate air operations resources to support aerial surveys and the transportation of mission critical personnel □ Coordinate with the Business Customer Division (BCD) to ensure systems are in place to implement macro-messaging as necessary following the upcoming event □ Coordinate with CCC Branch Director to ensure the use of the Interactive Voice Response (IVR) system at the Customer Contact Centers for disseminating critical information to customers

Phase 2A: Activation Execution Checklist:	
Role	Responsibility
Planning Section Chief (PSC)	☐ Work with Situational Awareness Center to obtain detailed weather forecasts and potential impacts to SCE systems due to fire, wind, rain, etc. ☐ Coordinate with the OSC to assess the availability of contract resources to meet staffing limitations for all affected OUs
Logistics Section Chief (LSC)	☐ Inventory assessments are conducted in the forecasted impact regions to ensure critical assets and equipment are available/ordered, and able to be in place prior to the event ☐ Identify operational resource coordination points (e.g., laydown yards, PODs, etc.) ☐ Assess the availability of fuel resources and coordinate the provision of fuel for SCE and contractor vehicles, equipment, and aircraft ☐ Assess lodging and meals availability and begin securing necessary accommodations at the discretion of the Operations Section Chief ☐ Reconcile ongoing travel and transportation limitations within impacted areas
IT Tech Spec	☐ Review scheduled IT outages and coordinate rescheduling

Phase 2B: Initial Response

Pre-Incident			Response			Recovery
1A	1B	1C	2A	2B	2C	3
Normal Operations	Increased Likelihood	Credible Threat	Activation	Initial Response	Sustained Response	Long-term Recovery

Indicators:
• IST/IMT activated and operating at the Emergency Operations Center • Customer, local government and public safety agency notifications and coordination are being conducted
Critical Information Requirements:
• Situational Awareness Center Data • Identification of impacted districts and circuits • Storm Damage Modeling • Status of any current fire(s) burning in or toward the service territory • Status of available field resources • Status of the bulk power system and any constraints • Status of any ISO warnings/alerts
End-State Conditions for Phase 2B: Initial Response:
• Communication established between IST/IMT and field teams • Early damage assessments have been conducted and common operating picture has been established • Resource requirements have been reviewed and support has been requested • SCE Agency representatives are communicating with affected local governments, public safety agencies and customers, gathering situational awareness and prioritizing restoration requests • Requests from field resources for support personnel have been conducted ***(move to Phase 2C: Sustained Response)*** **~~OR~~** • The BRDM, with input from subject matter experts as needed, makes a determination that the threat to SCE has lessened and activation of teams is no longer necessary **(*move back to appropriate Phase)***

Phase 2B: Initial Response Execution Checklist:	
Role	Responsibility
Situational Awareness Center	☐ Sends weather updates to appropriate stakeholders as needed
SCE Watch Office	☐ Includes status updates in the Daily Report ☐ Sends Critical Incident Report
Business Resiliency Duty Manager	☐ Works with IST/IMC lead to provide continual situational awareness updates and coordinate response efforts
ES IMT Incident Commander	☐ Actively manages the incident ☐ Works with Operations Section to determine resource requirements
Public Information Officer (PIO)	☐ Initiate ENS messaging to notify all at risk SCE personnel of safety issues related to the upcoming event (rain, lightning, etc.) ☐ Develop and coordinate key messaging with County PIOs
Liaison Officer (LNO)	☐ Contact county EOCs and emergency response organizations and coordinate the deployment of SCE representatives where appropriate ☐ Coordinate with external response structures to expedite or waive permitting requirements. (CARB, Crane Permits, etc.) ☐ Communicate high-level restoration strategies and customer impacts ☐ Provide county/city restoration needs back to OSC for possible prioritization
Safety Officer (SOF) **Operations Section Chief (OSC)**	☐ Monitor potential health and safety risks where SCE personnel are operating ☐ Identify potential health and safety associated with SCE facilities and notify SCE personnel, the public, and local authorities where appropriate ☐ Communicate need to document and report all safety incidents ☐ Coordinate the production and distribution of employee notifications outlining safety information and providing guidance on initial actions ☐ Coordinate with DOCs and CA to ensure critical care and medical baseline customers have been identified and notified ☐ Coordinate with the GOC and GCC to determine status of infrastructure and assess impacts on restoration strategy ☐ Identify focus areas for further damage assessment ☐ Stay informed of GCC restoration strategy and support efforts through allocation and assignment of resources ☐ Coordinate with the Situational Awareness Center team to ensure that restoration strategies account for potential inclement weather conditions. ☐ Identify critical resource gaps and mitigate through contractors and/or mutual assistance channels. Coordinate all MA requests with the Business Resiliency Duty Manager (BRDM)

Phase 2B: Initial Response Execution Checklist:	
Role	Responsibility
Planning Section Chief (PSC)	☐ Develop an electrical system restoration strategy, prioritizing the recovery of T&D and Generation facilities and assets critical to re-establishing electrical services throughout the SCE service territory ☐ Ensure resources are identified and assigned to clear electrical hazards with imminent danger as reported by the public and government agencies ☐ Determine if system restoration should be executed by area based or order based ☐ Establish damage assessment strategy ☐ Coordinate with the Air Operations Branch Director to allocate air operations resources to support aerial surveys and the transportation of mission critical personnel ☐ Reconcile ongoing emergency repairs with affected locations and provide resource needs and restoration updates ☐ Coordinate with the Business Customer Division (BCD) to implement macro messaging for all districts without accurate power restoration times ☐ Coordinate with CCC Branch Director to ensure the use of the Interactive Voice Response (IVR) system at the Customer Contact Centers for disseminating critical information to customers ☐ Coordinate with the OSC to assess the availability of contract resources to meet staffing limitations for all affected OUs
Logistics Section Chief (LSC) **IT Tech Spec** **Environmental Tech Spec**	☐ Identify operational resource coordination points (e.g., laydown yards, PODs, etc.) ☐ Assess the availability of fuel resources and coordinate the provision of fuel for SCE and contractor vehicles, equipment, and aircraft ☐ Assess lodging and meals availability ☐ Assess damage to all systems that support mission critical facilities/operations (e.g. contact centers, GCC, DOCs, Switching Centers, GOC, ESOC, etc.) ☐ Develop a long-term IT restoration strategy, aligning restoration priorities across the company ☐ Develop restoration strategy for critical applications ☐ Implement an environmental response strategy and refine as necessary to meet ongoing environmental threat ☐ Document instances of potential environmental impacts attributed to SCE facilities as they are reported and communicated to OSC

Phase 2C: Sustained Response

Pre-Incident			Response			Recovery
1A	1B	1C	2A	2B	2C	3
Normal Operations	Increased Likelihood	Credible Threat	Activation	Initial Response	Sustained Response	Long-term Recovery

Indicators

- IST/IMT have established a common operating picture and incident is managed until recovery begins
- Recurring response cycle is being maintained
- Resources are being integrated into response operations at the field level
- Ongoing internal/external communications regarding event are being conducted

Critical Information Requirements

- Situational Awareness Center Data
- Ongoing identification of possible at-risk areas based on scenario
- Status of any de-energized circuits
- Storm Damage Modeling
- Status of any current fire(s) burning in or toward the service territory
- Status of available field resources
- Status of the bulk power system and any constraints
- Status of any ISO warnings/alerts
- IMT Availability

End-State Conditions for Phase 2C: Sustained Response

- Field operations concentrate on restoring normal services
- Triggers for transitioning to field operations have been identified and met
- IMT has demobilized
- SCE is no longer at risk for continued disruptions due to the incident

Phase 2C: Sustained Response Execution Checklist	
Role	**Responsibility**
Operations Section Chief (OSC)	□ Coordinate with the SOF to implement a 16/8 rotation to support safe operational activity □ Stay informed of restoration strategy and support efforts through allocation and assignment of resources □ Ensure the integration of Mutual Assistance and other non-standard response personnel into the operation □ Ensure resources are identified and assigned to clear electrical hazards with imminent danger as reported by a public agency and/or the public □ Evaluate ability to establish global ERTs or transition from macro-messaging □ Ensure the execution of the IT restoration strategy, aligning restoration priorities across the company □ Transition out of macro messaging by developing accurate power restoration times and coordinating with the Business Customer Division (BCD) to close out existing macro messages
Planning Section Chief (PSC)	□ Develop a demobilization plan, defining the roles and responsibilities of a recovery taskforce to continue operational activity after the response team demobilizes
Public Information Officer (PIO)	□ Consolidate reports of electrical hazards throughout the impacted area and appropriately vet and prioritize hazard messaging
Safety Officer (SOF)	□ Monitor potential health and safety risks where SCE personnel are operating □ Identify potential health and safety risks (to include, but not limited to wires down) associated with SCE facilities and notify SCE personnel, the public, and local authorities where appropriate □ Monitor for "fatigue" for long-term 16/8 rotations □ Ensure updated safety notifications are distributed throughout the incident to inform SCE personnel of existing or evolving risks

Phase 3A: Recovery (Demobilization)

Pre-Incident			Response			Recovery
1A	1B	1C	2A	2B	2C	3
Normal Operations	Increased Likelihood	Credible Threat	Activation	Initial Response	Sustained Response	Long-term Recovery

Indicators
• Storm Incident has subsided, and normal services are being restored • Observations in the field report no imminent threat and forecasts indicate that storm conditions have passed and are not expected to increase for a period of 72 hours or more
Critical Information Requirements
• Situational Awareness Data • Status of circuits and any ongoing repairs
End-State Conditions for moving to Phase 3A: Recovery
• Field operations concentrate on restoring normal services • Triggers for transitioning to a recovery task force have been identified and met • IMT has demobilized • The recovery task force is coordinating response activity with operational control managed at the district level • SCE is no longer at risk for continued disruptions due to the incident

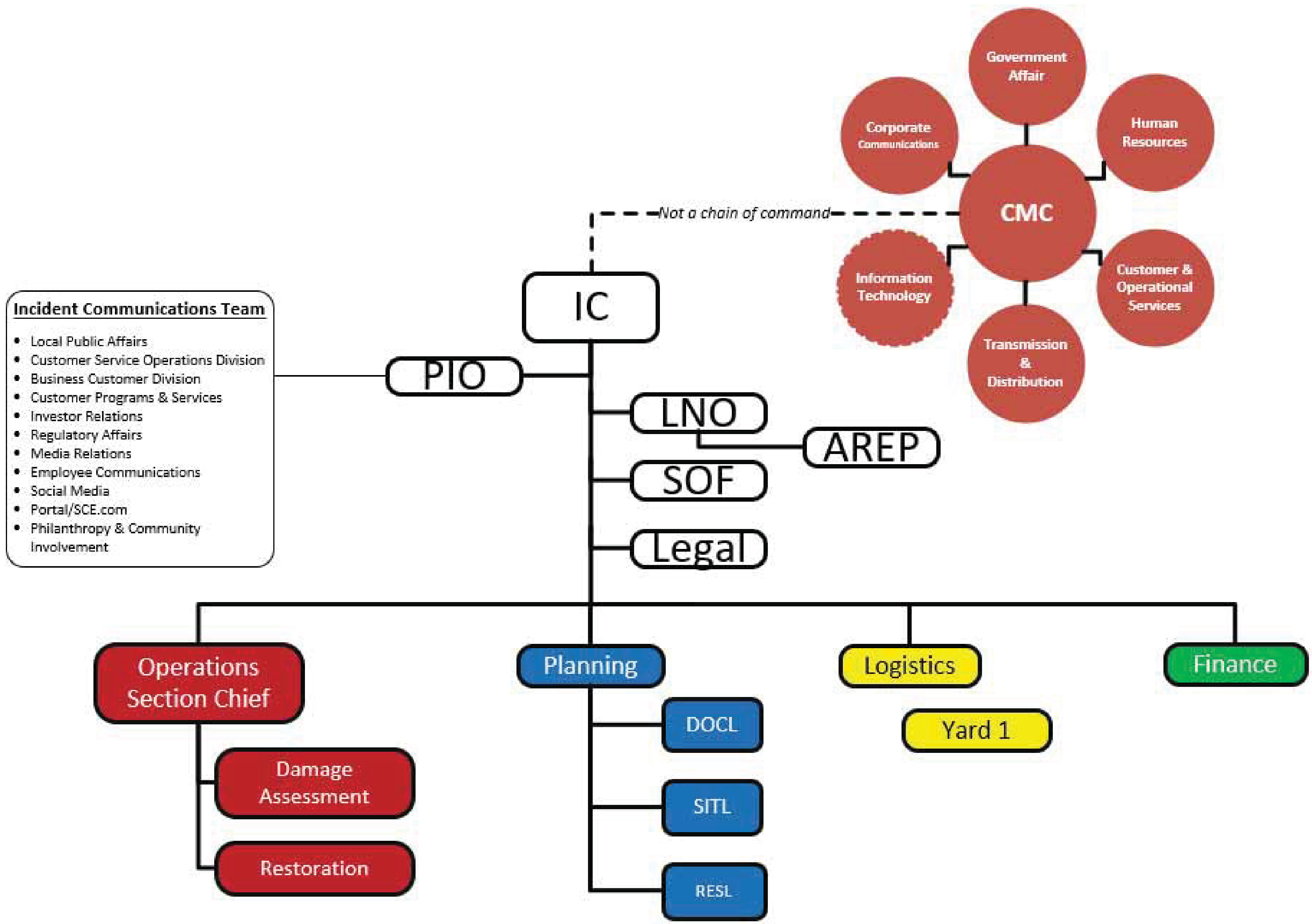
Phase 3A: Recovery (Demobilization) Execution Checklist	
Role	**Responsibility**
Situational Awareness Center	☐ Provides 3-day weather outlook ☐ Resumes normal weather monitoring
Watch Office	☐ Sends Critical Incident Report ☐ Includes status updates in the Daily Report
Business Resiliency Duty Manager	☐ Informs CMC of demobilization of EOC ☐ Solicits feedback from impacted counties for AAR process
CMC	☐ Deactivates based on information from the BRDM
Liaison Officer	☐ Creates release schedule for any SCE AREPs at County EOCs ☐ Notifies SCE offices in San Francisco/Sacramento/Washington, DC ☐ Coordinates with local government, public safety agencies and NGOs to demobilize SCE resources at community locations as appropriate
Incident Commander	☐ Formulates long-term strategy on recovery to include both short-term and long-term restoration strategies for impacted areas as necessary ☐ Facilitates a conference coordination call with OPS Director to validate that DEMOB criteria have been met and that DEMOB is appropriate. ☐ Establishes triggers for re-activation of the IMT and communicates them to the Situational Awareness Center, the Watch Office, the BRDM and the Plans Section Chief for inclusion in the DEMOB plan
Planning Section Chief	☐ Creates DEMOB Plan
Operations Section Chief	☐ Addresses long term repairs for damaged circuits in DEMOB plan ☐ Demobilizes field observers and additional mitigation resources ☐ Directs debris flow modeling activities if appropriate ☐ Evaluates the ability to resume planned and emergent field work based on weather forecasts

APPENDICES

Under Separate Cover

Appendix A-Recommended Organizational Structures
Appendix B-SCE Wildfire Mitigation Plan
Appendix C-GO166 Corporate Emergency Communications Management Plan
Appendix D-SCE Emergency Operations Center and Mobile Command Center Contacts (Confidential)
Appendix E-SCE 900 MHZ Radio Talk Groups (Confidential)
Appendix F-SCE Trained Emergency Personnel-ICS and T&D Field
Appendix G-SCE Mutual Assistance Agreements
Appendix H-SCE Resilient Grid VI Full Scale Exercise AAR-October 25

Appendix A: Recommended Organizational Structures



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018).	R.18-10-007

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) 2019 WILDFIRE MITIGATION PLAN

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Dated: **February 6, 2019**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018).	R.18-10-007

<u>SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E)</u>
<u>2019 WILDFIRE MITIGATION PLAN</u>

Southern California Edison Company (SCE) hereby submits its 2019 Wildfire Mitigation Plan (WMP). The WMP consists of the following:

Chapter 1: Objectives of the Plan
Chapter 2: Description of the Preventive Strategies and Programs to Minimize the Risk of Electrical Distribution and Transmission Infrastructure-Causing Wildfires (Including Consideration of the Dynamic Climate Change Risk)
Chapter 3: Risk Analysis and Risk Drivers
Chapter 4: Wildfire Prevention Strategies and Programs
Chapter 5: Emergency Preparedness and Response
Chapter 6: Performance Metrics and Monitoring
Chapter 7: Any Other Information that the CPUC May Require (Cost Information)
Appendix A: List of Acronyms
Appendix B: Categorization of Strategies and Programs
Appendix C: List of SCE Design, Engineering and Construction Standards
Appendix D: List of Fast Growing Trees
Appendix E: List of SCE Field Workers, Support Personnel and Contract Crews
Appendix F: Comparison of WMP to 2018 Fire Prevention Plan

Respectfully submitted,

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February 6, 2019

Southern California Edison
2019 Wildfire Mitigation Plan

February 6, 2019

1 TABLE OF CONTENTS

1 OBJECTIVES OF THE PLAN

1.1 INTRODUCTION

California's wildfire risk has increased in recent years due to climate change, drought, and other factors such as increased development in the wildland-urban interface and significant build-up of fuel, including on federal and state forest lands. The full magnitude of the increased threat and the significance of its consequences did not become apparent until 2017, when California experienced five of the most destructive fires in its history. The 2017 and subsequent fires in 2018 fires — eight of the 20 most destructive wildfires in California history occurred in 2017 and 2018, destroying more than 31,000 structures (double the number consumed by the other twelve)[1] — emphasize that California's wildfire risk has increased to the point where the safety of our communities requires additional measures designed to address the higher level of wildfire risk. To this end, California Senate Bill 901 (SB 901), enacted in 2018, adopted new provisions of Public Utilities Code (PUC) Section 8386 requiring all California electric utilities to prepare, submit and implement annual wildfire mitigation plans that describe the utilities' plans to construct, operate and maintain their electrical lines and equipment in a manner that will help minimize the risk of catastrophic wildfires associated with those electrical lines and equipment.

This ***Southern California Edison 2019 Wildfire Mitigation Plan*** describes strategies, programs and activities that are in place, being implemented or are under development by Southern California Edison (SCE or Company) 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, meeting the requirements of PUC Section 8386 in accordance with the California Public Utilities Commission (CPUC or Commission) rulemaking to implement it.[2] The 2019 Wildfire Mitigation Plan (WMP) applies to all of SCE's internal organizations and contractors with responsibility for the design, engineering, construction, operation, inspection, and maintenance of SCE's electrical infrastructure.

The mitigation strategies and programs described in this WMP are specifically intended to address unique features of SCE's service territory such as topology, weather, infrastructure, potential wildfire risks, and grid configuration. As such, there will and should be some differences with the other large investor-owned utilities' (IOUs) plans due to differences in their respective service areas and grid configurations.

In addition to the descriptions of strategies and programs, in subsequent chapters, SCE includes 2019 goals and metrics to enable the Commission to evaluate SCE's compliance with the WMP. Substantial compliance with the objective metrics set forth in the WMP (when approved by the Commission) will demonstrate that SCE prudently operated its system, and met the Commission's "prudent manager" standard regarding wildfire risk mitigation. Additionally, when feasible and appropriate, SCE will attempt to complete fire mitigation work and activities in excess of the goals set forth in subsequent chapters, which, if performed, would be an acceleration of future years' fire mitigation activities. This WMP also details additional potential work that SCE may undertake in 2019. Certain risks outside of SCE's reasonable control, such as skilled labor resource constraints, supply chain disruptions, permitting and construction delays, and other unexpected events, could negatively impact SCE's ability to meet all of

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1 *See* http://www.fire.ca.gov/communications/downloads/fact_sheets/Top20_Destruction.pdf.

2 *See* Appendix A for a list of all acronyms used in this Wildfire Mitigation Plan.

the approved metrics, and should be considered by the Commission when completing its subsequent compliance evaluation.

In response to Administrative Law Judge Thomas' January 17, 2019 Ruling (Ruling), SCE has included cost estimates for each activity in Chapter 4 of this WMP in order for the Commission to weigh the potential cost implications of measures proposed in the plans. SCE has included preliminary cost estimates for the scope of work underlying the 2019 compliance goals, and for the scope of work underlying potential acceleration of future years' activities, where applicable. It is important to keep in mind, however, that both SB 901 and the Order Instituting Rulemaking (R.)18-10-007 make clear that this proceeding, and the WMP itself, are not cost recovery exercises. Instead, pursuant to the statute, SCE will track the costs for programs and activities detailed throughout this WMP, and in the future seek recovery for any incremental costs in the appropriate procedural forum. For cost recovery purposes, demonstrating substantial compliance with the Commission-approved WMP requirements should facilitate the Commission's subsequent reasonableness review of the costs recorded to SCE's SB 901 or other appropriate memorandum account.

In addition, the Commission has long recognized that utilities need appropriate flexibility to use management discretion to assess and respond to emergent risks and as they arise. Because wildfire risk is affected by climate change effects and local conditions, and because many of the programs and activities described in this WMP are in the early stages of development and deployment, such flexibility will be especially important. If such circumstances arise, SCE will make changes, as appropriate, to its wildfire risk mitigation efforts consistent with the Commission's expectation that utilities will exercise operational discretion and flexibility to maintain safe, reliable, and resilient service for their customers, and will inform the Commission should such changes in 2019 significantly deviate from this WMP. In the event that it is necessary and appropriate to make mid-year changes, or in the event that exogenous factors necessitate a deviation from the specific goals set forth herein, SCE will seek timely approval from the Commission for such changes or deviations.[3]

Finally, many (but not all) of the programs and activities described herein will be funded through either SCE's Grid Safety and Resiliency Program (GSRP) Application (A.18-09-002) or Commission-approved General Rate Case (GRC) rates. The Commission has not yet issued a Proposed Decision in SCE's pending 2018 GRC (A.16-09-001), which was filed on September 1, 2016. Notably, SCE's 2018 GRC, and the specific programmatic funding requests set forth therein, was based on needs and risks that in some cases are very different than the needs and risks California faces today. The 2018 GRC was litigated on the record in that proceeding, which reflected realities as they existed then. Given the unprecedented risks that wildfires now pose to the public and the electric system, SCE must retain the utility discretion to effectively counter those emergent threats as necessary once a decision in the GRC is approved.

1.2 PLAN OBJECTIVES

The primary objective of this WMP is to set forth an actionable, measurable, and adaptive plan for 2019 to reduce the risk of potential wildfire-causing ignitions associated with SCE's electrical infrastructure in High Fire Risk Areas (HFRA).[4] Additional 2019 objectives include protecting public safety, implementing

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3 SCE will make such notifications to the Commission through a letter to the Director of the Safety and Enforcement Division (SED), or as otherwise directed by the Commission.

4 As further described in Chapter 3, SCE had previously identified locations in its service area as high fire risk prior to the release of the most recent CPUC High Fire Threat District maps with Tier 2 and Tier 3 designation

measures that further harden SCE's electric system against wildfires and improve system resiliency, enhancing wildfire suppression efforts by improving fire agencies' ability to detect and respond to emerging fires in coordination with utility emergency management personnel, reducing the impact of wildfires and wildfire mitigation efforts on the public, and effectively communicating with customers, community groups, and other stakeholders about how to prepare for, prevent, and mitigate wildfires in SCE's HFRA (including, when appropriate, through preemptive de-energization events).

This WMP is focused on 2019 activities and include overviews of existing programs, practices and standards; enhancements recently enacted and being implemented; and new and developing efforts to further reduce potential electrical infrastructure-associated ignitions in HFRA. Several strategies and programs in this WMP are multi-year efforts designed to target the highest risk drivers for potential wildfire-causing ignitions. In Chapter 3, SCE provides a description of its methodologies for identifying and prioritizing action on wildfire risk factors, with the recognition that there are potential tradeoffs between risk mitigation measures. SCE anticipates that as it gains new and additional information about factors affecting the nature of wildfire risk, it will assess its performance against each annual WMP. Each subsequent year's WMP will be adjusted and improved to continually focus on activities mitigating the highest wildfire risks. Accordingly, consistent with the requirements in PUC Section 8386 and the Ruling, this WMP sets forth SCE's 2019 compliance plan to minimize wildfire risk. Over time and cumulatively, the success of the individual programs and activities in this WMP are expected to result in an overall reduction of controllable fire ignition events associated with SCE's electrical infrastructure.

1.2.1 BEFORE UPCOMING WILDFIRE SEASON

In Chapter 4, SCE identifies activities for strategies and programs that it will complete in 2019 in HFRA. This chapter includes a description of those activities addressing the highest wildfire-risk issues. SCE plans on completing those activities before the traditional beginning of the annual fire season,[5] and Chapter 4 includes the corresponding goals for these wildfire risk mitigation activities.

1.2.2 BEFORE THE NEXT WILDFIRE MITIGATION PLAN FILING[6]

Chapter 4 of this WMP describes the programs and activities SCE intends to complete by year-end 2019. SCE's objective with regard to this timeframe is to complete all of the described activities and meet or exceed its 2019 goals in such areas as (but not limited to) operational practices, inspections, system hardening, vegetation management, situational awareness, Public Safety Power Shut-Off (PSPS), alternative technologies, and post-incident recovery, restoration, and remediation strategies and programs. These goals are further described in subsequent chapters.[7]

1.2.3 WITHIN THE NEXT FIVE YEARS

In some cases because of resource constraints or because they are necessarily longer-term efforts, some of the programs and activities set forth herein are scheduled to take place over longer time frames (up

(*see* Decision (D.)17-12-024). Accordingly, SCE's definition of HFRA for purposes of this WMP includes areas beyond the CPUC Tier 2 and Tier 3 designations including, for example, previously designated HFRA.

5 The traditional beginning of the wildfire season in Southern California is early summer, but increasingly California has experienced wildfires year-round.

6 SCE interprets this category to mean the programs and activities in Chapter 4 that will be completed by year-end 2019. Given that the schedule for next year's WMP filing has not been set, SCE generally understands this category to represent those strategies and programs that will be completed in 2019.

7 Goals are described in Chapters 3 through 6.

to five years and beyond). For example, SCE's Wildfire Covered Conductor Program (WCCP) is a long-term program for which full deployment will go beyond five years, due in part to supply chain and skilled labor installation resource availability. As described in Section 4.3, SCE is attempting to accelerate and expand this program to install more covered conductor in HFRA, this year and within the next five years, beyond the amount contemplated in SCE's GSRP. These longer-term programs are described in Chapter 4, and the discussion therein further delineates between shorter- and longer-term objectives within those programs.

2 DESCRIPTION OF THE PREVENTIVE STRATEGIES AND PROGRAMS TO MINIMIZE THE RISK OF ELECTRICAL DISTRIBUTION AND TRANSMISSION INFRASTRUCTURE-CAUSING WILDFIRES (INCLUDING CONSIDERATION OF THE DYNAMIC CLIMATE CHANGE RISK)

2.1 INTRODUCTION

Fire mitigation has been an integral part of SCE's operational practices for years, and SCE has several existing policies, programs, and procedures in place that directly or indirectly manage or reduce this risk. Over time, SCE has adopted additional fire mitigation programs to adjust to changes in fire-related conditions as well as technological advances and improved operational practices. SCE continues to evaluate and implement new technologies and operating practices to further mitigate the potential for ignitions and to better respond to high wildfire risk conditions.

In early 2018, in response to the significantly increased wildfire risk, SCE created a program management office (PMO) consolidating SCE's fire mitigation efforts and focused on protecting public safety and system resiliency. SCE charged the PMO with the following overarching objectives: (1) executing near-term actions to further mitigate increased wildfire risk; (2) developing enhancements to its operational plans for long-term strategies related to wildfire prevention, public safety, and related grid resiliency; and (3) integrating SCE's wildfire mitigation strategies with existing programs. The PMO analyzed historical SCE fire ignition data, reviewed current fire mitigation strategies, and researched potential enhancements focused on fire prevention (avoiding ignitions), aiding suppression activities by others (speeding up confirmation and assessment of fires), and system resiliency (withstanding fires). The PMO also researched external existing and emerging utility fire mitigation strategies related to risk management and asset management for applicability to SCE's wildfire mitigation efforts.

The PMO's efforts led to SCE's GSRP, which is a portfolio of new programs and mitigation measures primarily focused on preventing wildfire ignitions associated with electrical distribution infrastructure in HFRA. GSRP's focus areas are: (1) further grid hardening; (2) enhanced situational awareness; and (3) enhanced operational practices. SCE filed its GSRP Application with the Commission in September 2018 seeking approval of, and cost recovery for, incremental costs to implement the program over the 2018 to 2020 period. Given the increased wildfire risk, SCE began implementing GSRP in 2018 and will continue to implement GSRP activities in 2019 while program and cost recovery approval is pending.[8] This WMP includes, but is not limited to, the programs and mitigation measures described in the GSRP Application and supporting testimony. Most of the programs and mitigation measures in the GSRP will be implemented over multiple years (i.e., not completed in 2019), such as the full deployment of covered conductor in HFRA.

Since filing its GSRP Application, SCE has continued to review and refine the strategies and programs described in that filing. This WMP includes efforts to assess acceleration of some GSRP elements and development of programs that go beyond the scope of GSRP. For example, as set forth in GSRP, SCE plans to deploy at least 96 circuit miles of covered conductor in HFRA in 2019. Notwithstanding execution risks such as skilled-labor resource constraints, supply chain disruptions, and unanticipated events, SCE will attempt to install additional covered conductor in HFRA in 2019. This WMP also includes

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8 *See* D.19-01-019 (establishing the Grid Safety and Resiliency Program Memorandum Account effective September 10, 2018).

potential new mitigation activities, such as targeted undergrounding in HFRA that SCE will further evaluate in 2019, as further discussed in Chapter 4.

The strategies, programs, and activities included in this WMP, with associated goals and metrics to demonstrate compliance with their implementation, are an effective approach to reduce fire-related risk for SCE's customers in the near term (based on current information) and allow for refinement and improvement over time. As new information is obtained and experience is gained with implementing these mitigation programs, SCE will continue to assess, evaluate, and enhance its wildfire risk mitigation strategies, programs, and activities and implement new programs, methods, and technologies if determined to be effective risk-mitigation solutions.

2.2 RISK OF CLIMATE CHANGE EFFECTS

For over a century, SCE has designed its electrical system with the primary goal of providing safe, reliable, and affordable power. This design includes many decades of engineering experience and the adoption of new technologies over time. SCE's design practices continue to advance with the addition of newer safety- and reliability-related technologies. As part of this advancement, it is important to understand and adapt to the "new normal" and the challenges climate change brings. The greater intensity and year-round frequency of fire danger is driving the need for further evolution, hardening, and strengthening of the grid—particularly in HFRA in SCE's service territory. As one of the nation's largest electric utilities, SCE's service territory is approximately 50,000 square miles located in central, coastal, and Southern California. SCE's electrical system encompasses approximately 52,000 circuit miles of transmission and distribution overhead power lines, with more than 19,000 of those circuit miles traversing HFRA.[9] As detailed in this WMP, SCE is developing and implementing ways to further prevent, mitigate, and withstand the wildfire threat associated with its service territory and HFRA.

Experts had predicted that decades from now climate change would increase the risk of these uncharacteristically large and severe wildfires, including a potential increase in the total area burned.[10] These projected impacts are happening now, and regrettably much faster than some earlier climate forecasts. Shortly after the Mendocino Complex Fire in July of 2018, then-Governor Brown explained that "[t]he more serious predictions of warming and fires to occur later in the century, 2040 or 2050, they're now occurring in real time."[11] California's recently-released Fourth Climate Change Assessment—while acknowledging that projecting future wildfires is complicated—nonetheless notes the potential for greater fire risk in the future and particularly "mass fires" burning large areas simultaneously.[12] Moreover, the California Department of Forestry and Fire Protection (CAL FIRE) has

9 Approximately 13,000 circuit miles of distribution lines and 6,000 circuit miles of transmission lines. Unless otherwise noted, references to "distribution level circuit miles" refer to distribution primary voltages only.

10 Tania Schoennagel et al., Adapt to More Wildfire in Western North American Forests as Climate Changes, (May, 2017), *available at* http://www.pnas.org/content/pnas/114/18/4582.full.pdf.

11 Jaclyn Cosgrove et al., California fires rage, and Gov. Jerry Brown offers grim view of fiery future, L.A. Times (Aug. 2018), *available at* http://www.latimes.com/local/lanow/la-me-ln-california-fires-20180801-story.html.

12 Bedsworth, Louise, Dan Cayan, Guido Franco, Leah Fisher, Sonya Ziaja (2018). Statewide Summary Report. California's Fourth Climate Change Assessment. Publication number: SUMCCCA4-2018-013, *available at* http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf.

concluded that "[c]limate change has rendered the term 'fire season' obsolete, as wildfires now burn on a year-round basis across the State."[13]

This recent increase in the size of, and destruction caused by, fires in the wildland-urban interface, increased population density and development in the wildland-urban interface, and the extremity of weather conditions, marks a significant change in the state's firefighting and fire prevention posture, and an increased need for comprehensive, year-round mitigation and preparedness efforts. The state's recent wildfires are proving that historical mitigation and preparedness efforts are not sufficient to adequately address the current hazards and risks associated with wildfires in California—it is therefore essential for all stakeholders to change the way we approach wildfire mitigation efforts. SCE agrees with Governor Newsom's statement that there should be "no greater emphasis, energy, and sense of urgency than on the issue of public safety."[14]

Wildfires in the Southern California region in SCE's service territory, and the damage they cause, are influenced by many factors including a dry and warm climate, Santa Ana winds, severe droughts, and extensive development in wildland-urban interface. The Southern California region and the rest of SCE's service territory is expected to continue to warm through this century. Climate studies also predict more severe droughts in California in future years.[15] And although there is uncertainty in future predicted changes to Santa Ana wind events, in late 2017, Southern California was subjected to "unprecedented" strong winds that had the potential to carry palm fronds and other debris from long distances into utility lines.[16] The projected increased climate warming, future prolonged periods of drought, and more potentially frequent extreme Santa Ana winds will continue to exacerbate wildfire risk conditions in Southern California. Given these projected conditions, SCE will continue to adapt its strategies and programs to mitigate wildfire risks. SCE's efforts to mitigate wildfire risks will also continue to be informed by dynamic climate change risks as well as other factors that will be described in subsequent, annual WMP filings with the Commission.

2.2.1 PRELIMINARY FIRE SEASON OUTLOOK

Although it is too early to know with precision or certainty, SCE currently expects this year's annual fire season in Southern California to begin around mid-May, and to have a somewhat-above-normal number of fire events based on: precipitation to date (above normal) and associated vegetation growth; forecast precipitation (normal); forecast Santa Ana and associated wind events (normal); and other climate and weather factors.

Weather conditions during the March through May timeframe will have impacts on the start, and to some extent, the severity of this year's fire season. This preliminary forecast is a shortened summary of SCE's Preliminary Fire Season Outlook, prepared by an SCE Fire Scientist, and finalized on January 25,

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13 *See* CAL FIRE 2018 Strategic Fire Plan, p. 10.

14 USA Today (January 9, 2019), *available at* https://www.usatoday.com/story/news/2019/01/08/california-wildfires-gavin-newsom-pledges-105-funding/2521015002/.

15 *See, e.g.*, California's 4th Climate Change Assessment, Los Angeles Region Report, *available at* http://www.climateassessment.ca.gov/regions/docs/20180928-LosAngeles.pdf.

16 In December 2017, the state for the first time experienced "purple" (i.e., extreme) winds capable of reaching 80 mph. *See* Associated Press, California wind hits unprecedented high—and so does fire danger L.A. Times (December 7, 2017), *available at* http://www.latimes.com/local/lanow/la-me-lnpurple-wind-map-20171207-story.html.

2019. While CAL FIRE typically issues a similar report for the entire state, as a result of the shutdown of the federal government in early 2019, this report was not kept current for a period of time.[17]

2.3 OVERVIEW OF PREVENTIVE STRATEGIES AND PROGRAMS

SCE's suite of mitigation strategies, programs and performance management in this WMP addresses:

- Risk analyses of wildfire frequencies and consequences (Chapter 3)
- Operational practices, inspection programs, system hardening programs, vegetation management programs, situational awareness tools and strategies, and de-energization protocols to minimize wildfire ignitions, aid suppression activities by others, and/or improve system resiliency (Chapter 4)
- Alternative technology assessments to continually improve SCE's equipment and practices (Chapter 4)
- Post-incident recovery, restoration, and remediation activities to safely and effectively restore service and minimize damage after a wildfire occurs (Chapter 4)
- Emergency preparedness and response plans to effectively prepare for and communicate with first responders, customers, community groups, and other stakeholders before, during and after a wildfire (Chapter 5)
- Programs to support customers that have been impacted by a disaster (Chapter 5)
- Performance metrics to evaluate compliance with this WMP (Chapter 6)
- Comparison of the past Fire Prevention Plans (FPP) to this WMP and how previous metrics informed this WMP (Chapter 6)
- Description for how SCE will monitor and audit this WMP and identify and correct deficiencies (Chapter 6)
- Cost information for SCE's programs and strategies included in Chapter 4 (Chapter 7)[18]

Several of SCE's strategies and programs in use now are not limited to any particular timeframe, and are instead situational, and based on certain real-world events, such as Red Flag Warnings (RFW) and other high fire-risk conditions. For example, SCE's PSPS protocols are only triggered when conditions pose a significant threat to the public. These conditions are predominantly weather- and vegetative fuel-related and not associated with particular time periods (e.g., in 2019, or within 5 years). Similarly, SCE's emergency preparedness and response plans, its post-incident recovery, restoration, and remediation activities, and its programs to support customers impacted by a wildfire are event-driven and are not timeframe-dependent. SCE's operational practices are also not time-dependent, and certain practices are triggered by RFW and other high fire risk conditions. Additionally, these practices are updated as SCE gains new information and adopts improved practices. Furthermore, all administrative-related

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17 The Fire Season Outlook (https://gacc.nifc.gov/oscc/predictive/outlooks/myfiles/assessment.pdf) is a rolling four-month prediction of above/below normal fire activity that comes from the United States Forest Service (USFS) (Predictive Services). Due to the shutdown of the federal government, this report was not updated until February 1, 2019. The report's current forecast is consistent with the analysis conducted by SCE's Fire Scientist.

18 Several of the programs and strategies included in this WMP are large efforts that will require administrative and other support such as organizational change management. SCE anticipates the need for additional support resources and any such incremental costs would be tracked in the appropriate memorandum account. Except where noted in this WMP, these potential incremental costs are not reflected in Chapter 7, but will be tracked in the SB 901 OIR Memorandum Account, and reviewed in SCE's 2021 GRC, as appropriate.

programs such as risk analyses, performance metrics, and monitoring of this WMP will be performed at regular or annual intervals.

In general, this WMP describes certain programs that SCE will attempt to complete on an accelerated basis in order to mitigate wildfire risks as quickly as possible. However many of the programs are multi-year and programmatic in nature, i.e., there is a startup period with limited initial implementation followed by full implementation that expands as processes and methods mature. For these multi-year programs that are further described in subsequent chapters, SCE has set 2019 goals.

2.3.1 BEFORE UPCOMING WILDFIRE SEASON

As described in Chapter 4, SCE has identified activities and goals it plans to achieve in 2019 in HFRA. Several of SCE's strategies and programs include prioritized deployments that focus on assets associated with the highest risk first. SCE's approach also allows for rapid deployment of some strategies across HFRA with relatively minimal expense. For example, SCE prioritized the use of current-limiting fuses (CLF) in HFRA and began applying a more sensitive fast curve trip setting for remote-controlled automatic reclosers (RAR) and circuit breaker relays to allow for more rapid clearing of faults during Red Flag Warnings and other high fire risk conditions. While the overall system hardening activities will continue throughout 2019 and beyond, SCE will attempt to accelerate completion of these specific activities. In Section 4.2, SCE describes its inspection programs, which are currently predominantly driven by time-based compliance requirements, and how it is focusing completion of certain inspections for HFRA. For example, as part of its Annual Grid Patrol (AGP) program SCE will visually inspect approximately 380,000 poles and associated equipment in HFRA by August 31 of each year. SCE has also recently initiated a new inspection effort referred to as enhanced overhead inspections (EOI). This effort began in late 2018, and continued into 2019. Under it, SCE will complete enhanced overhead inspections on all transmission and distribution circuits within HFRA, including the approximately 450,000 transmission and distribution pieces of equipment on those circuits within HFRA. SCE is attempting to accelerate these enhanced inspections to complete them by the height of the upcoming wildfire season. One goal of the EOI effort is to shift from a schedule-driven, compliance-based approach to a risk-based approach to address the evolving wildfire threat.

2.3.2 BEFORE THE NEXT WILDFIRE MITIGATION PLAN FILING

SCE interprets this category of strategies and programs to mean the strategies and programs in Chapter 4 that will be completed by year-end 2019.[19] In Chapter 4, SCE describes numerous activities that have 2019 completion goals. These strategies and programs include operational practices, inspections, system hardening, vegetation management, situational awareness, PSPS protocols, alternative technologies, and post-incident recovery, restoration and remediation.

2.3.3 WITHIN THE NEXT FIVE YEARS

Many of SCE's strategies and programs in Chapter 4 are multi-year efforts and are anticipated to continue beyond 2019. Several of SCE's inspection programs have time-period compliance requirements to inspect SCE's electrical infrastructure within the next five years. Other programs such as covered conductor, RAR, fusing mitigation, weather stations, and high definition (HD) cameras are multi-year efforts.

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[19] Given that the schedule for next year's WMP filing has not been set, SCE generally understands this category to represent those strategies and programs that will be completed in 2019.

2.4 CHAPTER ORGANIZATION AND STRUCTURE

SCE has organized this WMP based on the SB 901 Wildfire Mitigation Plan Template included in the Ruling, with minor exceptions. The Ruling requires several levels of categorization for each of SCE's strategies and programs. Due to time limitations, these categorizations are included, in tabular format, in Appendix B. SCE has also organized its subsequent chapters as follows:

- Overview of the Program: This section includes a high-level overview of existing strategies and programs, GSRP activities and new and/or enhanced activities developed since the GSRP filing;
- Existing Programs: This section provides a description of existing programs that have wildfire risk mitigation benefits;
- Additional actions taken in HFRA: This section focuses on SCE's targeted wildfire risk programs and activities that are directed toward HFRA. This section also includes explanations of the work SCE will be conducting in HFRA in 2019; and
- Activities and 2019 Goals: This section includes, in tabular format, the list of additional activities to be performed in HFRA and associated 2019 goals, as well as a description of the evidence SCE will use to demonstrate compliance with and achievement of those goals.

The chapters also include a few key categories including activities, goals, metrics, and indicators defined as follows:

- **Activities**: "Activities" are specific actions conducted in HFRA that are execution-focused (e.g., covered conductor installation) and directed at reducing wildfire risk. Activities are measurable and auditable, and each will have a "goal" (as defined below).
- **2019 Goals**: "Goals" are assigned to each activity and provide the measurable target SCE aims to achieve in 2019 (e.g., circuit miles of covered conductor installed). While SCE will endeavor to meet or exceed the goals, to the extent that resource constraints, material delays, weather delays, and/or other necessary tradeoffs do not allow SCE to achieve the specific values that this WMP targets, SCE will demonstrate in the required after-the-fact compliance report why its performance constituted substantial compliance with the WMP.[20]
- **Metrics**: "Metrics" are intended to capture WMP performance at a higher level than activities. These may track progress of a broader set of activities (e.g., miles hardened including but not limited to covered conductor) or quality of execution.[21]
- **Indicators**: The three "indicators," further discussed in Chapter 6, evaluate information over time, and reflect the long-term outcomes that the activities (cumulatively and over time) are intended to influence. Although "indicators" will identify long-term trends, they are not related to compliance performance evaluation in 2019, because the drivers of the indicators include certain uncontrollable factors. For example, ignitions-per-year is a key indicator that will be tracked. However, this indicator can be subject to variation over time related to exogenous events such as severe drought and extreme wind. The uncontrollable variation in certain indicators makes it difficult to target accurate, achievable, and numerical goals over a short time period.[22] Indicators require assessment over time to identify trends before proposing performance goals in future WMP submissions.

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[20] SCE recognizes that certain work covered by this WMP is subject to mandatory, prescriptive regulatory requirements.

[21] Both "metrics" and "goals" will be used to demonstrate SCE's substantial compliance with this WMP.

[22] Indicators reviewed over a short period of time could lead to either false-negative results (e.g., an increase in ignitions in 2019 could be driven by an unusually high number of extreme weather events) or false-positive results (e.g., a significant reduction in ignitions in 2019 could be driven by an unusually small number of extreme weather events).

3 RISK ANALYSIS AND RISK DRIVERS

3.1 METHODOLOGY FOR IDENTIFYING AND EVALUATING ENTERPRISE-WIDE SAFETY RISK AND WILDFIRE-RELATED RISK

SCE follows a comprehensive risk management evaluation protocol to assess and mitigate enterprise-wide safety risks. The CPUC has recently adopted two new risk-mitigation procedures: the Safety Model Assessment Proceedings (S-MAP) and the Risk Assessment Mitigation Phase (RAMP). The purpose of the S-MAP is to: (1) allow parties to understand the models the utilities propose to use to prioritize programs/projects intended to mitigate risks; and (2) allow the CPUC to establish standards and requirements for those models. In each utility's RAMP, the utility will "describe[e] how it plans to assess its risks, and to mitigate and minimize such risks."[23] Each utility's RAMP filing should be consistent with the direction provided in the S-MAP. The RAMP submission, "as clarified or modified in the RAMP proceeding, will then be incorporated into the large energy utility's GRC filing."[24]

Pursuant to the RAMP process, SCE deployed a new multi-attribute probabilistic risk evaluation model to evaluate safety risks (including safety-related risks and the associated probability and consequences of potential events). As part of this process, SCE utilizes a risk-informed decision-making process to identify, evaluate, mitigate, and monitor enterprise risks, including risks associated with wildfires.[25] This process enables the company to explicitly include risk considerations in SCE's decision-making for work identification, prioritization, and funding and resource allocation. Senior leaders employ the framework to review the risk analyses and mitigation plans in place to manage enterprise risks. Though risk management has always been an essential part of the management toolkit for strategic, business, and operational planning, over the last few years, risk-informed planning has become a much more explicit and essential component of decision-making.

SCE annually identifies and evaluates the key risks that the enterprise and its customers face, with a focus on safety risks, such as wildfire risk, utilizing a multi-step process from both a top-down and bottoms-up approach, as described below:

- **Top-down review of enterprise-level risks:** This effort is aimed at assessing the breadth of activities ongoing at SCE, in the state, and in the utility industry to identify key risks. It includes a review of industry trends and research, public policy efforts, legislative activities, key CPUC and other regulatory proceedings, major SCE initiatives, and critical business functions. The team also compiles feedback on current and emerging enterprise-level risks through company-wide surveys and direct discussions with SCE leadership.
- **Bottom-up review of SCE Enterprise Risk Register:** SCE maintains an enterprise risk register that captures and assesses risks from across the enterprise, based on interviews and feedback from working groups throughout the organization.
- **Consolidation and aggregation:** SCE aggregates the risks identified through the above processes to evaluate which risks have potential major safety consequences, including consolidation of duplicate and similar risks.
- **Review and refinement with senior leadership:** Through leadership review and assessment, further refinements are made as appropriate.

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[23] *See* D.14-12-025, p. 3.

[24] *See* D.14-12-025, p. 3.

[25] A detailed discussion of the application of SCE's Risk Informed Decision Making Process to Wildfire Risk is included in SCE's GSRP filing.

3.1.1 METHODOLOGY CONSISTENCY WITH OTHER UTILITIES

Over the past several years, there have been significant steps taken by California utilities and the Commission to align on the foundational frameworks and methods used to identify and evaluate enterprise risks. This began in earnest in 2013, when the Commission issued an Order Instituting Rulemaking to Develop a Risk-Based Decision-Making Framework to Evaluate Safety and Reliability Improvements and Revise the Rate Case Plan for Energy Utilities (R.13-011-006). This rulemaking established two primary processes for achieving consistency across utilities: (1) S-MAP, which is focused on developing a uniform methodology and framework for risk identification and evaluation across utilities; and, (2) RAMP, in which utilities implement the methodologies and framework adopted in S-MAP.

Through these processes, SCE and other California utilities (Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCalGas), and San Diego Gas & Electric Company (SDG&E)), have implemented generally consistent methods for risk identification and evaluation. For example, utilities have risk management frameworks that are consistent with the Cycla Corporation 10-step risk assessment framework.[26]

Most recently in the S-MAP process, the Commission issued a Decision Adopting Safety Model Assessment Proceeding (S-MAP) Settlement Agreement with Modifications.[27] In this Decision, the Commission adopted certain guidelines for California utilities to more uniformly and quantitatively assess risk within the RAMP and GRC proceedings. This Decision adopted, with a few modifications, the Settlement Agreement that SCE had worked at great length with other California utilities to develop, in collaborative partnership with external stakeholders.[28] The intent of this Decision was to help drive consistency in the approach and methods used to evaluate risk among utilities.

While this Decision applies on a prospective basis to future utility RAMP reports (i.e., those starting in 2019), California utilities, including SCE, have already incorporated many of the tenets of this Decision into their respective risk assessment processes. For example, one of the requirements includes the use of a Multi-Attribute Value Framework (MAVF) and probabilistic methods in the evaluation of risk. PG&E in their 2017 RAMP report, and SCE in its 2018 RAMP report, implemented many of the MAVF principles, and deployed probabilistic methods in the evaluation of enterprise safety risks; this included the assessment of wildfire-related risk. In 2019, SoCalGas and SDG&E will submit their RAMP reports using the MAVF principles.

While each utility will necessarily tailor specific aspects of these risk assessment frameworks to best align with their internal planning and decision-making processes, utilities have taken significant steps to align with and implement the overall risk analysis frameworks envisioned by the Commission.

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[26] In D.16-08-018, p.2, the Commission adopted the Cycla Corporation 10-Step Evaluation Method as a common yardstick for evaluating how mature, robust, and thorough utility risk assessment and mitigation models and risk management frameworks are. See each utility's latest RAMP report for discussion on alignment to this framework.

[27] D.18-12-014.

[28] Settling Parties include PG&E, SCE, SoCalGas, SDG&E, (collectively, the Joint Utilities or JU); The Utility Reform Network (TURN), and Energy Producers and Users Coalition and Indicated Shippers (EPUC/IS) (collectively, the Joint Intervenors or JI); and the Office of the Ratepayer Advocates. SB 854 (Stats. 2018, ch. 51) amended Pub. Util. Code § 309.5(a) so that the former Office of Ratepayer Advocates is now named the Public Advocate's Office of the Public Utilities Commission.

3.2 IDENTIFICATION, DESCRIPTION AND PRIORITIZATION OF WILDFIRE RISKS AND DRIVERS FOR THOSE RISKS

This section summarizes SCE's approach for wildfire-specific issues as evaluated in its 2018 RAMP report. SCE filed its RAMP report with the Commission in November 2018. Since filing its RAMP report, SCE has continued to enhance and update its wildfire risk analyses. A description of these updates subsequent to the submission of its RAMP report is described at the end of this section.

In preparing its RAMP report, SCE further refined its understanding of the fundamental elements that enable fires to ignite, the statistical trends associated with fires across California, particularly those associated with electrical power lines, the historically reported ignitions associated with SCE's grid infrastructure, and the geographic locations within SCE's service area that represent the greatest wildfire risk. SCE began by analyzing ignitions that occurred in its service territory from 2015 through 2017 that were of significant size and were reportable to the Commission.[29] The first step was to determine the parts of its system that are at the highest risk of ignition, followed by a detailed analysis of drivers and outcomes for wildfire ignitions in those areas.

3.2.1 RISK TRANCHING AND PRIORITIZATION

SCE analyzed the frequency and consequence of ignitions by categorizing its system based on two factors: system voltage level (e.g., distribution voltage or transmission voltage) and HFRA designation. As detailed below, because the vast majority of electrical infrastructure-related ignitions associated with SCE's system have been located on the distribution voltage-level system during the analyzed period, that system has been categorized in a higher-risk tranche for purposes of this WMP. HFRA are areas in SCE's service territory where there is an elevated hazard for the ignition and rapid spread of fires associated with electrical equipment due to strong winds, abundant dry vegetation, and other environmental conditions. HFRA represents approximately 35 percent of SCE's service territory. As defined by SCE and as shown below, this includes those locations with Tier 2 or Tier 3 designations identified in the most recent CPUC High Fire Threat District (HFTD) maps,[30] a self-imposed buffer of 200 feet around the CPUC-designated Tier 2 and Tier 3 areas, and those locations within the SCE service territory previously identified as high fire risk prior to the release of the most recent CPUC maps. Collectively, HFRA are those areas with the highest potential frequency and consequences of wildfire ignition events, which includes a consideration of topographical and climatological risk factors. In the interests of public safety, SCE chose to include certain non-Tier 2 and Tier 3 areas in its definition of HFRA, because those areas were previously identified as high fire risk by SCE. SCE is currently in the process of performing a detailed evaluation of these areas to determine which of these areas should remain designated as high fire risk. Further details of this HFRA evaluation are discussed within Section 3.4. As discussed herein, going forward SCE will continue to use local conditions and other factors to evaluate its service territory for wildfire risk and will recommend additions or removal of HFRA areas in future plans.

Over the 2015-2017 time period, SCE experienced 302 reportable ignition events associated with electrical infrastructure within its service territory. 92 percent of these ignitions occurred at distribution

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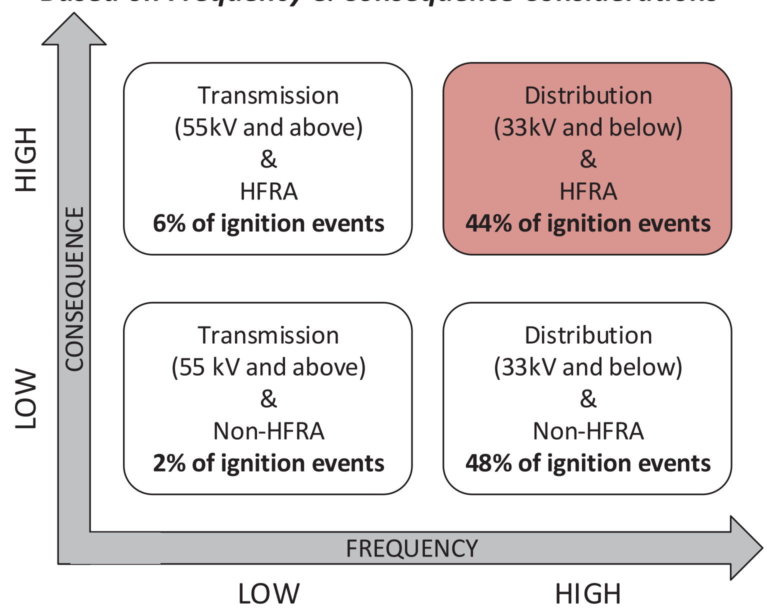
29 Pursuant to D.14-02-015, reportable fire events are any events where utility facilities are associated with the following conditions: (a) a self-propagating fire of material other than electrical and/or communication facilities, (b) the resulting fire traveled greater than one linear meter from the ignition point, and (c) the utility has knowledge that the fire occurred.

30 http://www.cpuc.ca.gov/firethreatmaps/

level voltages (33 kilovolt (kV) and below), while eight percent occurred at subtransmission and transmission level voltages (55 kV and above). When analyzed based on presence in HFRA, 50 percent of these ignitions occurred in HFRA, and 50 percent occurred outside of HFRA.

Based on both frequency and consequence considerations, four tranches of SCE assets for wildfire risk analysis are illustrated in figure 3-1 below. SCE identified distribution equipment within SCE's HFRA as the specific tranche of assets that poses the most significant wildfire risk. SCE considers the tranche of HFRA distribution assets, representing approximately 44 percent of all ignition events associated with SCE during the studied period, to have the highest frequency and the highest potential consequence of ignitions of the four tranches. Therefore, SCE's risk analyses performed to date have prioritized evaluation and mitigation of wildfire risk within this tranche.

Figure 3-1
Four Tranches of SCE Assets for Risk Analysis
Based on Frequency & Consequence Considerations



3.2.1.1 Risk Bowtie

For the tranche of risk associated with SCE's distribution equipment in HFRA, SCE developed and performed a risk bowtie analysis that includes risk drivers, triggering events, outcomes, and consequences.[31] SCE defined wildfire risk as "ignition associated with SCE's Distribution equipment in HFRA," specifically focused upon ignition associated with overhead distribution equipment. The risk bowtie, as presented within SCE's 2018 RAMP report, is shown below in Figure 3-2:

31 Please refer to Investigation (I.)18-11-006 - SCE 2018 RAMP Report, Chapter 2 for a description of the bowtie methodology used by SCE, and Chapter 10 for a description of the Wildfire risk bowtie.

Figure 3-2

Risk Bowtie for ignition associated with SCE's distribution equipment in HFRA

3.2.1.2 Risk Drivers

SCE's risk driver analysis identified and studied four major categories of drivers:

1. D1 - Contact from object, which includes external factors that cause SCE's equipment to fail, or to function as an ignition source to foreign material;
2. D2 - Equipment/facility failure, which includes events caused by failure of SCE equipment, independent of events listed in D1;
3. D3 - Wire-to-wire contact/contamination; and,
4. D4 - Unknown/unspecified.

Data for the drivers resulting in ignitions associated with SCE's distribution infrastructure in HFRA are shown in Table 3-1.

Table 3-1
Breakdown of Contact from Object and Equipment/Facility Failure-Related Fires (Distribution Voltage Infrastructure in HFRA from 2015-2017)

Suspected Initiating Event	Count	Percentage
D1 - Contact From Object	70	53%
D2 - Equipment/Facility Failure	40	30%
D3 - Wire-to-Wire Contact/Contamination	6	5%
D4 - Unknown/Unspecified	16	12%
Total	**132**	**100%**

D1 - Contact From Object	Count	Percentage
D1a - Animal	15	11%
D1b - Balloons	14	11%
D1c - Other	10	8%
D1d - Vegetation	22	17%
D1e - Vehicle	9	7%
Total	**70**	**53%**

D2 - Equipment/Facility Failure	Count	Percentage
D2a - Capacitor Bank	2	2%
D2b - Conductor	12	9%
D2c - Crossarm	1	1%
D2d - Fuse	1	1%
D2e - Insulator	5	4%
D2f - Splice/Clamp/Connector	8	6%
D2g - Transformer	3	2%
D2h - Unspecified	8	6%
Total	**40**	**30%**

D3 - Wire-to-Wire Contact/Contamination	Count	Percentage
Wire-to-Wire Contact/Contamination	6	5%
Total	**6**	**5%**

D4 - Unknown/Unspectified	Count	Percentage
Unknown/Unspecified	16	12%
Total	**16**	**12%**

In order to map drivers to (1) Design and Construction, (2) Inspection and Maintenance, (3) Operational Practices, and (4) Situational/Conditional Awareness, and (5) Response and Recovery, SCE first mapped its mitigations to these categories. SCE then mapped its drivers against mitigations, as shown in Table 3-2 below. Within SCE's RAMP report, mitigations were not mapped to Driver D3 (wire-to-wire contact) because of the small number of ignitions occurring due to this driver during the 3-year period analyzed. Mitigations were not mapped to Driver D4 due to limited data available regarding this type of ignition.

Table 3-2
Mapping of RAMP Drivers to Mitigations and Categories

Applicable RAMP Control/Mitigation	Drivers	(1) Design and Construction	(2) Inspection and Maintenance	(3) Operational Practices	(4) Situational/ Conditional Awareness	(5) Response and Recovery
C1 - Overhead Conductor Program (Bare + Covered)	D1, D2	Yes				
C2 - FR3 Overhead Distribution Transformers	D2	Yes				
M1 - Wildfire Covered Conductor Program	D1, D2	Yes				
M2 - RAR & Fast Curve Settings	N/A*	Yes		Yes		
M3 - PSPS Protocols and Support Functions	N/A*			Yes	Yes	
M4 - Infrared Inspection Program	D2		Yes			
M5 - Expanded Vegetation Management	D1		Yes	Yes		
M7 - Enhanced Situational Awareness	N/A*				Yes	Yes
M8 - Fusing Mitigation	D2	Yes				
M9 - Fire Resistant Poles	N/A*	Yes				Yes

* For purpose of risk modelling in SCE's 2018 RAMP report, these mitigations were modeled to affect outcomes only. As such, these particular mitigations were not directly mapped to drivers.

3.2.1.3 Risk Outcomes and Consequences

SCE identified four potential outcomes for ignitions associated with SCE in HFRA. These four outcomes are differentiated based on RFW conditions and wildfire size (see Figure 3-2):

1. O1 – Wildfire/RFW in Effect/Greater than 5,000 acres (0.8% of outcomes)
2. O2 – Wildfire/RFW in Effect/Less than 5,000 acres (31.0% of outcomes)
3. O3 – Wildfire/RFW Not in Effect/Greater than 5,000 acres (0.2% of outcomes)
4. O4 – Wildfire/RFW Not in Effect/Less than 5,000 acres (68.1% of outcomes)

For each of these outcomes, SCE estimated the potential public safety (serious injuries, fatalities), reliability, and financial impacts. The safety consequences were analyzed using historical data from both California Department of Forestry and Fire Protection (CAL FIRE) and the National Fire Protection Association (NFPA). Reliability consequences were analyzed utilizing data from SCE's Outage Database and Reliability Metrics (ODRM) system. Financial consequences were analyzed using a combination of national insurance databases, national firefighting cost data, restoration cost studies, and CAL FIRE data.

3.2.1.4 Wildfire Risks and Drivers Identified After RAMP Report

Since filing its RAMP report in November 2018, SCE has continued to refine its analyses and processes, and evaluate additional data as it becomes available.

Transmission Ignition Data

As shown in Figure 3-1, 6 percent of ignitions in SCE's HFRA (19 ignition events over three years) were associated with SCE's transmission system during years 2015-2017. The following table shows the breakdown of these 19 ignition events:

Table 3-3
Breakdown of Contact from Object and Equipment/Facility Failure-Related Fires (Transmission Voltage Infrastructure in HFRA from 2015-2017)

Suspected Initiating Event	Count	Percentage
Contact From Object	14	74%
Equipment/Facility Failure	1	5%
Other, Unknown, Contamination	4	21%
Total	**19**	**100%**

Contact From Object	Count	Percentage
Animal	6	32%
Balloons	3	16%
Other	2	11%
Vegetation	1	5%
Vehicle	2	11%
Total	**14**	**74%**

Equipment/Facility Failure	Count	Percentage
Other	1	5%
Total	**1**	**5%**

Other, Unknown, Contamination	Count	Percentage
Other	1	5%
Unknown	2	11%
Contamination	1	5%
Total	**4**	**21%**

The limited quantity of ignitions associated with transmission infrastructure has limited the analysis performed based on historical ignitions. Section 3.2.1.5 below describes the future planned analysis that includes transmission infrastructure.

3.2.1.5 Expansion of Analysis beyond Historical Ignition Data (Activity RA-1)

In developing the RAMP report, the analysis was based on historical ignition events in HFRA. SCE is currently in the process of analyzing 2018 fire ignition data. In addition to incorporating CPUC-reportable 2018 historical ignition data (preliminary data indicates there were 46 reported ignitions across SCE's HFRA) into its analysis to identify trends and changes among ignition drivers, SCE will incorporate additional engineering and operational subject matter expertise into its risk analysis performed in 2019, and data collected through inspections of equipment in HFRA, including distribution, transmission, and substation infrastructure. Additionally, in its 2019 risk analysis (to inform the 2020 WMP), SCE will include an analysis of equipment that were not associated with reportable historical ignitions in HFRA, but that could potentially lead to an ignition, such as lightning arresters, poles, protective relays, switches, etc. SCE is also currently developing a fire consequence model at a circuit segment level, which will further inform the prioritization for various mitigations based on wildfire risk exposure. The

Company will perform an analysis for various mitigations, including, when appropriate, potential undergrounding of lines.

3.3 DESCRIPTION OF HOW THE WILDFIRE MITIGATION PLAN ACCOUNTS FOR THE WILDFIRE RISKS IDENTIFIED IN THE RAMP

SCE's WMP includes activities to mitigate the wildfire risks identified above. The impact of a mitigation is estimated in terms of its ability to reduce driver frequency, to reduce the probability of an outcome occurring, and/or to reduce the severity of consequences when an outcome occurs. This section identifies how the strategies and programs described in Chapter 4 are aligned with the controls and mitigations discussed and analyzed in the wildfire chapter of SCE's RAMP report,[32] and how each mitigation affects the drivers, outcomes, and/or consequences associated with wildfire risks.

The following table summarizes the elements of the WMP that were assessed in RAMP, and the corresponding drivers, outcomes, and consequences impacted by elements of the plan as analyzed and modelled in RAMP. As the table shows, the WMP is a comprehensive portfolio of activities that collectively addresses both the left-hand side of the bowtie (i.e., drivers) and the right-hand side of the bowtie (i.e., outcomes and consequences).

Table 3-4
Alignment of WMP strategies and programs to RAMP control/mitigation

WMP Topic	Applicable RAMP Control/Mitigation	Drivers	Outcomes	Consequences
Operational Practices	M2 - RAR & Fast Curve Settings	-	O1, O2	All
Plans for Inspections of Electrical Infrastructure	M4 - Infrared Inpsection Program	D2	-	-
System Hardening to Achieve Highest Level of Safety, Reliabilty and Resiliency	C1 - Overhead Conductor Program (Bare + Covered)	D1, D2	-	-
	C2 - FR3 Overhead Distribution Transformers	D2	-	-
	M1 - Wildfire Covered Conudctor Program	D1, D2	-	-
	M2 - RAR & Fast Curve Settings	-	O1, O2	All
	M8 - Fusing Mitigation	D2	-	-
	M9 - Fire Resistant Poles	-	All	All
Vegetation Management Plan	CM1 - Vegetation Management	discussed but not modeled in RAMP		
	M5 - Expanded Vegetation Management	D1	-	-
Protocols on Situational Awareness	M7 - Enhanced Situational Awareness	-	All	All
Protocols on Public Safety Power Shut-Off	M3 - PSPS Protocols and Support Functions	-	O1	All

NOTE: There are additional elements in each of these WMP categories that were not directly addressed in RAMP; for a description of these additional elements, see Chapter 4.

In Table 3-4, the "WMP Topic" column refers to the section of Chapter 4 where each of these mitigations are discussed in greater detail. The "Applicable RAMP Control/Mitigation" column refers to the name of the RAMP activity, along with an abbreviated notation of whether the activity was classified as a compliance activity, control, or mitigation.[33] The "Drivers, Outcomes, and Consequences" columns indicate the potential positive impact of the applicable control or mitigation to the corresponding element of the bowtie diagram.[34]

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[32] Please refer to I.18-11-006 - SCE 2018 RAMP Report, Chapter 10, pages 10-22 - 10-42 for a detailed description of controls and mitigations analyzed in RAMP.

[33] CM = Compliance. This is an activity required by law or regulation. Compliance activities were not risk analyzed in the RAMP report. C = Control. This is an activity performed prior to 2018 to address the risk, and which may continue through the RAMP period. M = Mitigation. This is an activity commencing in 2018 or later to affect this risk. Both Controls and Mitigations were modeled in SCE's RAMP report.

[34] Please refer to I.18-11-006 - SCE 2018 RAMP Report, Chapter 10 for a description of the Driver, Outcome and Consequence mapping for each analyzed mitigation.

3.3.1 WMP ELEMENTS IDENTIFIED IN RAMP

Below is a description of the specific WMP elements and their expected impact on risk bowtie components as analyzed in RAMP.

3.3.1.1 Operational Practices

3.3.1.1.1 RAMP Mitigation M2 – Remote-Controlled Automatic Reclosers and Fast Curve Settings

RAR are protective devices for mainline conductor that can automatically interrupt faults. The RAR are programmed with special fast curve settings that can be remotely toggled to provide faster or more selective "fault clearing" to further reduce fire ignition risks and reduce service interruptions for SCE customers. Fast curve settings modify the relay fault detection curve, providing faster fault detection and interruption. These fast curve settings reduce the fault clearing time, reducing heat and arcing therefore reducing the possibility of ignition. This mitigation is primarily designed to be implemented during Red Flag Warnings or other high fire risk conditions.

3.3.1.2 Plans for Inspections of Electrical Infrastructure

3.3.1.2.1 RAMP Mitigation M4 – Infrared Inspection Program

SCE is deploying a biennial Infrared (IR) Inspection Program for overhead distribution lines within HFRA. The IR program identifies "hot spots" on distribution system equipment that indicate potential equipment failures. Inspection findings will be prioritized in accordance with SCE's Distribution Inspection and Maintenance Program (DIMP) manual and given appropriate system remediation timeframes.

3.3.1.3 System Hardening to Achieve Highest Level of Safety, Reliability and Resiliency

3.3.1.3.1 RAMP Control C1 – Overhead Conductor Program

SCE's Overhead Conductor Program (OCP) addresses public safety risks associated with wire-down events. This program includes both reconductoring and installation of branch line fuses (BLF). Reconductoring and branch line fusing are intended to target and remedy overhead conductor susceptible to failure due to overcurrent.

3.3.1.3.2 RAMP Control C2 – FR3 Overhead Distribution Transformers

Under this program, SCE will replace existing overhead distribution transformers (which are primarily filled with mineral oil) with overhead distribution transformers filled with ester fluid (such as Envirotemp FR3 Fluid).[35] Ester fluid is a derivative of renewable vegetable oil and has a higher flash point rating than mineral oil. This decreases the likelihood that the fluid and/or fluid vapors will ignite and remain ignited during a catastrophic event.

3.3.1.3.3 RAMP Mitigation M1 – Wildfire Covered Conductor Program

Installing covered conductor on SCE's system is an enhanced mitigation technique for reducing wildfire ignition risks, as compared to bare conductor. The covered conductor SCE is proposing to deploy as part of this mitigation utilizes a robust three-layer design. The design can prevent arcing caused by contact with a tree limb or other vegetation, another conductor, or a metallic balloon. In addition, the covering

[35] As part of routine maintenance and inspections in HFRA, SCE assesses the condition of existing transformers and will replace failing units with ester fluid-filled transformers.

on the conductor (the "insulation") helps reduce the frequency of contact-related circuit interruptions that can lead to wire-down events.

3.3.1.3.4 RAMP Mitigation M2 – Remote-Controlled Automatic Reclosers and Fast Curve Settings

This mitigation is expected to reduce the frequency of only those drivers that lead to RFW condition outcomes (O1 and O2). However, given constraints associated with the RAMP model structure, SCE represented this mitigation as not impacting any drivers (i.e., they are not "causal" factors for fires). Instead, for RAMP modeling purposes, SCE represented this mitigation as impacting all consequences associated with O1 and O2 (i.e., they are "preventive" factors for fires).[36]

3.3.1.3.5 RAMP Mitigation M8 – Fusing Mitigation

SCE plans to install or replace fuses at branch line locations in the HFRA. First, SCE will install new CLF at branch line locations. Second, SCE will replace existing fuses with CLF on circuits that traverse HFRA. This program is intended to reduce the risk of fire ignitions associated with SCE's distribution lines and equipment by reducing fault energy.

3.3.1.3.6 RAMP Mitigation M9– Fire-Resistant Poles

If pole replacements are required at locations where SCE is installing covered conductor in HFRA, SCE will use fire-resistant poles instead of traditional wood poles.[37] These poles will be composite material poles or other types of fire-resistant poles.[38]Use of the poles is intended to improve distribution system resiliency, increasing the chances that SCE equipment, including conductor, will remain intact should a wildfire occur.

3.3.1.4 Vegetation Management Plan

3.3.1.4.1 RAMP Compliance Control CM1 – Vegetation Management

SCE's existing Vegetation Management program reduces wildfire risk and meets current laws and regulations. The benefits of this activity were included in SCE's assessment of baseline wildfire risk, but SCE did not evaluate the specific risk reduction resulting from this compliance activity as it is prescriptively required. In other words, the impact of this activity on drivers, outcomes, and consequences was not explicitly modeled.

3.3.1.4.2 RAMP Mitigation M5 – Expanded Vegetation Management

SCE's expanded vegetation management effort will assess the structural condition of trees in HFRA that are not dead or dying, but could fall into or otherwise impact electrical facilities. These trees may be as far as 200 feet away from SCE's electrical facilities. Trees determined to pose a potential risk to electrical facilities due to their structural or site condition will be removed or otherwise addressed, where feasible.

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[36] SCE notes that reducing wildfire risk by implementing more sensitive protective settings and the blocking of reclosing will increase reliability consequences associated with faults that do not ignite wildfires. Because non-wildfire-related faults were not included within the scope of RAMP, the negative reliability impact of M2 was not reflected in the RAMP risk analysis.

[37] *See* section 4.3.3.4 for additional detail. Covered conductor is heavier than bare conductor and in some cases may require stronger replacement poles.

[38] Includes wood poles with a protective wrap specifically designed to withstand wildfires or steel poles.

3.3.1.5 Protocols on Situational Awareness

3.3.1.5.1 RAMP Mitigation M7 – Enhanced Situational Awareness

This mitigation will enhance SCE's wildfire situational awareness by deploying micro weather stations and HD cameras across its HFRA, developing a high-resolution weather model, enhanced meteorology capability and a high-performing computing platform for fire potential index modeling.

3.3.1.6 Protocols on Public Safety Power Shut-Off

3.3.1.6.1 RAMP Mitigation M3 – Public Safety Power Shutoff Protocol and Support Functions

SCE has recently instituted a formalized PSPS where it may de-energize selected circuits in HFRA to reduce the chances of fire ignitions during extreme and potentially dangerous fire conditions. This practice is aimed at keeping the public, SCE customers, and electrical workers safe.

3.4 EVALUATION OF NON-CPUC HFRA

3.4.1 SCE HFRA BACKGROUND

In December 2017, the CPUC adopted new fire-safety regulations, which included a requirement for the IOUs to integrate into their operations a new HFTD map, which indicates areas in California that are affected by Tree Mortality High Hazard Zones (HHZ, or Tier 1) or represent an elevated (Tier 2) or extreme (Tier 3) wildfire risk due to utility infrastructure-associated ignitions. These tiers drive certain maintenance, inspection, and vegetation management criteria/inspection intervals of overhead assets in high fire-threat areas as described in later sections. Prior to the creation of the CPUC HFTD Map, SCE utilized multiple sources to specify which areas in SCE's service area historically represented a high fire risk. Currently, SCE maintains HFRA maps that are a combination of historical map boundaries (based on past fire management and response experiences), CAL FIRE's Fire Hazard Severity Zone (FHSZ) maps, and most recently the CPUC HFTD map. SCE considers all three categories (i.e., Tier 2, Tier 3, and non-CPUC historical high fire risk areas) to be "HFRA."

SCE HFRA designation has implications on the way SCE designs, constructs, operates, inspects, and maintains its grid. In addition, there have been significant changes across SCE's service territory with respect to development/urbanization, system design/configuration, vegetation health, and climate change over the past few decades.[39] Going forward, SCE will assess if the areas currently designated as HFRA that are beyond the CPUC HFTD continue to pose significant wildfire risk sufficient to remain designated as HFRA. SCE's HFRA designations will be updated as a result of the assessment in 2019. Additionally, SCE will continue to assess areas in its service territory that are not currently within a HFRA and will add new areas that pose high fire risk due to changing conditions.

As shown in table 3-5 below, SCE designates approximately 35 percent of SCE's service area to be high fire risk.

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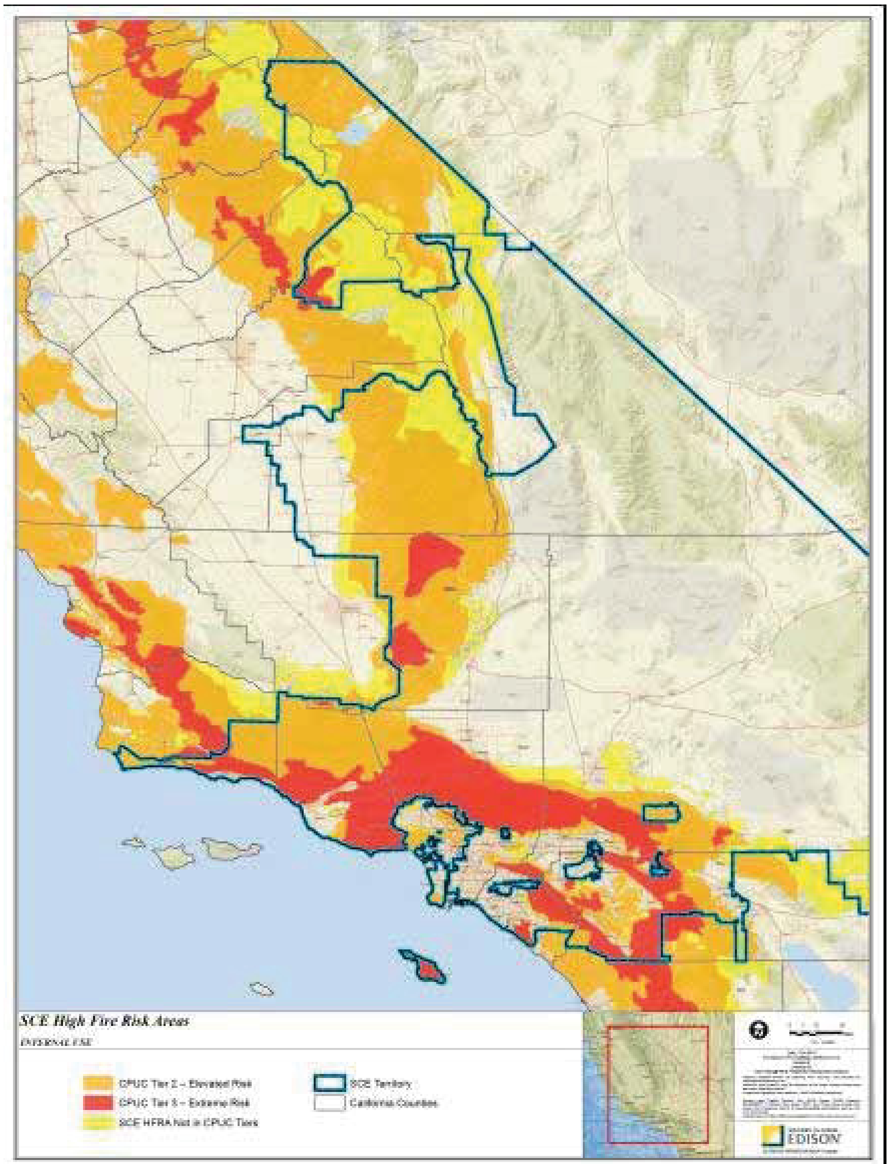
[39] SCE's HFRA designation takes into account the effects and realities of climate change at large, but does not rely on a particular "meteorological or climatological study."

Table 3-5
HFRA in SCE's Service Territory

	Area (Sq. Miles)	Percent of Service Area
CPUC Tier 3 – Extreme Risk	4,708	9 percent
CPUC Tier 2 – Elevated Risk	9,573	18 percent
SCE HFRA Not in CPUC Tiers	4,212	8 percent
TOTAL	**18,493**	**35 percent**

Figure 3-3 below shows the geographical representation of SCE's HFRA, as well as CPUC HFTD.

Figure 3-3
SCE'S HFRA



3.4.2 ACTIONS WITHIN HFRA

3.4.2.1 Changing Definitions of SCE's High Fire Risk Areas (Activity EVAL-1)

Beginning in September 2018, a team consisting of SCE employees with subject matter expertise in fire management/response, fire behavior/fuels, meteorology, maintenance/inspection, grid operations, vegetation management, and geospatial analysis embarked on a project to evaluate these non-CPUC HFRA (divided geospatially into over approximately 1,000 space areas or "polygons"). The evaluation of these areas considered several criteria, including, but not limited to, the presence of overhead assets, density of development/urbanization, vegetation density/type/health, typical wind speed, and circuit design/operation. The objective of this team is to determine whether to retain or exclude the areas under evaluation as "SCE HFRA." SCE will document the reasoning used to determine the final disposition of each of the polygons during the 2019 HFRA evaluation.

If an area is no longer included within SCE's non-CPUC HFRA, that area may be excluded from adhering to protocols associated with maintenance and inspection, grid operating restriction, and reassessment of protection devices in HFRA. Existing protective devices are likely to remain in place as they also provide a valuable reliability benefit. If a non-CPUC HFRA is removed from SCE's HFRA, SCE will reach out to the customers in the affected area and inform them of the changes. Additional details on operational and customer impacts is discussed in subsequent sections.

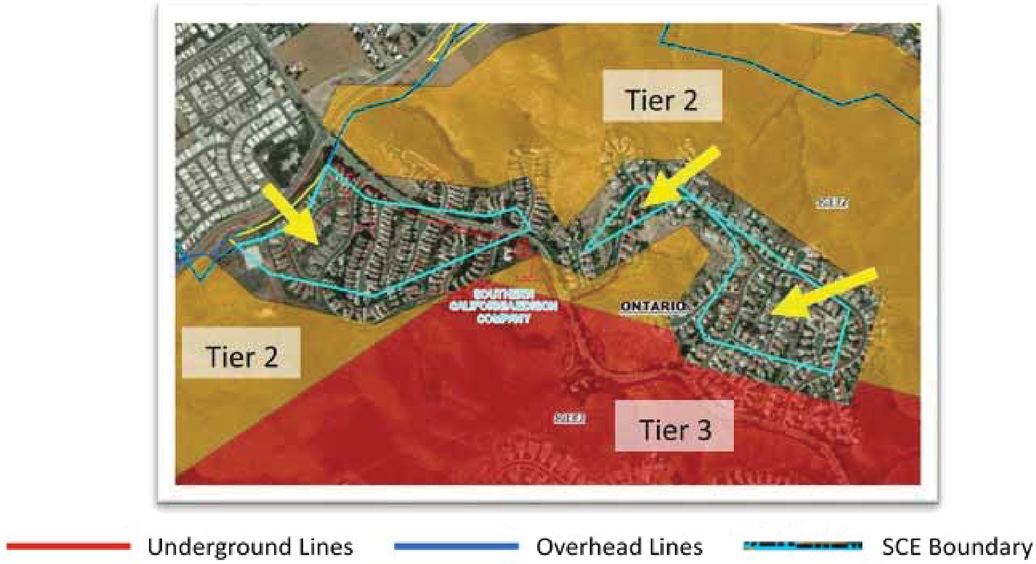
3.4.2.1.1 Non-CPUC HFRA Recommended for Exclusion from SCE HFRA

Examples of the kinds of polygons that will be removed from SCE's definition of HFRA going forward include but are not limited to non-CPUC HFRA that now have non-combustible landscapes, have become urbanized since they were originally included as HFRA, or have subsequently been undergrounded.

3.4.2.1.2 Example of non-CPUC HFRA polygon to be excluded

Figure 3-4 below is an example of a non-CPUC HFRA polygon that is surrounded by CPUC Tier 2 and Tier 3; however it is fully urbanized, and the circuitry is completely underground. There is a low probability of a wildfire associated with utility electrical equipment in an urbanized area where circuitry is undergrounded.

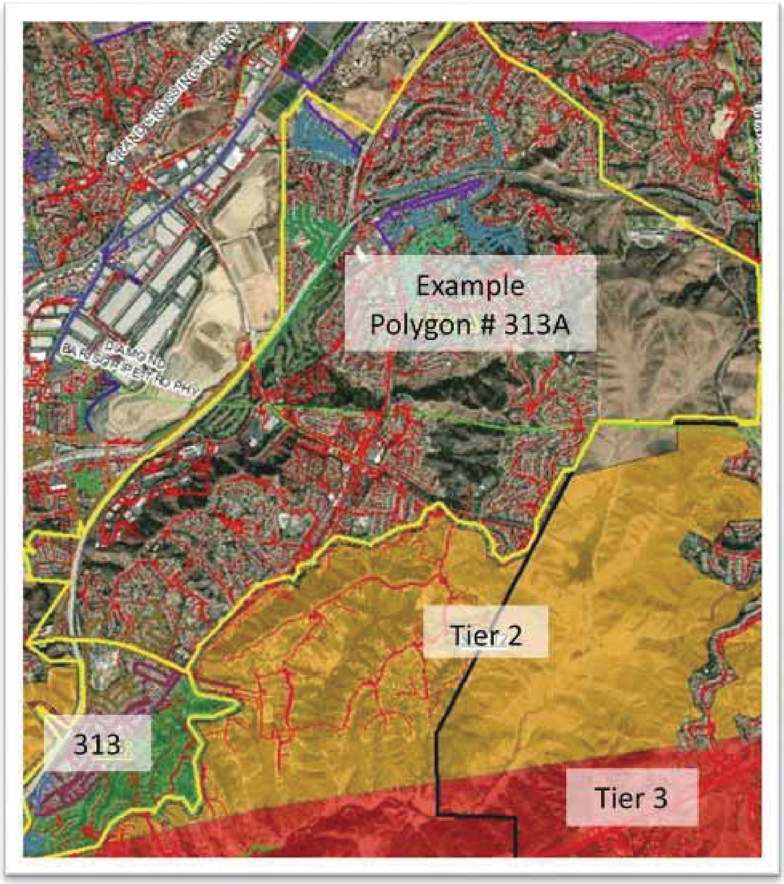
Figure 3-4
Example of a Non-CPUC HFRA Polygon Recommended for Exclusion



3.4.2.1.3 Non-CPUC HFRA Recommended for Retention

Figure 3-5 below illustrates an example of a non-CPUC HFRA that would remain in SCE HFRA. The non-CPUC HFRA has been sub-divided into two areas – one recommended to remain as non-CPUC HFRA and one to be removed. This area has a mix of both overhead and underground circuitry, but it has different adjacencies and proximities to CPUC Tier 2 and Tier 3. Underground circuitry is in red, and the other colored lines (purple and blue) are overhead lines. The primary polygon (#313A) is recommended to be removed as it is highly developed, the areas bordering CPUC Tier 2 are all underground, and there is low vegetation density. However, the subdivided polygon #313 has overhead circuitry that traverses in and out of the CPUC HFTD. Other considerations include a previous fire in this region and homes that border Tier 2, highlighted in green, are in a hilly area with high vegetation density and have prominent, prevailing winds. This creates a higher probability for a fire to propagate into the adjacent hills. Therefore, this area is recommended to be retained as non-CPUC HFRA.

Figure 3-5
Example of a Non-CPUC HFRA Polygon Recommended for Retention



3.4.2.2 Maintenance and Inspection Impacts

Electrical infrastructure assets are to be inspected, maintained, and repaired in accordance with General Orders (GO) 95, 128, and 165. Non-CPUC HFRA that are considered SCE HFRA will be treated as a Tier 2 (elevated) fire-threat.

3.4.2.3 Grid Operating Restriction Impacts

SCE restricts certain operations and switching procedures in HFRA during RFW and elevated fire weather threats. These operating restrictions are defined in SCE's System Operating Bulletin (SOB) 322 that outlines the operational protocols for overhead distribution and subtransmission equipment within HFRA. These guidelines include RFW restrictions, switching protocols, enabling of protective devices such as RAR and patrolling requirements in HFRA.[40] Additional detail on these restrictions and protocols can be found in Section 4.1.

3.4.2.4 Reassessment of Protection Devices in HFRA

SCE deploys certain protective devices, such as RAR and Circuit Breaker (CB) relays, on overhead systems in HFRA in accordance with SCE's SOB 322 and the operational restrictions contained therein. These protective devices are programmed to enable RAR/CB recloser blocking and fast curve settings during

[40] SCE is in the process of revising Standard Operating Bulletin (SOB) 322 to enable blocking of reclosers and execute PSPS during non-RFW weather events.

RFWs.[41] When a HFRA boundary is changed or otherwise moved, a reassessment of the protective devices in the affected areas will be conducted and an appropriate action plan developed. Whether these changes are due to periodic CPUC fire-threat map revisions and/or an internal HFRA assessment as noted above, these reassessments may trigger design/programming changes, device installation/relocation/removal, and system/database revisions.

3.4.2.5 Customer Impacts

As part of its communication strategy supporting awareness and education of SCE's wildfire prevention and mitigation strategies, SCE has sent various communications and conducted community "Town Hall" meetings with customers located within and adjacent to HFRA.

If communities or areas are newly considered as HFRA due to fire-threat map changes or other evolving wildfire risks, outreach efforts, as further described in Section 4.5.4, will be conducted to help keep customers notified and aware of the impacts.

3.5 ACTIVITIES AND 2019 GOALS

Activity	Description	2019 Goal	Compliance Evidence
RA-1	Expansion of risk analysis	Conduct risk analysis which includes, but is not limited to, 2018 fire ignition data, additional distribution and transmission information, and consequence modeling to evaluate wildfire risk at a circuit segment level	• Completed risk analysis • Updated list of prioritized wildfire drivers and risk mitigation efforts
EVAL-1	Evaluation of HFRA boundaries	Complete evaluation of non-CPUC HFRA for retention or exclusion	• A final disposition determination for each polygon • Documentation identifying the criteria used to determine each polygon's final disposition

41 See Section 4.1 for further explanation.

4 WILDFIRE PREVENTION STRATEGY AND PROGRAMS

This section describes the strategies and programs SCE has implemented, is in process of implementing, and will implement to mitigate the threat of electrical infrastructure-related wildfires and their consequences within its service territory. The strategies and programs also include activities to increase grid resiliency, enhance wildfire suppression, reduce the impact of wildfires and wildfire mitigation efforts on the public, and improve outreach and education with customers, community groups, and other stakeholders about how to prepare for, prevent, and mitigate wildfires in SCE's HFRA. SCE's strategies and programs are described in the following sections.

4.1 OPERATIONAL PRACTICES

Grid Operations is responsible for monitoring and operating SCE's electric system. During significant events, Grid Operations personnel act as SCE's accountable representatives in matters concerning the real-time operation of the system and coordinate activities with external agencies such as fire agencies and emergency response personnel. Grid Operations is also responsible for applying SOBs, which encompass operating protocols, remedial actions, communication and notification protocols, ratings and limits of lines and equipment, and system protection schemes. Qualified employees (e.g., Troublemen, Senior Patrolmen, Foremen, or Field Supervisors) may contact Grid Operations at any time to request a line or line segment be temporarily de-energized or place sectionalizing equipment into "non-automatic" settings to promote public and employee/contractor safety and system reliability. To reduce power line ignitions during extreme weather conditions, overhead subtransmission and distribution lines and line sections are subject to operating restrictions described in SCE's SOB 322 and summarized below.

4.1.1 OPERATIONAL CONSIDERATIONS

4.1.1.1 Red Flag Warning Program

The Red Flag Fire Prevention Program, internally referenced at SCE as the RFW Program, is a statewide wildfire awareness and prevention program in which SCE is a participant along with other key stakeholders such as CAL FIRE, California Office of Emergency Services (Cal OES), U.S. Forest Service (USFS), National Weather Service, and various city and county fire agencies. The program utilizes available CAL FIRE forces, cooperating fire agencies, utilities, citizens' groups, and news media to inform the general public of the potential for major wildland fires and the need to be aware of and exercise fire safe practices to lessen the damage and loss to California watershed, resources, life, and property.

The "Red" in the RFW Program refers to the Santa Ana Wildfire Threat Index (SAWTI)[42] which is produced by the USFS, the National Interagency Coordination Center's Predictive Services and other collaborators to categorize Santa Ana conditions in Southern California according to fire potential. The threat index uses a predictive model that incorporates moisture levels of dead and live vegetation and weather models, including wind speeds and atmospheric moisture, to produce a six-day forecast for potentially large fires. There are five threat categories, purple being the most extreme. The purple category was utilized for the first time in 2017, highlighting the evolving wildfire threat. SCE will activate RFW measures during a Red Flag warning or more severe event, such as a Purple Flag warning. For ease of reference in this WMP, "Red Flag warning" means Red Flag or greater conditions.

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42 SAWTI website: https://fsapps.nwcg.gov/psp/sawti/

SCE's FPP,[43] in compliance with D.14-05-020, is currently applied during RFW conditions (regardless of measured wind speed). It requires specific actions to be taken regardless of the affected area being HFRA or wind speeds not exceeding design criteria for the affected overhead lines. It does not require or depend on real-time wind speed measurements or monitoring. The FPP has historically been updated annually by SCE's Business Resiliency team and/or when changes are made to SOB 322 (which is further described below).

In counties under a RFW, SCE vehicles operating in or near HFRA display temporary "Red Flag Fire Patrol" vehicle signs. Fire agencies pre-deploy personnel and equipment in high fire hazard areas to spot and extinguish fires in their incipient stage. Non-fire agency personnel serve as lookouts, able to spot fires in the incipient stage and quickly notify fire agencies to respond. The presence of these "Red Flag Fire Patrol" placarded vehicles may also serve as a deterrent to arsonists.

When SCE's operating organizations receive notice that a RFW has been issued in their respective operating areas, they adhere to the following:

- "Red Flag Fire Patrol" signs are displayed on vehicles
- Work in HFRA (both emergency and non-emergency) is only performed when the following requirements are met, with limited exceptions:[44]
    - Activities are under the direct observation of the crew foreman or site lead;
    - When the crew can maintain adequate communications (using 900 MHz, cellular, satellite phone, etc.) with other SCE personnel and SCE's Distribution Operations Centers;
    - The crew has fire suppression equipment accessible in the immediate area of the work being performed that would facilitate an immediate response to an ignition (shovels, water backpack, ABC fire extinguisher); and
    - Local weather conditions, terrain, and surrounding vegetation would permit the crew to extinguish a fire resulting from the work being performed.
- The opening of remote-controlled air break pole switches (e.g., Remote Transmission Switches, Remote Controlled Switches), are (when possible) performed under visual observation to detect abnormalities.
- Crews remain on alert for fires or possible fires while working in or passing through fire hazard areas and fires are accurately reported to the appropriate switching or control center as soon as possible.

Further, where hot work (e.g., arc welding/cad welding, burning, grinding, brazing, thawing pipes, etc.) is performed, each work site develops a site-specific Hot Work Plan. The Hot Work Plan identifies hazards and control measures associated with hot work activities.

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[43] 2018 Southern California Edison Fire Prevention Plan: http://www.cpuc.ca.gov/uploadedfiles/cpuc_public_website/content/safety/electric_safety_and_reliability/filings/2018%20sce%20go%20166.pdf

[44] Limited exceptions include when work performed in an area devoid of flammable materials (e.g., parking lot, commercial area, agricultural lands, bare ground, work indoors, etc.) and where sparks or flame are not expected to be emitted.

4.1.1.1.1 Operation of Distribution Voltage Lines in HFRA

SOB 322 is used to standardize the operation of distribution voltage lines traversing HFRA. This operating bulletin imposes operating restrictions on designated overhead distribution lines to reduce the risk of wildfires when the National Weather Service issues a RFW and/or SCE determines there is an elevated fire weather threat that warrants additional protective measures.

Specifically, SOB 322 requires all circuit breakers and reclosers protecting the portions of circuits traversing through HFRA be set to not automatically re-energize following initial activation until the RFW expires and/or elevated fire weather conditions sufficiently abate. In the event protective relays on these circuit breakers operate to interrupt the flow of electricity, the line is not re-energized until the line is patrolled and deemed safe.

SOB 322 also specifies which SCE personnel are responsible for triggering and releasing these restrictions—this proactive approach minimizes any potential delays in responding to events and helps SCE staff to be fully aware of the responsibilities associated with their roles.

Blocking the reclosing feature of these relays can be set remotely on nearly all overhead reclosing devices throughout SCE's service territory. This automated functionality is an important feature that allows system operators located in centralized control facilities to quickly change the reclosing settings (automatic versus blocked) without the need to send crews to actual field locations.[45]

SCE conducts annual reviews of SOB 322 to proactively reevaluate its distribution circuits in HFRA to verify that the automatic switches can be blocked from reclosing in the event of a RFW or other elevated fire weather threats. SCE also reviews the few non-automated distribution circuits in HFRA to confirm that the recloser is non-automatic and operating properly.

4.1.1.1.2 Operation of Subtransmission Voltage Lines in HFRA

In addition to the operation of distribution lines, SCE also utilizes SOB 322 to standardize the operation of subtransmission voltage lines traversing HFRA. This imposes operating restrictions on designated overhead subtransmission lines to reduce the risk of wildfires when a RFW is issued or other elevated fire weather threats are identified. Specifically, SOB 322 requires all circuit breakers feeding subtransmission lines traversing HFRA be made non-automatic until the RFW expires or other elevated fire weather conditions sufficiently abate. With very few exceptions, the operation of subtransmission lines is similar to that of SCE's distribution lines, noted above.

4.1.1.1.3 Patrolling Requirements in HFRA

During a RFW or other elevated fire weather threat, if a distribution or subtransmission line or line section in the HFRA experiences a fault and the line relays, it is not re-energized until patrolled. A patrol, while operating restrictions are in effect, includes a visual check of all overhead main line and branch line conductors and equipment. A line section may be isolated and re-energized after a patrol with no cause found. Subsequent line sections may then be patrolled, isolated and re-energized until the faulted line section is found or the entire line and equipment has been patrolled. Fast curve settings, described further below, are temporarily disabled on all upstream interrupting devices for each section that is re-energized during the restoration to avoid undesirable circuit interruptions during the restoration

45 A small population of reclosers/circuit breakers are set to be blocked year-round or can only be manually tested by control room personnel after a patrol of the line has been conducted.

process. When a line or line section relays with a fault located, the remaining upstream and downstream line sections are patrolled prior to re-energizing.

Once the patrol has been completed, whether the problem was found and isolated or there was no cause found, the line or line section recloser remains non-automatic until the RFW expires or other elevated fire weather conditions sufficiently abate.

This additional patrolling may cause longer outages for customers but is required for safety reasons prior to re-energization.

4.1.1.1.4 Distribution Blocking for RAR and Circuit Breakers

RAR are protective devices applied to mainline conductors that can automatically interrupt faults. SCE has existing RAR, and plans to install additional RAR, which will permit SCE to remotely block reclosing in SCE's HFRA during a RFW or other elevated fire weather threat. The RAR will provide faster and more selective "fault clearing" to further reduce fire ignition risks and lessen service interruptions for SCE customers. If RAR protection is unavailable, SCE blocks reclosing at the substation CB. A thorough patrol of the circuit is required prior to isolating the fault condition and restoring power.

4.1.1.1.5 Fast Curve Settings for RAR and Circuit Breakers

Fast curve settings modify the relay fault detection curve, providing faster fault detection and interruption. SCE has developed and started deploying fast curve settings on distribution voltage RAR and CB on circuits that traverse HFRA. These fast curve settings reduce the fault clearing time, which reduces heat and arcing, and as a result, the likelihood of ignition. Like the blocking of reclosers, fast curve settings can be remotely activated or de-activated by SCE system operators through SCE's monitoring and control radio network. Lastly, if a fault interrupts a circuit when fast curve settings are enabled, SCE will only re-energize these lines after a patrol of the line has been performed and it is safe to do so.

4.1.1.1.6 Air Operations

SCE utilizes its Aircraft Operations department (Air Operations), which operates a fleet of helicopters and unmanned aerial vehicles (UAV (i.e., drones)), to assist in patrolling distribution and transmission lines. Air Operations also provides as-needed, aerial surveillance (e.g., line/equipment inspections, burn scar analyses, debris flow analyses, etc.) following fire and weather-related storms. As conditions allow, Air Operations also assists in the transport of personnel and material to remote locations.

4.1.1.1.7 Annual SOB 322 Review (Activity OP-1)

In 2019, SCE will review and update SOB 322 to reflect lessons learned from past elevated fire weather threats, including those where a RFW was not issued. Additionally, SCE will integrate, where applicable, new and improved data from its situational awareness resources to bolster risk-informed decision making and improve operational effectiveness during elevated fire weather threats.

4.1.2 WILDFIRE INFRASTRUCTURE PROTECTION TEAMS

SCE has permanent Fire Management Officers and specialized experts with fire service and electrical backgrounds that monitor, respond to and provide information on fires affecting, or determined to have the potential to affect, SCE infrastructure. During an active fire event, the team provides a weekly update report to the CPUC. These personnel represent SCE during fire incidents, often embedding in the fire management structure and serving as a liaison to it. They help coordinate SCE's response to fires by providing information to manage the bulk electric system, repair damage, restore the electric system, and safely gain access to begin restoration work. These personnel maintain close working relationships with fire and emergency management agencies throughout the service territory and serve as consultants and subject matter experts on fire risk management. They provide actionable and timely information to responsible personnel throughout SCE. They also enhance first responder safety by developing and delivering Electrical Safety for First Responders Awareness Training.

SCE's staff includes a team of meteorologists who are members of the American Meteorological Society and who are specifically educated in Atmospheric Sciences. SCE's meteorologists support pre-incidents by monitoring evolving weather, fuel and other conditions that might lead to fire event events and other hazardous conditions. In addition, these meteorologists coordinate the installation of weather stations; work with vendors to deploy high resolution weather models; develop new tools and products to support SCE's Situational Awareness Center; explore new models to predict fire potential; and support incidents and pre-incidents by providing meteorological expertise (including on a twenty-four hour, seven-day-a-week schedule at SCE's Situational Awareness Center during activated incident management conditions). SCE also employs Geographic and Information System (GIS) specialists that provide support for various mapping activities, such as working with SCE's meteorologists to aggregate data to inform decision making.

4.1.2.1 GIS Data Availability

Real-time information is vital to the success of mitigation activities and incident management and provides a necessary common operating picture of how impacts to SCE infrastructure during an incident may affect local communities. SCE is currently engaged in an effort that regularly provides GIS data, such as general SCE infrastructure locational information, outage maps and related vegetation databases to local governments in SCE's service territory, CAL FIRE, Cal OES, and the CPUC prior to any active incident.[46] SCE will continue to work with local and state government to further improve GIS data sharing practices.

During an active incident, SCE designates a point of contact for all external agencies and establishes open lines of communication with affected local communities as well as the California State Warning Center (CSWC) and the CPUC's SED. Regular, ongoing situational updates on the status of the incident including maps of circuits affected and impacts to local communities due to de-energization are continually shared and actively updated for the duration of the incident.

4.1.2.2 Additional Staffing (Activity OP-2)

In 2018, SCE hired one meteorologist, one fire management officer, and one fire scientist. SCE plans to hire one additional meteorologist in 2019. Increasing fire risk has placed a significant strain on SCE's fire management officers, who also support system planning efforts related to grid resiliency. The additional fire management officer will help SCE continue to timely respond to fire incidents and coordinate with first responders. The new fire scientist will help build and mature complex fire models designed to predict wildfire ignition and propagation by considering multiple variables such as weather, fuel, and asset conditions. As further described in Section 4.5, these models will inform SCE's Incident Management Team (IMT) of severe fire conditions which may require deployment of PSPS in HFRA. The additional meteorologist will support the tasks described above. Moving forward, SCE will continue to

[46] GIS data that SCE provides includes general locations of SCE infrastructure and is not considered critical energy infrastructure information (CEII) under federal law.

evaluate the need for additional fire management experts to support the Wildfire Infrastructure Protection Team.

4.1.3 ACTIVITIES AND 2019 GOALS

Activity	Description	2019 Goal	Compliance Evidence
OP-1	Annual SOB 322 Review	Review and update SOB 322 to reflect lessons learned from past elevated fire weather threats and integrate, where applicable, new and improved data from its situational awareness resources	Updated SOB 322
OP-2	Wildfire Infrastructure Protection Team Additional Staffing	Hire one additional meteorologist	Human Resources record of date hired

4.2 PLANS FOR INSPECTIONS OF ELECTRICAL INFRASTRUCTURE

4.2.1 PROGRAM OVERVIEW

SCE's distribution, subtransmission, transmission, and substation facilities are inspected or patrolled annually through its DIMP, Transmission Inspection and Maintenance Program (TIMP), Substation Inspection and Maintenance Program (SIMP), and the Quality Oversight/Quality Control groups to facilitate compliance with state and federal requirements. SCE's inspection and maintenance programs are designed to proactively identify and remediate potential equipment/facility failure. These inspection and maintenance programs help reduce potential ignition events and improve reliability and grid resiliency by replacing failed or failing equipment. Because certain inspection programs are linked with routine maintenance programs, this section provides descriptions and activities for both.

4.2.2 EXISTING INSPECTION AND MAINTENANCE PROGRAMS

4.2.2.1 Distribution Inspection and Maintenance Program

DIMP helps SCE maintain public and worker safety and regulatory compliance by completing scheduled detailed inspections and AGP in conformance with GO 165, and performing distribution infrastructure maintenance, as described in SCE standards and in accordance with GO 95, GO 128, and prudent utility practice. The purpose of DIMP is to 1) provide procedures, instructions, and guidance to the field inspectors who perform detailed inspections and patrols of distribution equipment and 2) outline criteria to prioritize inspection findings and schedules to complete repairs and replacements of distribution infrastructure based on the condition of each asset and its potential for impact on safety and reliability, considering various factors.

The maintenance aspect of DIMP focuses on the repair or replacement of distribution infrastructure identified through SCE's inspection programs, equipment, and structures that fail in service, and engineering analyses, for the safety of the public, contractors, and SCE personnel.

DIMP uses a three-priority rating system designed to identify and prioritize action items to resolve safety and reliability issues. A Priority 1 issue typically requires action as soon as the issue is discovered, either by fully remediating the condition, or by temporarily repairing the equipment or structure to allow for follow-up corrective action. An example would be a broken cross arm on a pole.

Priority 2 issues are considered to be lower risk and therefore may be resolved that day or within 24 months based on the existing safety or reliability condition and location. However, if the Priority 2 issue is located within HFRA and poses a potential fire risk, remediation work will be completed within 12 months. In an extreme fire threat area or Tier 3, the maximum remediation time is within 6 months.

Priority 3 issues currently do not require near-term remediation as they do not pose material safety, reliability, or fire risks, and will either be repaired or re-evaluated at or before the next detailed inspection. Beginning June 30, 2019, new Priority 3 issues will require remediation within 60 months pursuant to D.18-05-042.

Below is a Risk Assessment Matrix to illustrate the relationship between reliability and safety. The Risk Assessment Matrix provides inspectors guidelines to assign a reasonable timeframe for the correction or re-inspection of any distribution facility condition.

Figure 4-6
Risk Assessment Matrix

Reliability (Failure Risk)					
	Component Failure could lead to System Failure	Priority 2 Action Required 13-24 Months	Priority 2 Action Required 4-12 Months	Priority 2 Action Required 0-3 Months	Priority 1 Action Required Immediately
	Component Has Failed No significant risk to system	Priority 3/No Action Required Only 95/128 Infractions Recorded	Priority 2 Action Required 13-24 Months	Priority 2 Action Required 4-12 Months	Priority 2 Action Required 0-3 Months
	Potential Component Failure	Priority 3/No Action Required Only 95/128 Infractions Recorded	Priority 3/No Action Required Only 95/128 Infractions Recorded	Priority 2 Action Required 13-24 Months	Priority 2 Action Required 4-12 Months
		No/Slight Impact	Minor Impact	Moderate Impact	High Impact
		Safety (People/Property/Environment)			

The major programs within DIMP are further described below.

4.2.2.1.1 Overhead Detail Inspection Program

The purpose of the Overhead Detail Inspection (ODI) program is to perform a close in-depth inspection of SCE's overhead electrical distribution facilities, such as poles, capacitors, switches, transformers, conductors, guy wires and risers, with the intent to identify and document visually apparent conditions. ODI inspectors also verify the accuracy of asset information and facility inventory mapping references for appropriate corrective actions. ODI adheres to GO 165 inspection frequency of 5 years for detailed inspections.

Inspectors identify and perform certain maintenance tasks during the course of the detailed inspections. ODI inspectors make minor repairs at the "public" level while at the site, to the extent possible, rather than having other SCE personnel return later to make the repairs. The public level is typically an area that is readily accessible to the general public, approximately 8 feet up from the ground level for a utility pole. Examples of typical minor repairs are installing new visibility strips, replacing damaged ground molding at the public level, installing guy guards, installing pole tags, and removing unauthorized attachments. For conditions that cannot be repaired during the inspection, the ODI inspectors document and prioritize items for follow-up corrective action in accordance with the priority classifications described above. These routine maintenance repairs and replacements resulting from ODI are considered preventative maintenance and have secondary wildfire risk mitigation benefits. The inspector will also identify, document and report any safety or reliability conditions created by communication company activities on inspected poles that result in General Order (GO) 95 and/or GO 128 infractions, and GO 95 and/or GO 128 infractions created on or near distribution facilities by non-utility third parties that are not subject to CPUC jurisdiction, such as unauthorized attachments.

4.2.2.1.2 Annual Grid Patrol

The purpose of the AGP is to visually inspect SCE's overhead and above-ground underground electrical distribution facilities every year to identify and document obvious safety and reliability conditions that require corrective action.[47] AGP adheres to or exceeds the inspection frequencies required within GO 165. The grid patrol inspector performs a simple visual inspection of publicly-accessible electrical distribution facilities within the assigned inspection area. Annual patrols are performed primarily from ground vehicles but can also be performed by foot or by aircraft. When conducting annual patrols, the inspectors also assess visible portions of distribution underground systems such as pad-mounted transformers, vault lids, and vent pipes. Like ODI, these inspectors document and prioritize items for follow-up corrective action in accordance with the priority classifications described above. These routine maintenance repairs and replacements resulting from AGP are considered preventative maintenance and have secondary wildfire risk mitigation benefits.

4.2.2.1.3 Underground Detail Inspection Program

The purpose of the Underground Detail Inspection (UDI) program is to perform an in-depth inspection of SCE's underground distribution facilities and pad-mounted equipment including structures, switches, transformers, visible cables, and associated components. UDI inspectors identify and document safety hazards and visually apparent conditions, and verify the accuracy of asset information and facility inventory mapping references for appropriate corrective actions. UDI adheres to GO 165 inspection frequencies of three years for subsurface facilities and five years for pad-mounted facilities. Inspectors identify and perform certain maintenance tasks and minor repairs during these detailed inspections. Typical minor repairs can include such things as installing new signage, structure tags, securing vault lids and removing debris. Like the ODI program, for conditions that cannot be repaired during the inspection, the UDI inspectors document and prioritize items for follow-up corrective action in accordance with the priority classifications described above. The crews are typically comprised of a lineman and a groundman who have received specialized training to work in underground vaults and near energized high voltage equipment. These routine maintenance repairs and replacements resulting from UDI are considered preventative maintenance and have secondary wildfire risk mitigation benefits.

[47] In many cases, the ODI can satisfy the AGP requirement for compliance purposes.

4.2.2.2 Transmission Inspection and Maintenance Program

SCE's TIMP helps maintain public and worker safety and regulatory compliance by completing scheduled inspections of subtransmission and transmission assets, in conformity with GO 165, and performing transmission maintenance, in accordance with GO 95, GO 128, SCE standards, and prudent utility practice. The purpose of TIMP is to 1) provide procedures, instructions, and guidance to field inspectors who perform detailed inspections and patrols and 2) specify guidelines to prioritize and complete repairs and replacements of transmission infrastructure based on the condition of each asset and its potential for impact on safety and reliability, considering various factors. Any abnormal conditions, such as a broken cross arm or damaged tower footings identified through TIMP are repaired immediately if categorized as a Priority 1 condition. Priority 2 conditions are corrected within 12 months in Tier 2 HFRA, within 6 months in Tier 3 HFRA, and within 36 months in non-HFRA.

SCE conducts annual routine patrols of overhead lines, communication circuits, above-ground equipment, and overhead components of underground circuits, such as riser poles, terminations, and lightning arrestors. Rights-of-way inspections are incorporated into transmission circuit patrols and are not considered a separate inspection program. Detailed inspections of overhead lines, communication circuits, underground lines and vaults are conducted every three years. Patrols and detailed inspections are performed and completed by Senior Patrolmen or qualified Linemen.

Additional inspections are performed on overhead lines that run through densely populated urban areas, more rugged rural areas, or geographic locations facing severe weather or environmental conditions (e.g., high winds, coastal areas exposed to salt, etc.). Inspections are also performed after unplanned events, such as severe weather, fires, and equipment malfunctions. Inspectors document any discrepancies, which are evaluated against construction and compliance standards to determine the item's priority level and sets the timeframe for corrective action.

SCE's underground subtransmission and transmission lines, along with the structures housing the lines, require routine inspections to detect and remedy any degradation. SCE performs these activities on a predetermined schedule to comply with the requirements of GO 128. At a minimum, all overhead components including riser poles, terminations and lightning arrestors are inspected annually under GO 95. Annual inspections also include the examination of transmission components within each substation. Inspections of the underground components, which include vaults, cable, splices, and shield arrestors, are inspected at a minimum once every three years. Emergent line inspections to assess component or structural damage are performed after unplanned events, such as severe weather, lightning, fires, equipment malfunction, and other incidents that may have caused circuit interruption or damage.

Transmission maintenance is driven by inspection results or Infrastructure Replacement Program activities. Sometimes, field observations lead to projects to address emergent issues in a particular grid or equipment or structure type. In other instances, projects are identified through SCE's Transmission Infrastructure Replacement program, which identifies maintenance work for items such as conductor and switch replacements using grid and/or engineering analyses. SCE initiated its Transmission Infrastructure Replacement program in 2013 to address safety and/or reliability risk resulting from issues with aging transmission infrastructure that were identified but had not led to equipment failure. The criteria for projects identified in this program includes the replacement of obsolete or deteriorated assets.

4.2.2.3 Substation Inspection and Maintenance

SIMP helps SCE maintain public and worker safety and regulatory compliance by completing scheduled inspections, in conformance with GO 174, and by performing maintenance and testing of equipment, as described in SCE standards and in accordance with prudent utility practice. SIMP also facilitates SCE's testing of its protection systems to meet regulatory requirements and commitments, such as North American Electric Reliability Corporation (NERC) reliability standards.[48] This protection system testing consists of routine inspection and maintenance in conjunction with repairs and replacement of equipment, such as distribution relays, as necessary. Distribution relays less than 66 kV in HFRA have 6-year test intervals, while those that are outside of HFRA are inspected every 12 years.

4.2.2.4 Pole Inspections

SCE's pole inspection programs are included in this section. The repair and replacement of poles resulting from these inspections are described in Section 4.3.

4.2.2.4.1 Intrusive Pole Inspection Program

The purpose of the Intrusive Pole Inspection (IPI) program is to evaluate SCE's wood poles using visual and internal examination of the poles to identify and document damage or decay requiring remediation. GO 165 requires intrusive inspections for all poles at least 15-years old, or older, to be completed using a 10-year cycle. Intrusive inspections involve drilling into the pole's interior to identify and measure the extent of internal decay, if any. Inspectors will apply a preservative to poles that pass the inspections to reduce the likelihood of future decay when conditions warrant.[49] Inspectors may also perform a visual inspection on poles that are in the inspection grid but that are younger than 15 years old to look for signs of obvious external damage. The inspector analyzes the integrity of the pole and classifies it for repair or replacement, as necessary. Approximately 10,000 poles are identified for repair or replacement each year through this program across SCE's service territory. IPI is an integral part of the Deteriorated Pole Program established in 1997; the Deteriorated Pole Program is further discussed in Section 4.3.

4.2.2.4.2 Pole Loading Program

The Pole Loading Program (PLP) is an inspection and remediation program to identify poles that do not meet safety factor requirements of GO 95 and SCE's internal design and construction standards territory for repair or replacement. PLP's goal is to assess the structural loading capabilities of the approximately 1.4 million poles in SCE's service territory to meet current design standards by 2021, and to continue addressing pole overloading issues by 2025. This program is designed to verify that the structural integrity of existing poles is sufficient to withstand anticipated wind loads acting on poles including wind loading in high wind areas within SCE's service territory. PLP prioritizes assessment of poles in HFRA. Although the CPUC requires a design wind pressure of 6 pounds per square foot (with 0.5 inches of radial ice) or 8 pounds per square foot (no ice), SCE adopted higher wind loading design standards of 12, 18, and 24 pounds per square foot in addition to the standards for 6 and 8 pounds. This is based on meteorological studies in areas with higher wind velocities. The wind-loading criteria that SCE applies is based on specific line locations and potential wind speeds at those locations. SCE will continue to assess pole conditions and replace poles, where applicable, based on the higher wind loading criteria outlined above. All poles that require replacement are prioritized based on their safety factor and on whether

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48 For example, NERC Reliability Standard PRC-005-6 – protection system, automatic reclosing, and sudden pressure relaying maintenance.

49 Preservatives are applied in conformance with the regulations of the California Department of Pesticide Regulation. In 2016 and 2017, 99.76% of passing poles had preservatives applied.

the pole is in HFRA. SCE typically replaces wood poles with new wood poles that meet or exceed SCE's current standards, and in some circumstances, SCE utilizes light weight steel poles for its subtransmission overhead system or composite poles for its distribution overhead system. PLP has secondary wildfire risk mitigation benefits.

4.2.2.5 Quality Oversight / Quality Control

SCE's Quality Oversight / Quality Control group performs independent evaluation of activities that impact the safe, reliable, and affordable delivery of electricity and partners with organizations throughout Transmission and Distribution (T&D) to correct quality gaps. The Quality Oversight / Quality Control group assesses compliance with GO 95, 128, 165, and 174 in addition to various SCE maintenance, inspection, and construction standards.

Current Quality Oversight / Quality Control programs include inspection of distribution overhead and underground construction by SCE and contract crews. The group also assesses performance quality of compliance-driven inspection programs such as ODI, UDI, and IPI; performs quality assessments of vendor-performed pole loading calculations for PLP; and assesses performance quality of vendor-performed steel stub pole repairs.

4.2.3 ADDITIONAL ACTIONS TAKEN IN HFRA

4.2.3.1 Enhanced Overhead Inspections and Remediation (Activity IN-1 and IN-2)

In light of rapidly evolving wildfire risks, SCE continues to review and assess its inspection and maintenance programs to keep pace with the evolution of wildfire threats. Historically, SCE's inspection and maintenance programs have been developed and executed with a focus on regulatory compliance, and multiple inspection programs have been established over time to meet additional compliance obligations.

To address the evolving wildfire risk beyond existing programs, SCE commenced the EOI initiative with two primary goals. The first goal is to conduct inspections of all overhead transmission and distribution structures (approximately 50,000 transmission structures and 380,000 distribution structures) and equipment in HFRA with a focus on potential ignition risk conditions. These inspections started in late 2018, and SCE is attempting to complete them before the start of the height of the 2019 wildfire season. Inspections are being conducted by qualified electrical workers, and remediation identified during these inspections will be categorized using the three-priority rating system as described in Section 4.2.2.1. Remediation activities likely will include, but are not limited to, vegetation pruning/removals and the repair or replacement of overhead structures and equipment, such as conductors, poles, cross arms, insulators, and transformers. As part of the EOI effort, SCE will also assess and deploy additional system hardening measures to reduce ignition risk or increase grid resiliency, as appropriate, based on conditions observed. These measures may include, but are not limited to, wildlife protection (e.g., critter guards), long span mitigations (e.g., installation of line spacers, reconductoring, cross arm replacement), and the application of fire-retardant coatings to poles and in some cases surrounding vegetation.

The second goal of the EOI initiative is focused on SCE's desire to evolve from a compliance-based approach to a risk-based approach that adequately addresses the evolving wildfire threat. Inspection results will be analyzed in light of SCE's existing inspection, maintenance and capital programs, a risk-based inspection and remediation model will be explored, and lessons learned from the EOI initiative will be studied. The results of these analyses will serve as a foundation for a risk-based inspection and maintenance strategy that is likely to impact the objectives, design, and tactics of existing inspection and maintenance programs moving forward. Furthermore, SCE anticipates that these findings may also influence future design, engineering, construction, and operational standards/procedures to assess wildfire risks throughout the asset lifecycle.

4.2.3.2 Quality Oversight / Quality Control of EOI (Activity IN-3)

SCE's Quality Oversight / Quality Control group will perform independent quality control (QC) inspections on approximately 7,500 transmission and distribution structures in HFRA based on EOI in 2019. These QC inspections will be performed utilizing sampling to ascertain the effectiveness of the EOI inspections. The QC inspections exceed the requirements of GO 165. Any conditions identified as part of the QC process will be remediated. Additionally, in 2019, SCE will further refine and adjust its sampling methodology using a risk-based prioritization for differing wildfire risk levels within HFRA.

4.2.3.3 Distribution Infrared Inspection Program (Activity IN-4)

The Distribution IR Inspection program, which SCE began in 2017, provides for routine, ground-based infrared inspections of overhead distribution facilities in HFRA. SCE conducted IR inspection on overhead distribution energized facilities on all circuits in HFRA in 2017-2018. The infrared inspections are performed using infrared cameras (heat-sensing cameras), which may find deterioration-indicating conditions not visible to the human eye. IR inspections can detect a wide range of anomalies, including, but not limited to, failing switch and fuse contacts, poor connections, loose bushings, overloaded/failing transformers, and other issues that can result in component failure. The findings are evaluated and prioritized per SCE's current DIMP and addressed in the respective remediation timeframes. As described in SCE's GSRP application and supporting testimony, SCE will conduct another cycle of IR inspections of overhead distribution energized facilities on all circuits in HFRA over 2 years, in 2019-2020.

4.2.3.4 Transmission Infrared and Corona Inspection Initiative (Activity IN-5)

In addition to the EOI initiative noted above in Section 4.2.3.1, SCE launched a Transmission IR and Corona inspection effort focused on certain subtransmission and transmission (hereafter collectively referred to as transmission) lines in HFRA. This effort, which started in the first quarter of 2019, seeks to perform an IR and Corona scan of all overhead transmission facilities and equipment located in HFRA.[50] Specialized infrared and ultraviolet (Corona) light cameras are typically mounted to helicopters and the line is flown, with special attention paid to splices, conductor connection/attachment points, and insulators. The IR scan detects temperature differences and heat signatures of components, which may indicate problems (not visible to the naked eye) that could result in component/conductor failure. The Corona scan detects the degree of electric discharge or 'leakage' due to the ionization of air surrounding high voltage electric components, which, if substantial enough, could result in an arc flash or mechanical component failure. In addition, a high-definition camera takes pictures of anomalies found for review. A remediation plan is developed for anomalies and integrated with any needed repair or replacement resulting from the physical EOI of transmission assets. To further mitigate wildfire ignition risks, the results from this initiative will be factored into the continuous improvement of SCE's TIMP and Quality Oversight/Quality Control programs and the design and construction of transmission facilities.

4.2.4 ACTIVITIES AND 2019 GOALS

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[50] Industry standard practice is to IR scan transmission lines operating at 40% or higher of rated line capacity. SCE is evaluating the ability to capture IR images at lower rating capacities.

Activity	Description	2019 Goal	Compliance Evidence
IN-1	Distribution Enhanced Overhead Inspections and Remediation in HFRA	1) Complete visual inspection of all distribution circuits in HFRA before 5/31 2) Remediate all conditions that create a fire risk in accordance with CPUC requirements	Enhanced Overhead Inspection and Maintenance records
IN-2	Transmission Enhanced Overhead Inspections and Remediation in HFRA	1) Complete visual inspection of all transmission circuits in HFRA before 5/31 2) Remediate all conditions that create a fire risk in accordance with CPUC requirements	Enhanced Overhead Inspection and Maintenance records
IN-3	Quality Oversight / Quality Control of EOI	1) Perform quality review on approximately 7,500 Transmission and Distribution structures in HFRA based on EOI inspections	Quality Oversight / Quality Control records
IN-4	Infrared Inspection of energized overhead distribution facilities and equipment	1) Inspect 50% of overhead circuit lines in HFRA 2) Remediate conditions as required based on inspection results	Infrared inspection records
IN-5	Infrared Inspection, Corona Scanning, and High Definition imagery of energized overhead transmission facilities and equipment	1) Complete IR, Corona, and HD image scanning of all overhead transmission lines in HFRA that are loaded to 40% of rated capacity or higher 2) Integrate remediation with EOI activities	Infrared inspection records

4.3 SYSTEM HARDENING TO ACHIEVE HIGHEST LEVEL OF SAFETY, RELIABILITY, AND RESILIENCY

4.3.1 PROGRAM OVERVIEW

SCE’s system hardening effort is largely an ongoing, multi-year program focused on wildfire prevention (i.e., reducing ignitions) and enhancing system resiliency (i.e., reducing damage to electrical infrastructure from fires). For example, replacing standard “bare” overhead conductor with “covered” conductor in HFRA is expected to significantly reduce ignitions caused by foreign objects such as palm fronds, metallic balloons, debris, etc. Additionally, use of composite/fire retardant poles provides a two-fold benefit. First, such an approach improves system resiliency and reduces damage to electrical facilities by ensuring poles do not burn and result in attached equipment (e.g., conductor, transformers, etc.) falling to the ground. Second, it reduces restoration time as composite poles are more fire-resistant, thereby reducing the amount of poles needing replacement.

To address the increased wildfire risk, SCE is implementing many of the activities described in the GSRP and this WMP, as well as assessing the potential to accelerate certain activities described in its GSRP application. Even if SCE is successful at accelerating certain activities, programs such as SCE's WCCP in HFRA will be a long-term program.

SCE's grid hardening activities in this chapter primarily targets the distribution system (with some also being applicable to higher-voltage subtransmission and transmission lines) in HFRA due to the higher risk of fire ignition from distribution power lines compared to transmission-level power lines. As noted in Chapter 3, in 2019, SCE will conduct additional risk-based analyses focused on its subtransmission and transmission infrastructure in HFRA to consider additional wildfire mitigation programs and activities.

4.3.2 EXISTING SYSTEM HARDENING PROGRAMS

SCE's existing system hardening strategies have evolved over time and provide wildfire risk mitigation. For example, automated equipment such as circuit breakers, and RAR are standard pieces of equipment throughout SCE's service territory and are used to quickly detect faults, isolate circuits, and restore electric service to customers. RAR have been used at the high-fire boundaries in SCE's service territory for decades, and SCE has had reclosing restrictions on distribution lines traversing HFRA since the 1950s. As described in Section 4.1, RAR and circuit breakers on distribution lines prevent reclosing following a fault, which lessens the potential for ignitions from distribution line faults during RFW events or other high wildfire risk conditions. SCE also has the capability to remotely disable groups of reclosers during RFW events or other high wildfire risk conditions. SCE has previously targeted HFRA to mitigate wildfire risk. For example, sensitive ground schemes have previously been deployed in HFRA; sensitive ground schemes reduce the magnitude of current delivered to ground faults and allow for lower, more sensitive ground protection settings, thus minimizing ignition risk. While three-phase and phase-to-phase fault currents are not reduced, these schemes do provide a reduction in energy for ground faults.

SCE follows several principles when designing its system, including using wider easements and rights-of-way (ROW), and clearing buffers around substations to reduce the possibility of ignition due to debris contacting substation equipment.

Over the years, SCE has implemented many infrastructure replacement and improvement programs. These programs help mitigate wildfire risk and include replacement programs designed to mitigate in-service failures for aging distribution and transmission assets (e.g., wooden poles, overhead conductors, relays, etc.) and replacements for safety purposes. SCE reviews its multi-year plan for these infrastructure programs during the annual operating plan process and, as necessary, reprioritizes and adjusts program accordingly. These infrastructure programs, outlined in detail in SCE's 2018 GRC filing, include, for example, OCP and the Deteriorated Pole Program, and are described below.

As part of SCE's equipment and hardware selection process, SCE uses the CAL FIRE Power Line Fire Prevention Field Guide, which identifies utility equipment that has increased safety margins and a lower likelihood of causing ignitions. The guide was created to collectively document utility best practices for line construction with safer equipment and materials. Beyond the Power Line Fire Prevention Field Guide, SCE may use additional fire resilient materials, where available, and after evaluating the relative tradeoffs of using such materials. The following sections include summaries of SCE's major existing system hardening programs that have wildfire risk mitigation benefits.

4.3.2.1 Design and Construction Standards

SCE has traditionally designed its system to safely deliver reliable and affordable power to customers, and these efforts often provide direct or indirect wildfire mitigation benefits. SCE has detailed standards for design, engineering, and construction that supplement or exceed minimum regulatory requirements for all of SCE's electrical infrastructure.[51] Additionally, SCE regularly reviews and updates these standards based on new requirements, construction methods, technologies, etc. Design and construction standard changes that SCE has made or is making to further mitigate wildfire risks are described below.

4.3.2.2 Overhead Conductor Program

SCE's OCP is a long-term program that pre-dates this WMP, and which is aimed at reducing the risks associated with downed energized conductors and covers all of SCE's service area. OCP evaluates and reconductors small wire circuits with the greatest public safety risks from a wire down event. OCP prioritizes circuits based on various factors, including circuits that serve many customers and are in densely populated areas where reliability and public safety risks from human contact with a downed wire are greatest, not the wildland-urban interface that is typical of HFRA. Even though OCP's primary focus is not specifically wildfire risk mitigation, it does have important secondary wildfire risk mitigation benefits, such as preventing wire down events that could have led to ignitions.[52]

4.3.2.3 Deteriorated Pole Program

SCE's Deteriorated Pole Program was established pursuant to the distribution pole inspection program in compliance with GO 165, which became effective in 1997. As discussed in Section 4.2, GO 165 requires intrusive inspections for all poles at least 15 years old, or older, to be completed within 10 years of program inception. Thereafter, it requires all poles to be intrusively inspected by the time they are 25 years old and then re-inspected at least once every 20 years. SCE completed its first cycle of intrusive inspections in 2007 and continues intrusive inspections through the IPI program. SCE's Deteriorated Pole Program replaces poles throughout its service territory based on the results of these inspections, as described below.

Besides poles identified because of the formal inspection program, poles identified as deteriorated per other programs may be submitted to the Deteriorated Pole Program for replacement based on their external condition. If these poles meet the criteria for external decay outlined in the program standard, they are prioritized according to the standards described above for replacement in the Deteriorated Pole Program. Like OCP, to the extent this program reduces the risk of deteriorated pole failures in HFRA, it has important secondary wildfire risk mitigation benefits.

4.3.2.4 Capacitor Bank Replacement Program

Capacitor banks are used in SCE's distribution system to regulate the voltage to usable levels by compensating for load inductance and to maintain adequate voltage levels (at least 95% of nominal service voltage levels). Inadequate voltage could damage customers' electrical equipment and appliances. Serious voltage drops resulting from inadequate capacitance could conceivably lead to grid collapse. SCE replaces capacitor banks under two criteria: age-based replacements or inspection driven replacements. Inspection of the capacitor banks is part of SCE's preventive maintenance program. Once every five years, each capacitor bank in SCE's system is inspected for proper operation, corrosion, leaking

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51 These include, for example, Distribution Overhead Construction Standards, Distribution Design Standards, Transmission Overhead Construction Standards, Transmission Design and Right-of-Way Manual, and many others. For a complete list of all of SCE's design, engineering and construction standards please see Appendix C.

52 In the context of this WMP, "secondary wildfire risk mitigation benefits" means that the program was not primarily designed in the first place to reduce wildfire risk, but it nonetheless has wildfire risk mitigation benefits.

oil, and loose connections. Capacitor banks requiring replacement or repair are recorded and prioritized for follow-up work. The expected average time to wear out of an overhead capacitor bank is estimated at about 30 years, at which time failure rates begin to increase. To the extent this program reduces risk related to capacitor bank failures located in HFRA, it has important secondary wildfire risk mitigation benefits.

4.3.2.5 Automatic Reclosers Replacement Program

Automatic reclosers (AR) are used in distribution circuits to interrupt power to a portion of the circuit. They act much like a circuit breaker. However, instead of being at the upstream-most end of the circuit, ARs are typically located toward the end of the circuit. AR are typically installed for two reasons - safety and reliability. When a fault occurs downstream of an AR, the AR opens before the circuit breaker in the substation responds to the fault, thus minimizing customer service interruptions. Only the downstream portion of the circuit is interrupted, and all customers upstream of the AR remain energized.

AR are replaced based on age or reactively when they fail. The AR Replacement program is only for the age-based replacement of AR. The estimated time to wear out of an AR is estimated at about 25 years, at which time the failure rate begins to increase. To the extent this program reduces AR failure and/or AR-associated ignitions in HFRA, it has important secondary wildfire risk mitigation benefits.

4.3.2.6 PCB Transformers Replacement Program

For a period of about 20 years, transformer manufacturers distributed transformers and other oil-filled electrical equipment containing insulating oil with polychlorinated biphenyls (PCB) to utilities in the United States. While SCE never specifically ordered transformers containing PCB oil, many transformers were received and installed with oil contaminated with PCB. SCE instituted a proactive PCB transformer replacement program for suspected PCB-contaminated transformers. SCE's proactive PCB Transformer Replacement program, with its accelerated replacement rate, will significantly reduce the balance of all PCB-contaminated transformers by 2025. To the extent this program reduces risk related to transformer equipment failure in HFRA, it has important secondary wildfire risk mitigation benefits.

4.3.2.7 Transmission Line Rating Remediation

SCE has been conducting a Transmission Line Rating study to identify transmission lines with potential clearance issues. As part of this study, SCE completed an initial survey of all of SCE's California Independent System Operator (CAISO)-controlled transmission lines built before 2005. Based on the results of that survey, SCE prioritized the transmission line discrepancies requiring line clearance remediation. A discrepancy is any condition found in the field requiring remediation to meet GO 95 requirements during peak loading conditions. Discrepancies have been prioritized based on criteria such as line sag when operating at or below 130 degrees Fahrenheit, and potential risk to public safety and system reliability based on location of span, terrain, encroachment type, and extent of deviation from standards.

In 2015, SCE developed a plan to remediate all CAISO discrepancies over a ten-year period, from 2016 to 2025. The ten-year plan was developed with input from NERC and the Western Electricity Coordinating Council (WECC).

Besides the CAISO discrepancies, NERC/WECC requested that SCE perform studies on the non-CAISO controlled lines (radial lines). This study was completed in 2015 and requires additional discrepancies to be remediated by 2030, as agreed to by SCE and NERC/WECC. To the extent this program reduces risk related to transmission line discrepancies in HFRA, it has important secondary wildfire risk mitigation benefits.

4.3.2.8 Road and Rights-of-Way Maintenance

SCE performs both proactive and reactive road and ROW maintenance. This work is required to provide field crews with safe access to SCE facilities. SCE's roads and ROW are also used by fire agencies as fire breaks and for access during other emergencies. Road and ROW maintenance activities include annual grading, repairs of damaged storm drains, repairs of access roads, and annual brush clearing along access roads to allow safe passage of vehicles and equipment. Transmission ROW clearing also includes weed abatement on parcels of property owned by SCE along transmission ROW, as required by city or county fire codes. These practices have important secondary wildfire risk mitigation, response time, and fire suppression benefits.

4.3.2.9 Insulator Washing

Insulator washing is performed by spraying high-pressure water on to subtransmission and transmission insulators to remove contaminants such as salt, dirt, or automobile exhaust. Excessive contamination on an insulator reduces its ability to insulate the energized line from the grounded support structure, which may cause lines to short circuit. Insulator washing is performed through various means. SCE typically uses specially equipped water trucks with a derrick and water nozzle to direct a high-pressure stream of water safely onto the insulators while the line remains in service.

In 2015, SCE moved away from a "calendar-based" wash schedule to a "condition-based" wash program. This updated program requires a visual inspection of a circuit to show contamination or signs of imminent failure, such as arcing or buzzing, before washing is conducted. If no signs of contamination are evident, the circuit will continue to be monitored until it is deemed necessary to perform a wash. Beach areas with high salt levels and high traffic volume require more frequent washing than a desert area with dryer air and less exhaust from traffic. To the extent this program reduces risk related to insulator ignitions in HFRA, it has important secondary wildfire risk mitigation benefits.

4.3.3 SYSTEM HARDENING ACTIONS IN HFRA

SCE's system hardening actions in HFRA are largely based on the GSRP, which contemplates broader, more advanced measures than those described in its 2018 GRC. The GSRP is a comprehensive program, incorporating leading practices and mitigation measures selected based on their effectiveness and with appropriate consideration of resource allocation and alternatives. For example, SCE introduced the use of fire-resistant composite poles and crossarms in HFRA. For system protection, SCE prioritized the use of current limiting fuses in HFRA and began applying a more sensitive fast curve trip setting for RAR and circuit breaker relays to allow for a more rapid clearing of faults during Red Flag Warning and other high fire risk conditions. These and other GSRP measures will help enhance the safety of the electrical system and make it more resilient during wildfires, consistent with state policy. Additionally, SCE is endeavoring to accelerate and expand certain GSRP activities and initiate additional programs beyond GSRP to further harden the grid as described below.

4.3.3.1 Design and Construction Standards

In 2018, SCE updated its Distribution Design Standards (DDS) and Distribution Overhead Construction Standards (DOH) to expand the use of wildfire mitigating measures in HFRA. For example, DOH and DDS were updated to specify the use of covered conductor in re-conductoring projects in HFRA. Covered conductor has robust, insulating, and protective layers; replacing bare conductor with covered conductor is an effective way to mitigate contact-related faults.

SCE also updated its DDS and DOH to evaluate and consider the use of composite poles and composite crossarms in HFRA applications. The composite poles SCE is installing are coated with a fiber reinforced polymer (FRP) laminate which is fire resistant. Similar fire-resistant material is wrapped around the composite pole to create a shield which helps protect the pole and further increases fire resistance. A shielded composite pole resists ignition and can maintain its strength in fire conditions. Composite crossarms have a longer service life, greater strength and are more fire resistant than wood crossarms. SCE is using fire resistant composite crossarms and poles with shielding for pole replacements, when appropriate, to increase resiliency and reduce potential outage impacts resulting from a fire event.

Additionally, SCE updated its DDS BLF requirements to prioritize CLF in HFRA. CLF are selected for HFRA applications because they can limit peak fault current, provide faster fault clearing for most faults, and reduce fault energy by up to 25 times compared to a conventional fuse. Reducing fault energy lowers the risk of possible ignition when a fault occurs. CLF also help minimize impacts to customer electric service reliability from fast curve operating settings.

In 2018, SCE converted its overhead transformer design requirements when replacing obsolete or failing overhead transformers to utilize ester fluid (such as FR3) instead of mineral oil. Transformers with ester-based insulating fluid have a much higher flash point compared with conventional mineral oil-immersed units and will further reduce the possibility of transformer failures becoming the source of wildfire ignitions.

SCE has updated its construction standards to increase line spacer usage and to install wildlife protection, such as covers, tubing, and covered jumper wire. Additional overhead line spacers in HFRA will improve system resiliency from conductor to conductor faults. Wildlife protection shields overhead equipment, such as transformer bushings, fuses, cable terminations and arrestors, from animal-related contact faults, and other contact-related faults associated with vegetation and metallic balloons. These new construction standards will help reduce ignitions associated with SCE's electric infrastructure.

In 2019, SCE intends to refine its DOH requirements for connector selection for HFRA application to prioritize the use of CAL FIRE-exempt connectors such as bolted wedges.

4.3.3.2 Conductor

4.3.3.2.1 Wildfire Covered Conductor Program (Activity SH-1)

WCCP is a new, long-term program that began in 2018 (as part of GSRP) and is aimed at replacing standard bare overhead conductor with covered conductor in HFRA. This program is anticipated to significantly reduce contact-from-object ignition risks. As discussed in Chapter 3, contact from object faults in SCE's HFRA during the analyzed historical period were associated with more than one-half (53 percent) of suspected wildfire-initiating events. SCE's risk analysis demonstrates that application of covered conductor should be an effective approach to reduce ignitions associated with electrical infrastructure in SCE's HFRA. The reduction of faults should also decrease the frequency of wire down events. In combination with other mitigation measures such as advanced protective relays, automatic reclosers with fast curve settings, and CLF, the benefits of covered conductor significantly outweigh the increased cost of covered conductor (compared to bare conductor), and the associated modest increase in-wind loading. The covered conductor also offers significantly better safety protection for the public in the limited cases of high impedance faults, as tests and studies have demonstrated that incidental contacts with energized conductor that is covered do not result in injuries. Given the significant wildfire mitigation benefits, SCE is targeting the proactive replacement of approximately 5,500 circuit miles of existing bare distribution primary overhead conductor in HFRA by 2025. SCE has prioritized its circuit re-conductoring plan based on a weighting of ignition consequence, ignition frequency, and mitigation effectiveness factors, such as wind loading considerations, number of historical vegetation faults, and number of historical wire down events. In 2018, SCE began deploying covered conductor in HFRA and installed 84 circuit miles as part of GSRP. SCE is targeting completing approximately 600 circuit miles by year-end 2020, focused on portions of nine at-risk circuits in HFRA. SCE selected these circuits based on a combination of their environmental footprint, asset characteristics and potential HFRA impact. Where appropriate, pole replacements and transformer replacements driven by this re-conductoring will be fire-resistant composite poles and ester fluid transformer, respectively. Additionally, in covered conductor systems, SCE will employ other accessories to combat contact-related faults, including dead-end covers, termination covers, fuse covers, arrester covers, wildlife guards, and transformer bushing covers. Bare conductors remaining in high wind areas (which in some, but not all, cases overlap with HFRA), will be retrofitted with insulated overhead wire spacers or have the pole reconfigured to "Ridge Pin" construction to reduce the potential of wires contacting each other. Furthermore, vibration dampers may also be installed to reduce conductor fatigue.

SCE may use aerial bundled cable in limited areas as an alternative to covered conductor. Installation of aerial bundled cable would likely be in areas with narrower spaces, to remediate tree attachments, and areas with dense vegetation that cannot be trimmed. Aerial bundled cable is more complicated to make connections with, making it more suited for long runs with few equipment and tap lines. Additionally, the increased weight of aerial bundled cable will lead to shorter spans and more pole replacements. Both covered conductor and aerial bundled cable have comparable benefits regarding preventing contact from objects, however covered conductors are more economical for most applications.

WCCP is a multi-year program, and in 2019 SCE will install at least 96 miles of covered conductor in HFRA. Given the significant amount of covered conductor targeted under this program and the wildfire risk mitigation benefits it provides, SCE will endeavor to install more circuit miles of covered conductor in HFRA in 2019 and accelerate installation in subsequent years. Additionally, SCE is assessing expanding the WCCP to deploy covered conductor across all Tier 3 HFRA over multiple years, starting in 2019. This assessment along with accelerated installation under GSRP could increase the 2019 total amount of covered conducer installed, in HFRA, to approximately 290 circuit miles.

4.3.3.2.2 Undergrounding Overhead Conductor (Activity SH-2)

Undergrounding overhead distribution lines, which typically have been used to mitigate aesthetic impacts in high-traffic urban areas, is a wildfire risk mitigation option in HFRA. While underground systems can help reduce the risk of wildfires and increase reliability during high winds and storms, they also take longer and cost much more to construct,[53] maintain, and repair – particularly in mountainous regions and those with steep terrain. In some cases, undergrounding may be infeasible due to local geology (e.g., bedrock, granite, etc.). Further, placing lines underground is less efficient than installing covered conductor, since underground lines take longer to construct, are difficult to inspect, may have shorter life expectancy than covered conductors and often have extended duration restoration times when there are outages. SCE will continue to work with local communities to pursue undergrounding in

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[53] Underground systems can cost up to 10 times more than overhead systems – roughly $3 million per mile.

HFRA using its existing Tariff Rule 20. Additionally, and as part of its continued efforts to reduce wildfire risk, in 2019, SCE will conduct an evaluation to determine the highest risk portions of its HFRA and assess SCE's circuits around those areas that may be inaccessible should a fire occur and where SCE's circuits are critical to first responders to determine if there are certain sections that should be undergrounded. This evaluation may lead to engineering and design of targeted underground facilities in 2019 with potential construction commencing in late 2019/early 2020.

4.3.3.3 Equipment

Equipment-related efforts that are underway include changes to distribution transformer fluid requirements, improving conductor resiliency with the use of overhead line spacers and wildlife protection covers, and expanding the use of CAL FIRE-exempt equipment. SCE began deploying distribution transformers with ester-based insulating fluids in 2018, with the vast majority of HFRA new installations including ester fluid transformers. As part of WCCP, SCE began deploying wildfire protection such as critter guards to prevent animal contact and incidental contact from vegetation and metallic balloons.

In 2019, SCE intends to expand its conductor resiliency effort with use of line spacers on existing conductors by developing standard installation practices. Line spacers are installed to maintain the separation of overhead conductors. SCE expects the expanded use of line spacers to existing conductors will improve grid resiliency by preventing outages and associated fault impacts from conductor-to-conductor contacts. Additionally, SCE intends to further enhance grid resiliency by developing standard installation practices for vibration dampers. Vibration dampers are hardware attached to conductors (usually near insulators) which helps reduce conductor connection and attachment degradation from vibration.

Additionally, in 2019, SCE is piloting 50 CAL FIRE-exempt surge arresters in field conditions to learn more about their operations and installation before deploying them as a standard in HFRA in the future. SCE is also expanding the use of CAL FIRE-exempt connectors such as the bolted wedge connector. These new and alternative technologies are further discussed in Section 4.7.

4.3.3.4 Fire-Resistant Composite Poles and Composite Crossarms (Activity SH-3)

SCE is planning to install fire-resistant composite poles and composite cross-arms in HFRA. As part of re-conductoring work to install covered conductors in HFRA, SCE will conduct pole loading assessments on existing poles to determine if pole replacement is required. If the pole loading analysis shows that minimum safety factors would not be met when installing covered conductor, SCE will install fire-resistant composite poles with a fire protective shield (or other fire-resistant poles) instead of traditional wood poles. These poles are specifically designed to withstand wildfires and will harden the distribution system and reduce the risk of a wire down event. Extensive fire testing studies have shown that a fire protective shield will protect the pole and further increases fire resistance, enabling the pole to withstand an "extreme" wildfire. SCE began installing composite poles and composite cross arms in 2018. As part of WCCP, SCE will utilize either composite poles (or other fire-resistant poles) for replacements in HFRA. Based on historical pole replacements due to reconductoring and the miles of covered conductor targeted in 2019, SCE expects to replace at least 1,100 wood poles with fire-resistant composite poles (including a fire protective shield) in HFRA. Consistent with SCE's efforts to accelerate and expand its WCCP, in 2019, SCE may replace up to approximately 2,300 additional wood poles (i.e., for a total of approximately 3,400) with composite poles (or other fire-resistant poles should material supply constraints limit the availability of fire-resistant composite poles).

4.3.3.5 Protection and Isolation (Activity SH-4, SH-5, and SH-6)

In 2018, SCE adopted a branch line protection strategy that will install new (and replace some) existing devices to minimize fault energy. These devices will include CLF, CAL FIRE-exempt expulsion fuses, and single-phase reclosers. Additionally, SCE will continue deploying fast curve settings to circuit breakers and remote automatic reclosers in HFRA. These approaches are intended to assist in minimizing wildfire ignition risks by clearing faulted conditions rapidly, thus reducing the fault energy. In 2019, SCE plans to install/replace devices at least 7,500 branch line locations in HFRA. In addition to the fault energy reduction, the placement of CLF is expected to improve electric circuit reliability by segmenting faulted circuits to smaller line sections.

SCE will continue to install RAR for mainline circuit protection and reliability improvements. SCE will update existing RAR control settings to allow fast curve interrupting operating strategies. SCE plans to install RAR in at least 50 new HFRA locations in 2019 and install fast curve settings in at least 150 existing HFRA locations.

SCE will update settings on existing relays where possible and replace relays where necessary to allow fast curve interrupting operating strategies. Completed quantities may vary in 2019 depending on where SCE can install additional RAR most efficiently.

SCE began implementing fast curve trip settings for RAR and circuit breaker relay settings in 2018. In 2019, SCE will develop a plan to continue to install fast curve settings on circuit breaker relays in HFRA.

4.3.4 ACTIVITIES AND 2019 GOALS

Activity	Description	2019 Goal	Compliance Evidence
SH-1	Covered Conductor	Install at least 96 circuit miles of covered conductor in HFRA	1) List of circuits and associated miles of covered conductor installation 2) Record of completed work orders of covered conductor construction
SH-2	Evaluation of Undergrounding in HFRA	Conduct evaluation of undergrounding for HFRA	Assessment of undergrounding in HFRA
SH-3	Composite Poles and Crossarms	Install at least 1,100 composite poles	1) List of circuits and associated number of composite pole installations 2) Record of completed work orders of covered conductor construction
SH-4	Branch Line Protection Strategy	Install at least 7,500 CLF in HFRA locations	Record of completed work (i.e. work orders), including circuit, fuse location and installation date
SH-5	Remote Controlled Automatic Reclosers Installations	Install at least 50 new RAR	Record of completed work (i.e. work orders), including location and installation date
SH-6	Remote Controlled Automatic Reclosers Setting Updates	Update at least 150 existing RAR settings	1) List of RAR/CBs for fast curve settings change 2) Record of completed work of RAR/CB settings (OD43), including circuit, device number, relay change date for fast curves
SH-7	Circuit Breaker Fast Curve	1) Develop engineering plan to upgrade remaining CB relays and update settings 2) Conduct CB upgrades and setting updates according to plan	1) CB Upgrade plan 2) List of CBs for upgrade and fast curve settings 3) Record of relay upgrade (work order) and record of completed relay settings completed (OD43)

4.4 VEGETATION MANAGEMENT PLAN

4.4.1 PROGRAM OVERVIEW

SCE's vegetation management program involves the ongoing activities related to tree inspection, pruning, and removal, and weed abatement in proximity to SCE's distribution and transmission lines. SCE's vegetation management program is designed to comply with vegetation-related regulations, including but not limited to GO 95 Rule 35, Public Resources Code (PRC) Sections 4291, 4292 and 4293, and NERC Reliability Standard FAC-003.

4.4.2 EXISTING VEGETATION MANAGEMENT PROGRAMS

SCE's distribution and transmission lines are inspected annually for compliance with state and federal vegetation management requirements. During these inspections, vegetation that requires pruning to maintain required clearances from the lines is scheduled for pruning or removal. The pruning takes into consideration a tree's anticipated growth over twelve months. Fast-growing species, or trees in HFRA, may need additional inspections or removal to maintain compliance. SCE engages contractors to inspect, prune, and remove trees, and to abate weeds. See Appendix D for list including fast-growing tree species which require removals.

4.4.2.1 Pole Brushing

SCE maintains poles with non-exempt attachments in HFRA that require 10 feet of radial brush clearance at the base of the pole in accordance with PRC Section 4292. These poles are inspected annually and brush clearing is performed as required to maintain compliance. This work is performed by contractors and is performed separately from other vegetation management activities. In 2019, SCE will continue to inspect and clear brush around the population of poles with non-exempt attachments, as required.

4.4.2.2 Supplemental Vegetation Inspections in HFRA

SCE's vegetation management program includes supplemental vegetation inspections such as Canyon Patrols and At-Risk Circuit Patrols. Canyon Patrols are performed annually on approximately 120 canyons to verify the circuits are free from vegetation encroachment into the minimum vegetation clearance distance. The canyons included for inspection are typically selected based on higher risk factors such as high winds, terrain, ingress/egress issues, type of electrical facilities, or limited fire-fighting capabilities. Additionally, At-Risk Circuit Patrols are performed, at least once per calendar year, on circuits that have a history of multiple vegetation-caused circuit interruptions. In 2019, SCE plans to continue performing Canyon and At-Risk Circuit Patrols.

4.4.2.3 Operation Santa Ana

Operation Santa Ana is a joint patrol effort with state and local fire authorities to facilitate understanding of each agency's roles and responsibilities and to provide cross-training opportunities. Each year, SCE's Vegetation Management staff meets with and accompanies local, county, and/or state fire agency personnel to perform these supplemental patrols of overhead power lines in HFRA. These patrols focus on electrical facilities and adherence to PRC Sections 4292 and 4293 vegetation-related requirements. Any vegetation conditions identified during these patrols that need to be remediated will be completed in accordance with SCE's vegetation management program. Operation Santa Ana is typically performed during a 3-4 month window with Los Angeles and Riverside County areas being completed by September 1, and the Ventura and San Bernardino County areas completed by the end of October. SCE plans to continue Operation Santa Ana in 2019.

4.4.2.4 Vegetation Management Program Re-Design

SCE's current vegetation management program is described in two key program documents: the Transmission Vegetation Management Plan and the Vegetation Management Operations Manual.

SCE's vegetation management program is currently undergoing a comprehensive redesign and restructuring. The staged deployment of the revised vegetation management program is anticipated to commence in early 2019 and continue into 2020. Enhancements reflected in SCE's revised vegetation management program include, but are not limited to: expanded administrative controls; comprehensive Quality Control and Quality Assurance activities; increased focus on hazard tree removals/mitigation; and increased identification and removal of vegetation overhangs.[54]

CPUC GO 95, Appendix E recommends a minimum clearance of 12 feet for circuits 2.4 kV to 72 kV be established during pruning in areas that are designated as Extreme and Very High Fire Threat Zones as specified in GO 95, Case 14, Table 1.[55] SCE has determined, based on the high fire threat in its service territory, that it will implement the CPUC's recommendations in HFRA, where practical. While it is SCE's objective to achieve a 12-foot clearance, some conditions may limit SCE from achieving those clearances, such as particular tree species, woody stem exemption trees,[56] prior pruning practices, maturity of the trees, customer concerns or refusals, or other factors. These restrictions will be documented in SCE's vegetation management database. Once deployed, it is anticipated that it will take 12 to 18 months to complete the first inspection and pruning cycle reflecting the 12-foot recommended clearance in HFRA. In other cases, there may be a need to prune trees more than 12 feet to manage the growth of the tree or to meet ANSI 300 standards for tree pruning. These decisions are made by certified arborists on a case-by-case basis.

The revised vegetation management program is modifying SCE's approach to vegetation management under and around transmission lines. Directly under conductors, SCE will clear all trees and brush which could potentially grow into the compliance clearance space around the conductors. In addition, the area between the outer-most conductors and the ROW border will be cleared of brush and trees that have the potential to strike electric facilities. Where foot patrols or normal helicopter patrols are insufficient to evaluate the clearance, SCE will use LiDAR technology to identify trees along the ROW border that can potentially contact conductors during high wind events. Additionally, and where achievable, SCE plans to maintain a 30-foot clearance between conductors and vegetation for power lines 115kV and above. The 30-foot clearance is recommended as part of GO 95, Appendix E. SCE's calculation of the 30-foot clearance will incorporate line dynamics (sag and sway).

The Pacific Southwest Region of the Department of Agriculture, USFS has been integral in helping SCE and other electric utilities cope with the increased risks associated with wildfires, drought, and bark beetle epidemic. Currently, SCE and other electric utilities are working with the USFS to negotiate master service agreements to expedite a broad range of vegetation management activities on Forest Service Lands, such as the process for trimming and removal of trees. This master service agreement is expected to be finalized in first quarter 2019.

SCE has also set up funding agreements with state and federal environmental resource agencies including the California Department of Fish and Wildlife, the U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service to provide either dedicated staff and/or the ability for personnel to make SCE's

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[54] While the revised vegetation management program will be deployed in 2019 through 2020, some aspects of the program such as removal of vegetation overhangs will take multiple years to complete the initial cycle.

[55] *See* D.17-12-024.

[56] Section (a)(3)(A) of Section 1257 of PRC 4293. (A) Exempt Trees must meet all of the following criteria, as confirmed by a Certified Arborist or a Registered Professional Forester: 1. The tree or limb must be six (6) inches or more from the line at all times. 2. The size of the tree or limb at the conductor level must be at least six (6) inches in diameter. 3. The tree must not have "scaffold branches," below eight and one-half feet from the ground (so the tree cannot be easily climbed).

projects in HFRA a priority. The funding agreements allow for faster processing of environmental permits which are needed to carry out certain vegetation management/fuels reduction activities. This allows SCE to work with the agencies on prioritizing activities that better position the company to obtain timely approvals in HFRA.

4.4.3 ADDITIONAL ACTIVITIES IN HFRA

To further help mitigate wildfires, SCE has and will perform additional vegetation management activities in HFRA that are beyond those ongoing activities required by GO 95 (Rule 35), PRC Sections 4291, 4292 and 4293, and Federal Energy Regulatory Commission (FERC) Reliability Standard FAC-003. These enhanced activities are described below.

4.4.3.1 Hazard Tree Removals (Activity VM-1)

As set forth in SCE's GSRP application, SCE proposes to expand its vegetation management activities to begin assessing the structural condition of trees in HFRA that are not dead or dying but could nevertheless fall into or otherwise impact electrical facilities and potentially lead to ignitions and outages. These trees can be located up to 200 feet on either side of SCE's electrical facilities, an area designated as the Utility Strike Zone, which is significantly beyond the 4-foot clearance requirement in HFRA.

SCE's risk assessment methodology is based upon American National Standards Institute (ANSI) A300 and the International Society of Arboriculture Tree Risk Assessment Qualification Training Manual. As discussed in SCE's 2018 GSRP application, SCE's assessment methodology considers the attributes of the tree, the site conditons, impact to the infrastructure, and the likelihood of failure.

To implement the Hazard Tree Management program (HTMP),[57] arborists certified by the International Society of Arboriculture (ISA) perform these assessments and determine appropriate mitigation. SCE's HTMP assists the arborists by detailing a consistent approach to be applied to all trees assessed in SCE's service territory. In HFRA, SCE defines all trees within the Utility Strike Zone that have the potential to strike the conductors or fall within the Minimum Violation Clearance Distance (MVCD) as "subject trees." After assessment, a subject tree can remain a "subject tree" or be classified as a "hazard tree" or "reliability tree." A hazard tree has conditions within the tree that pose an expected risk to electrical facilities. A reliability tree is considered a healthy tree but is located in an area in which site conditions pose an expected risk. Both hazard and relibility trees are risk-ranked and removed based on expected risk to the infrastructure.

The tree-specific risk assessment will identify if the tree should be mitigated to reduce an expected risk. Trees that are determined to potentially threaten electrical facilities and require mitigation will be included in SCE's tree inventory for tracking purposes. Mitigation may include: heavy topping, removal of limbs, or the removal of the entire tree. Post-inspection of work prescribed by a tree assessment inspector is performed by an independent quality control contractor. Post-tree removal, inspection and quality review includes evaluation and mitigation of any potential risks that may arise from the work, such as erosion and windshear.

Some tree removals may require enhanced efforts to obtain property owner approval and leveraging new laws such as Assembly Bill (AB) 2911. SCE is currently finalizing these additional hazard tree removal

[57] Part of Expanded Vegetation Management Activities described in SCE's GSRP Application.

procedures and anticipates beginning the enhanced efforts in early 2019. Under this program, SCE anticipates that it will perform at least 125,000 tree-specific threat assessments and mitigate, through removal or trimming, at least 7,500 trees in 2019. It is currently estimated that it will take approximately 5 to 8 years to complete the first pass of assessments and mitigation in HFRA.

4.4.3.2 Expanded Pole Brushing (Activity VM-2)

SCE is expanding its pole brushing (i.e., brush clearance around poles) activities to inspect and clear brush to a 10-foot radial clearance on at least 25,000 additional poles within HFRA in 2019.[58] These additional poles are not part of PRC Section 4292 requirements but their surrounding brush is being cleared or maintained to further reduce ignition risk and increase grid resiliency.

4.4.3.3 Expanded Clearance Distances at Time of Maintenance (Activity VM-3)

The CPUC-required minimum clearance in HFRA is 4 feet; however, when achievable, SCE has historically trimmed trees at the time of maintenance to a greater distance. Under its revised vegetation management program, consistent with recommended guidance in D.17-12-024, SCE is expanding, where possible, the clearance distance in HFRA at time of maintenance to at least 12 feet for line voltages between 2.4kV and 69kV. However, conditions beyond SCE's control such as customer refusals may limit SCE from achieving the recommended 12-foot clearance in all instances. Once the new vegetation management program is deployed starting in 2019, it is anticipated that it will take 12 to 18 months to achieve the increased clearance distance at time of maintenance in HFRA.

4.4.3.4 DRI Quarterly Inspections and Tree Removals (Activity VM-4)

Due to climate change effects, drought and bark beetle infestation, California is facing an epidemic of dead and dying trees. As a result of the drought emergency, SCE established the Drought Relief Initiative (DRI) as a separate and distinct program from SCE's ongoing vegetation management activities. All DRI activities occur within HFRA. Activities and expenses for the DRI are tracked separately, as costs are recovered through the Drought Catastrophic Event Memorandum Account (Drought CEMA). Under its DRI, SCE conducts quarterly inspections in Tier 2 and Tier 3 HFRA for tree mortality to identify and remove dead, dying, or diseased trees affected by drought conditions. Identified dead, dying, or diseased trees are removed in accordance with SCE's vegetation management program.

4.4.3.5 LiDAR Inspection Program (Activity VM-5)

SCE utilizes light detection and ranging technology (LiDAR), to inspect select transmission lines, particularly in rugged and hard-to-access areas, in order to meet FAC 003-4, GO 95-Rule 35 and PRC Section 4293 (see below for more detail) to maintain appropriate clearances between SCE's lines and vegetation. LiDAR is a surveying method that measures distance to a target by illuminating the target with pulsed laser light and measuring the reflected pulses with a sensor. Differences in laser return times can then be used to make digital three-dimensional representations of the target. LiDAR is an efficient and effective method to assess vegetation clearances, a key component of SCE's wildfire prevention and mitigation plan. In 2019, SCE plans to conduct LiDAR inspections of approximately 1,000 conductor miles in HFRA to identify potential subject trees for assessment under HTMP or potential vegetation clearance issues.

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58 SCE is exploring the use of fire retardant spray around poles as an alternative to brush clearing.

4.4.4 ACTIVITIES AND 2019 GOALS

Activity	Description	2019 Goal	Compliance Evidence
VM-1	Hazard Tree Mitigation program	1) Perform at least 125,000 tree-specific threat assessments in HFRA 2) Perform at least 7,500 risk-based tree removals or mitigations in HFRA	1) List of tree assessments performed 2) List of risk-based tree removals or mitigations performed following tree assessments 3) Customer refusal forms for trees identified for removal but where the customer refused to allow removal
VM-2	Expanded Pole Brushing	1) Inspect and clear brush to 10 feet radial clearance at the base of the pole (at least 25,000) poles 2) Clear brush as necessary to achieve 10 feet of clearance	1) List of poles inspected 2) List of poles cleared of brush
VM-3	Expanded clearance distances at time of maintenance	Obtain tree-to-line clearance distance of 12 feet, as achievable, in HFRA at time of maintenance for line voltages of 2.4kV to 69kV	Records of tree pruning activities to achieve 12 feet of clearance, or documentation of reason why clearance could not or did not need to be achieved (e.g., customer refusals, woody stem trees, etc.)
VM-4	DRI quarterly inspections and removals	1) Perform all quarterly DRI inspections. 2) Remove identified dead, dying, or diseased trees in accordance with SCE's vegetation management program	1) Inspection records 2) DRI tree removal records
VM-5	LiDAR Inspections of Transmission (220 kV and above)	LiDAR inspect at least 1,000 conductor miles in HFRA (results from LiDAR inspections will be used to inform of subject trees assessed under the Hazard Tree Mitigation program)	1) Invoices 2) Flight logs

4.5 PROTOCOLS ON SITUATIONAL AWARENESS (INCLUDING INFORMATION GAINED FROM SITUATIONAL AWARENESS TOOLS)

4.5.1 PROGRAM OVERVIEW

Situational awareness is an integral part of emergency management, and it is imperative SCE has a granular understanding of what is happening across its service territory prior to and during emergency events. SCE's Watch Office monitors activities on a 24/7 basis, notifies response teams when action is needed, and updates SCE's management on evolving events. The Watch Office is co-located within the Emergency Operations Center (EOC), which was upgraded in 2016 and serves as the training center for SCE's Incident Management Teams. In the newly-established Situational Awareness Center, SCE maintains meteorologists and GIS (i.e., mapping) specialists on staff, and uses various measures to monitor evolving weather, fuel, and other conditions that might lead to fire events and other hazardous conditions.

SCE is further enhancing its situational awareness capabilities by leveraging more detailed circuit-level information to better understand how weather conditions might impact public safety and utility infrastructure in HFRA. This includes creation of a high-resolution weather model specific to SCE's service territory and strategically installing weather stations to enhance the high-resolution weather model and provide real-time data near circuits in HFRA. This data will be collected and analyzed for potential weather impacts by meteorologists and GIS specialists in the Situational Awareness Center. SCE is also installing HD cameras to help communities in HFRA, fire responders and utility staff maintain visual awareness of potential fire events in real time.

4.5.2 ADDITIONAL ACTIONS TAKEN IN HFRA

4.5.2.1 Weather Stations (Activity SA-1)

The size of SCE's service territory and its diverse topography necessitates granular weather data, which requires a dense network of weather stations to monitor location-specific, real-time conditions in HFRA to enable operational decision making. For example, Southern California's mountains have rapid elevation changes and differing canyon orientations, which need to be taken into account to determine the .number of weather stations necessary for monitoring HFRA across SCE's service territory. While there are numerous public weather stations, SCE utilizes data from trusted and validated sources[59] to determine where to site additional weather stations. A guiding principle in building out the network is to have an adequate number of weather stations installed. Weather stations will ideally be placed on locations with varied elevations (i.e., on ridge or hill tops, and valley or canyon locations). Distribution circuits in HFRA are in scope for siting SCE weather stations. Circuits that have shorter length, uniform topography and similar weather characteristics will require fewer weather stations to be installed. Weather station data will be used for real-time monitoring and historical data analysis. Wind and relative humidity data will allow for granular fire weather monitoring on a circuit by circuit basis. Weather stations will also provide observed wind, relative humidity, and temperature values that will be utilized to optimize the Weather Research and Forecasting (WRF) model configurations. Statistical analyses utilizing historical weather data can be used in post-processing to deliver increasingly accurate wind forecasts.

SCE has already begun to enhance existing weather models by installing 125 weather stations in key HFRA locations in 2018. In 2019, SCE will install at least 315 weather stations in HFRA. These weather stations will enhance the resolution of existing weather models and provide real-time information to assist in making key operational decisions during wildfire risk conditions, including the use of proactive de-energization protocols.

[59] Trusted weather data sources include Remote Automated Weather Stations (RAWS) under the National Interagency Fire Center (NFIC), the National Weather Service and the Federal Aviation Administration.

4.5.2.2 Fire Potential Index and Santa Ana Wildfire Threat Index (Activity SA-2)

The SCE Fire Potential Index (FPI) is an internal tool used to estimate wildfire potential based on actual weather and fuel conditions. Inputs include wind, the dryness of the air near the ground, and how receptive existing fuels are to fire, with specific inputs involving the moisture content of the vegetation. The FPI is used in conjunction with wind thresholds to identify areas that are likely to have significant fire activity which could threaten communities and SCE infrastructure. The FPI is currently the best method for assessing fire potential across SCE's extensive service territory due to it being customizable in addressing specific fire thresholds across different weather climates.

In 2019 SCE will begin Phase II of the FPI project intended to increase capability by adding more granular weather data, expanding the coverage to all of SCE's service territory, and integrating historical weather data. This allows SCE to observe detailed weather and fuel conditions, as well as the potential for fire activity at the circuit level. This level of data will clarify which circuits will be impacted the most during weather events, reducing the number of circuits monitored for possible de-energization, and thereby reducing the number of customers affected. Adding historical weather data allows for better calibration and the ability to put current events into historical context for better decision making.

The FPI has three categories that relate weather and fuel conditions to fire activity; the categories are Normal, Elevated, and Extreme. "Normal" means that fuels are generally unsupportive of fire activity despite the potential for extreme weather events. "Elevated" suggests that fuels are receptive to ignitions, and in the event of any critical weather, fires could spread quickly. "Extreme" implies that fuels are very dry and will support significant fire activity with dangerous rates of spread during critical weather events.

SCE also uses the SAWTI issued by USFS, which measures the severity of Santa Ana winds with respect to the potential for large fires to occur. This index assesses weather and fuel conditions to generate a threat level associated with Santa Ana wind events. The index extends out six days showing four threat levels that range from Marginal to Extreme. The SAWTI covers much of Southern California and SCE's service territory. SCE uses this index to gauge the overall severity of a forecasted or ongoing Santa Ana wind events across affected SCE districts and as additional validation of the Fire Weather Watches and RFW provided by the National Weather Service.

4.5.2.3 Meteorological Resources

SCE staffs its Situational Awareness Center with a team of in-house meteorologists who have a specialized understanding of fire-weather characteristics. All the meteorologists are members of the American Meteorological Society and hold degrees in Atmospheric Sciences. This team of professionals uses the aforementioned forecasting tools and weather stations to develop comprehensive weather forecasts starting 4-7 days in advance of any predicted severe weather event. This information is provided to impacted departments and incident management personnel and is critical in shaping response and mitigation activities for potential wildfire events. SCE continues to produce and refine forecasts as the potential event approaches; these updates and refinements are essential inputs for identifying impacted circuits so that field personnel can be dispatched to at-risk locations to monitor real-time conditions.

4.5.2.4 Deployment and Support of Situational Awareness Cameras (Activity SA-3)

SCE is installing pan-tilt-zoom (PTZ) HD cameras throughout its HFRA to enable fire agencies and SCE fire management personnel to address emerging wildfires more quickly, helping mitigate potential safety risks to the public and preventing damage to electric infrastructure. The PTZ HD camera views transmit into SCE's Watch Office and are used by SCE's IMT when deciding how to deploy crews and make other operational decisions.

PTZ HD cameras can help in spotting smoke and assessing conditions in real-time.[60] In particular, PTZ HD cameras can save time in verifying and assessing a fire's severity instead of sending fire crews to perform this assessment. Between 2018 and 2020, SCE is targeting installation of up to 160 PTZ HD cameras on approximately 80 towers within HFRA to achieve up to 90 percent visual coverage of SCE's HFRA. In 2019, SCE will install at least 62 cameras on 31 towers in HFRA.

4.5.2.5 High Performance Computer Weather Modeling System (Activity SA-4)

In 2019, SCE will procure and install a High-Performance Computing Cluster (HPCC) that will generate forecasts of weather and fuel conditions at high resolution. Greenness of the vegetation, moisture content of the dead and live fuels, relative humidity, and wind data from the HPCC will be used to comprehensively assess wildfire risk across the area (e.g., HPCC will compute FPI). Having this information will enable SCE to more accurately understand the fuel's receptivity to fire. In addition, this dataset will be used to run fire spread models which will determine potential risks of past, current, and future event scenarios. Furthermore, the HPCC will be used to generate and store weather and fuel conditions over a 30-plus-year period which will provide valuable insight into the nature of wildfire behavior and allow SCE to relate weather and fuel parameters to historical fire occurrences.

4.5.2.6 Develop Asset Reliability & Risk Analytics Capability (Activity SA-5)

This effort seeks to: (1) develop capabilities in predicting an asset's overall wildfire-related risk; and (2) given an asset's risk, prioritize work, repairs, and/or replacement(s) to minimize potential wildfire ignitions. SCE will utilize its existing analytics platform to develop composite risk models that can be used to predict risk as it relates to distribution assets, vegetation health, and extreme weather events that could impact public safety, including wildfire ignitions. These risk models will be used to enhance existing processes, including the following:

- Identifying which assets should be prioritized for replacement or upgrade based on the environment they operate in and their asset characteristics (i.e., number of splices, conductor type; fusing, etc.);
- Analyzing forecasted and historical weather conditions;
- Conducting and prioritizing maintenance;
- Analyzing asset types; and
- Analyzing operational data (such as load, duty cycle, etc.).

Using these analytics to prioritize mitigation efforts on the highest risk assets in HFRA will help target SCE's actions to reduce overall ignition risk. This program also proposes advanced analytic capabilities for streaming grid data (smart meter, supervisory control and acquisition data (SCADA), etc.) to improve advanced fault detection. This capability will allow SCE to use artificial intelligence, machine learning, and predictive modeling on real-time data to identify early warning signs of potential faults, to quickly identify a fault that has occurred, and to more rapidly respond to remediate a public safety risk. SCE intends to complete the implementation of the Asset Reliability and Risk Analytics tools in 2019.

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[60] Camera feeds are publically accessible at www.alertwildfire.org

4.5.3 ACTIVITIES AND 2019 GOALS

Activity	Description	2019 Goal	Compliance Evidence
SA-1	Additional Weather Stations	Install at least 315 units in HFRA	1) Installation Guidelines 2) Production order/invoice 3) Weather station location master tracker
SA-2	Fire Potential Index Phase II	Enhance capabilities of FPI by increasing granularity, adding historical climatology data, and expanding to cover all of SCE's service territory	1) Statement of Work 2) Sign in sheets from trainings
SA-3	Additional HD Cameras	Install at least 62 cameras on 31 towers	1) Production order/Invoice 2) HD camera location master tracker
SA-4	High-Performing Computer Weather Modeling System	Procure and install High Performance Computing Cluster weather and fuels modeling system	1) Production Order/invoice 2) Sign in sheets from trainings
SA-5	Develop Asset Reliability & Risk Analytics Capability	Complete implementation of the Asset Reliability and Risk Analytics tools	Demonstration of tool

4.6 PROTOCOLS ON PUBLIC SAFETY POWER SHUT-OFF

4.6.1 STRATEGY TO MINIMIZE PUBLIC SAFETY RISK DURING HIGH WILDFIRE CONDITIONS AND DETAILS OF THE CONSIDERATIONS

SCE employs guidelines to be prepared to proactively de-energize circuits within HFRA if data sources indicate that extreme local weather conditions pose an imminent and significant threat to public safety associated with wildfire risk. The significant variability of weather and environmental conditions across SCE's service territory, coupled with climate change effects, severe drought/bark beetle issues, require flexible de-energization guidelines that can be used under a variety of weather and physical circumstances and electrical system operating conditions. SCE's protocol, officially titled Public Safety Power Shut-Off, consists of a set of de-energization criteria and guidelines with a wide variety of factors that are considered.

SCE utilizes aspects of the National Incident Management System to manage its emergency and resiliency operations. Consistent with this methodology, execution of SCE's PSPS protocol is overseen by a specialized Task Force in the Incident Command Structure under the Operations Section Chief. The Task Force is composed of representatives from key internal departments to manage the necessary public safety notifications to critical care customers, essential service providers, business customers and local governments potentially affected by its use. The Task Force is responsible for monitoring and considering conditions and relevant information before recommending the de-energization of any SCE circuit(s).

4.6.2 TACTICAL AND STRATEGIC DECISION-MAKING PROTOCOL FOR INITIATING A PSPS/DE-ENERGIZATION

SCE is refining the tactical and strategic decision-making protocols needed to consistently consider the factors required to initiate pro-active de-energization internally and through the ongoing PSPS Order Instituting Rulemaking (OIR) process initiated by the CPUC. The complexities of the service territory, including size, topography, wind and weather patterns, and the uncertainty of weather events, make it difficult to predict exact locations where pro-active de-energization would or should be consistently considered.

The decision to preemptively shutoff power requires consideration of many complexities both known and unknown. Therefore, execution of de-energization is ultimately based on the judgment of the IMT and the considerations that follow are intended to provide a framework to assist the IMT in exercising this discretion:

- Potential impacts to customers and communities;
- RFW issued by the National Weather Service for fire weather zones that contain SCE circuits in HFRA;
- SCE meteorologists' assessments of known local conditions, including wind speeds (sustained and gusts), humidity and temperature, fuel moisture, fuel loading and data from SCE weather stations (including real-time data);
- Real-time situational awareness information from personnel positioned in HFRA areas identified as potentially at risk, areas located near circuits identified for inclusion on the circuit monitoring list, and in other areas identified during the incident as at risk of being subject to extreme weather conditions;
- Input from SCE Fire Management experts;[61]
- Input from SCE's Vegetation Management team as appropriate;
- Input from local and state fire authorities with specific concerns regarding the potential consequences of wildfires in select locations;
- Alternative ways to re-route power to affected areas;
- Awareness of mandatory or voluntary evacuation orders in place;
- Expected impact of de-energizing circuits on essential services;
- Other operational considerations to minimize potential wildfire ignitions, including the blocking of reclosers on the identified circuit(s);
- On-going fire activity throughout SCE's service territory and California in general;
- Progress of customer notification processes; and
- Ongoing notifications to local governments and public officials.

The IMT considers the factors above when determining if de-energization of specific locations within HFRA is necessary.

4.6.3 STRATEGY TO PROVIDE FOR SAFE AND EFFECTIVE RE-ENERGIZATION OF ANY AREA THAT WAS DE-ENERGIZED DUE TO PSPS PROTOCOL

When fire risk conditions subside to safe levels and safe conditions are validated by field resources, SCE will begin patrolling impacted circuits to check for any condition that could potentially present a public safety hazard when re-energizing circuits. Once field resources confirm that it is safe to re-energize the

61 *See* Chapter 5.B.

circuit(s), power will be restored, and local government and customers will be notified of re-energization. The order in which circuits are re-energized will depend on many factors including, but not limited to, customer safety and well-being, consideration of affected essential services, damage to electrical and other infrastructure, and circuit design/topology.

4.6.4 SCE STANDARDS RELATIVE TO CUSTOMER COMMUNICATIONS, INCLUDING CONSIDERATION FOR THE NEED TO NOTIFY PRIORITY ESSENTIAL SERVICES

SCE is committed to providing timely notification to potentially-impacted local governments, public safety agencies, the CPUC, the California State Warning Center, and customers prior to, during, and after a de-energization event, with special consideration of impacts to local governments and public safety agencies, as well as critical care customers, essential service providers, and business customers. SCE's PSPS plan sets the following guidelines for these notifications and SCE seeks to execute them when it is feasible; however, given particular urgent and unforeseen circumstances, these timelines may vary.

- **4-7 days ahead** of forecasted fire conditions in a HFRA, SCE meteorologists will begin predictive modeling to assess potential impacts to infrastructure that may require SCE to implement a PSPS de-energization event. At this stage, the accuracy and granularity of forecasts will not enable SCE to identify potentially impacted customers with a high level of confidence, so no notifications will be made.
- **3 days ahead** of the forecast event, SCE meteorologists will continue to refine predictive models and will place IMT on alert for activation 2 days ahead of the forecast event.
- **2 days ahead** of the forecast event, predictive models begin to improve in accuracy, and SCE activates its IMT. To the extent possible, SCE begins coordinating closely with local government and agencies (e.g., first responders) on a possible PSPS de-energization event. A specialized Task Force will work to identify impacted circuits. SCE will begin its customer notifications process in the following order:
    1. Local government and public safety agencies
    2. Critical care customers
    3. Essential service providers
    4. Business and residential customers
- **1 day ahead** of the forecast event, if fire conditions are imminent, the SCE meteorology team continues to refine its predictive models using more accurate forecasting capabilities to narrow down the affected circuits and customers. At this stage, SCE continues to work closely with local government and agencies on a possible power shutoff and will make additional notifications to impacted customers and local governments.

4.6.4.1 De-Energization Notifications (Activity PSPS-1)

If extreme fire conditions are validated by field resources, SCE weather stations, or other situational awareness means, SCE may decide to de-energize impacted circuit(s) and will make every attempt to notify local government, public safety agencies, and customers when this decision is made. In 2019, if SCE decides to de-energize circuit(s), SCE will continue to make notifications to local government, public safety agencies, the CPUC, the California State Warning Center, and customers, throughout the event when important updates are available. If the forecasted conditions do not materialize, SCE will notify local government and customers that the planned de-energization event has been cancelled.

As discussed in its 2018 GSRP Application, SCE utilizes its Emergency Outage Notification System (EONS) to quickly create and deliver customized outage communications in the customers' digital channel(s) of preference (smartphone, SMS text, email, TTY and social media) regarding de-energization events. In 2019, SCE will enhance EONS notification capabilities to expand in-language notifications based on customer preference including, but not limited to, Spanish, Chinese, and Cantonese.

4.6.5 PROTOCOLS FOR MITIGATING THE PUBLIC SAFETY IMPACTS OF THESE PROTOCOLS, INCLUDING IMPACTS ON FIRST RESPONDERS AND ON HEALTH AND COMMUNICATION INFRASTRUCTURE

SCE continues to host meetings and provide information to county Offices of Emergency Management (OEM), local and tribal governments, public safety agencies and community members (including selected groups through specialized workshops) that may be impacted by circuits that traverse HFRA in SCE's service territory. These meetings enable SCE to provide information regarding its PSPS protocol and its wildfire mitigation efforts. These meetings, and SCE's planning efforts surrounding wildfires and PSPS, are conducted in compliance with PUC Section 768.6. Additionally, SCE uses these opportunities to convey the importance of community resiliency in the event of any outage, irrespective of cause, and to receive important feedback from its customers and to incorporate this feedback into its planning process and the PSPS protocol.

SCE has begun and plans to continue holding regular meetings with public safety agencies including fire agencies, law enforcement agencies and emergency management agencies to continue the dialogue around PSPS and to collaborate on mitigation strategies and event protocols. SCE will also provide updates to those cities in HFRA as needed. Meeting topics include, but are not limited to:

- How circuits were identified as being high fire risk and subject to PSPS
- Overview of criteria and other factors used to determine if a circuit will be de-energized
- Customer and agency notification process before and during an event
- Information on SCE's Incident Command System structure during an event
- Requests for local governments and other agencies to provide SCE with information on situational awareness and other concerns with de-energizing particular circuits
- The process to request circuit re-energization from SCE
- The process used to undertake re-energization of circuits after a PSPS event
- The provision of GIS layers of HFRA circuits to aid in emergency planning process

SCE's engagement with local governments includes the following:

- Information (via email) on its PSPS protocol and its wildfire mitigation efforts to representatives of approximately 235 cities, counties, and unincorporated communities with HFRA circuits (Note: Unincorporated communities are included in outreach to counties)
- Offers to meet and meetings with key city and county personnel to further review and discuss any of the topics presented
- Offers to provide maps of HFRA Circuits – both PDF and GIS layers
- Requests for local governments and other agencies to provide SCE information on critical facilities/essential service providers and other concerns resulting from de-energizing particular circuits
- Upon request, SCE has presented at city council and local Public Safety Commission meetings

SCE holds “Outage Schools” throughout the year for business and residential customers. These meetings are designed to help customers understand what to expect during an outage, including an outage related to PSPS. Outage schools will continue annually throughout SCE’s service territory and topics include:

- The process for determining the extent of an outage (damage assessment)
- Information on notification process during an outage
- Details on SCE’s PSPS
- Outage restoration information

4.6.5.1 Essential Service Providers

SCE considers the following customer categories as essential service providers:

- Government and other agencies providing essential fire, police, and prison services
- Government agencies essential to the national defense
- Hospitals and skilled nursing facilities
- Communication utilities, as they relate to public health, welfare, and security, including telephone utilities
- Radio and television broadcasting stations used for broadcasting emergency messages, instruction, and other public information related to the electric curtailment emergency
- Water and sewage treatment utilities identified as necessary for services such as firefighting

SCE respects the privacy of its customers and submits the categories above as those considered essential service providers rather than a complete list of customers in those categories. Because customers move in and away from locations, providing a list of customers would only be valid for the date and time for which that list was retrieved from SCE’s systems.

SCE actively engages with its essential service provider community through designated single-contact resources at SCE from its Local Government Affairs department and Business Customer Division. These direct contact resources “own” the relationship with these customers, agencies and/or utilities for all business needs with SCE and in PSPS events. SCE also hosts Outage Schools throughout the year where outage notifications, communications and PSPS are discussed, and SCE is expanding its meeting invitation to the essential service provider community.

4.6.5.2 Critical Care Customers

SCE’s critical care customers are those customers enrolled in SCE’s Medical Baseline program whose physician has indicated that the medical equipment in use at the home is for life sustaining purposes and absent electricity for two or more hours the customer would be at risk. SCE considers these customers the most vulnerable of its medical baseline customers and therefore takes added measures to facilitate the safety of these customers.

Every year, SCE sends an annual medical baseline letter to all customers enrolled in the Medical Baseline program within SCE’s service territory (currently approximately 92,000 customers). The letter encourages and reminds these customers to have an emergency back-up plan for when outages occur and requests that they contact SCE so that the SCE has their most up-to-date contact information for use in the event of power outages. Additionally, the letter reminds them that SCE can send alerts and notifications through an alternate preferred method of contact that they provide to SCE. The most recent letter was delivered in June 2018 and another round of letters will be sent in 2019.

For all of SCE's medical baseline customers, outage notifications are provided through the customers primary and alternate preferred methods of communication (email, text, SMS). If a customer with the critical care designation cannot be reached via their preferred communication method, further safeguards are taken to make contact with the customer. SCE's Consumer Affairs office will begin personal attempts to reach these customers; if unsuccessful, they will send a field representative to the customer's home to attempt in-person contact. If contact is not made at the property, SCE will leave a notice of the visit and ask the customer to contact SCE directly. In circumstances when an outage is forecast to exceed 12 hours in duration, SCE will again attempt to reach the medical baseline customer through outbound calls from Consumer Affairs, and if unreachable, will send a field representative to the customer's residence in order to perform a welfare check.

4.6.5.3 General Outreach

SCE will send an annual letter to customers that live in HFRA informing them of the following: (1) the potential for a PSPS de-energization event in their area; (2) details on the notification process during an event; and (3) criteria informing SCE's PSPS protocol. In these letters, SCE will also include information on how best to prepare for an outage regardless of cause, how to sign up for the Medical Baseline Program, SCE contact information, and directions for accessing SCE's website where additional details on SCE's wildfire mitigation activities may be found. Customer outreach is further described in Section 5.2.

4.6.5.4 Community Workshops

SCE has conducted an extensive series of community meetings within its service territory to provide information on SCE's fire mitigation activities including its potential use of the PSPS de-energization protocol. SCE subject matter experts presented at the meetings and answered questions related to a variety of topics including:

- The state's "new normal" with respect to climate change impacts on wildfires
- System hardening and engineering practices
- Vegetation management
- Situational awareness (weather monitoring)
- PSPS protocol
- Safety during outages

SCE strives to continuously improve plans and protocols around wildfire response. In support of this, SCE will regularly solicit feedback through additional meetings with public safety agencies and impacted communities to provide an opportunity for a dialogue on the event and potential process changes from lessons learned. SCE will continue to evaluate opportunities for improving our plans and protocols using this feedback, as appropriate. Community workshops are further described in Section 5.2.

4.6.5.5 PSPS/De-energization Protocol Support

4.6.5.5.1 Line Patrols

In addition to the customer outreach efforts discussed above, a critical component of SCE's PSPS protocol is to assess potential for extreme fire risk conditions with the help of line patrols and monitoring functions (including troublemen and supporting crews) in the field prior to making the decision to de-energize. Operationally, SCE will deploy line patrol crews to assess circuit conditions prior to de-energization and before restoring service to confirm it is safe to re-energize.

4.6.5.5.2 Customer Contact Center

SCE provides customer support during PSPS/de-energization events via its Customer Contact Center (CCC), and anticipates additional resources to support the incremental increase in call volumes associated with these events.

4.6.5.5.3 Mobile Generator Deployment

SCE is working collaboratively with local governments, first responders and essential service providers to provide awareness of PSPS and to educate them on the importance of developing a resiliency plan that addresses back-up power needs for their facilities which provide critical life and safety functions. Many of these customers are required by law or industry standard to have back-up generation in place to sustain critical operations in the event of a power outage, regardless of outage type. Other customers not required to have back-up generation are encouraged to consider adding this capability if they feel they have critical needs that must continue in a power outage.

However, if essential service providers are unable to sustain critical life/safety operations during an extended power outage, SCE will consider requests to provide temporary mobile backup generation. Through the existing PSPS communication plan noted above in Section 4.6.4, SCE will coordinate closely with the emergency management community at the county level to identify and prioritize back-up generation needs in the following order:

Priority Order	Essential Service Provider Category
1. Life Safety Emergencies	Hospitals Skilled Nursing Facilities Public Safety Agencies
2. Public Health Emergencies	Water/Wastewater
3. Communication Failures	Telecommunications

If the Incident Commander determines there is a critical need for temporary back-up generation for one of the essential service providers noted above, the PSPS Task Force, which resides under the Operations Section of the Incident Command Structure, will be responsible for determining the appropriate sizing and installation requirements, and work with contract partners, vendors and the appropriate internal T&D field crews to coordinate deployment and installation. Once the event has concluded and power has been restored, this same task force will confirm the generator is removed and returned to the vendor.

4.6.5.6 Community Outreach Vehicles

SCE's customers may be without power for extended periods due to wildfire mitigation efforts, including PSPS activation and/or planned outages associated with hardening the grid and installing technologies that reduce wildfire risk. Although SCE has developed a public outreach plan in support of PSPS, including overall wildfire awareness and preparation, SCE expects that some customers will need assistance in receiving critical messages from SCE, public agencies, first responders, news agencies, social media, etc. SCE plans to deploy Community Outreach Vehicles[62] equipped with back-up power so that

[62] Due to procurement challenges with the Portable Community Power Trailers, SCE, as an interim solution, is evaluating alternatives, including retrofitting existing SCE vehicles to provide these services during PSPS events or other extended outages.

customers can charge their personal devices (mobile phones, tablets, laptops, etc.) and continue to receive information/updates from SCE about the outage, listen for relevant public safety broadcasts, and/or connect with friends and family concerned with their well-being during PSPS events. The Community Outreach Vehicles can typically be deployed to affected areas within 8 hours across the service territory, and their deployment will be managed through the IMT and PSPS Task Force.

4.6.6 ACTIVITIES AND 2019 GOALS

Activity	Description	2019 Goal	Compliance Evidence
PSPS-1	De-Energization Notifications	1) Notify applicable public safety agencies and local governments of possible de-energization 2) Notify CalOES through the State Warning Center of possible de-energization 3) Notify the CPUC of possible de-energization 4) Enhance EONS to include in-language messages	1) ESRB-8 Report(s) filed with the CPUC 2) EONS Production Order/Invoice

4.7 ALTERNATIVE TECHNOLOGIES

4.7.1 PROGRAM OVERVIEW

Through ongoing assessment and refinement of its programs, SCE continues to explore technologies that will reduce the probability of an ignition event and/or reduce public exposure to a hazardous condition during periods of high fire risk. SCE has implemented and continues to assess additional engineering solutions to provide better situational awareness, faster isolation of faults, and/or minimized energy transfer. As part of this process, SCE will pilot limited deployments to build confidence that the new technology will be useful and effective in mitigating identified causes of wildfire ignitions. A summary of additional technologies being considered for studies and pilots are described below. To the extent that SCE pursues such programs and activities, they will be set forth in future years' plans.

In 2019, SCE will evaluate and consider the following technologies for application on the distribution system. If equipment described below proves to be an effective fire risk mitigation technology, it may be included in the proposed program work discussed above in Chapter 4C.

4.7.2 ADDITIONAL ACTIONS WITHIN HFRA

4.7.2.1 Alternative Technology Pilots (Activity AT-1)

4.7.2.1.1 CAL FIRE Exempt Surge Arrester

A surge arrester is a device designed to channel lightning or other surge voltages to ground to protect the circuit or equipment from flashover due to excessive voltage. Equipment that is rated as CAL FIRE exempt is designed to limit such arcs/sparks or hot particles sufficiently to prevent the ignition of flammable vegetation. SCE is piloting a CAL FIRE-exempt surge arrester in field conditions to learn more about its operating characteristics before deploying it as a potential new standard for all HFRA. Under the pilot, SCE plans to install these surge arresters at 50 locations in 2019 to evaluate their field performance.

4.7.2.1.2 Meter Alarming for Downed Energized Conductor

Meter alarming for downed energized conductor (MADEC) is a machine-learning algorithm that leverages existing smart meter data to detect the presence of downed, energized conductors. In 2018, SCE started a pilot for a proactive program to de-energize downed conductors based on smart meter input with the MADEC algorithm. SCE plans to complete this pilot in 2019. Rapid detection of downed wire has public safety benefits and can allow for more rapid clearing of energized downed conductor to reduce ignition risk.

4.7.2.2 GSRP Wildfire Mitigation Program Study (Activity AT-2)

4.7.2.2.1 Distribution Fault Anticipation

Distribution Fault Anticipation (DFA) is a predictive algorithm that leverages electrical system measurements to recognize current and voltage signatures indicative of potential pending equipment failures. DFA alerts SCE of potential equipment weaknesses/failures to allow for proactive remediation, thus avoiding faults and minimizing ignition risks. Under this pilot, SCE is investigating the use of DFA to predict failures based on voltage and current signatures for proactive mitigation. In 2019, SCE will implement at least 10 DFA devices in HFRA as part of the pilot to evaluate their field performance. Given the potential wildfire risk mitigation benefits it provides, SCE will attempt to implement up to approximately 50 additional DFA devices in 2019.

4.7.2.2.2 Advanced Unmanned Aerial Study

As described in SCE's GSRP Application, the Advanced Unmanned Aerial Systems (UAS) study project will inform and advance SCE's existing UAS program by exploring the capabilities of Beyond Visual Line of Sight (BVLOS) flight. SCE's UAS program is developing the capability to expedite patrolling utility lines following a PSPS event or other extended outage, to more quickly and safely restore power to customers. In 2019, SCE plans to explore BVLOS UAS capabilities to patrol utility lines.

4.7.2.3 Alternative Technology Evaluations (Activity AT-3)

4.7.2.3.1 Rapid Earth Fault Current Limiter and Arc Suppression Coil

Rapid Earth Fault Current Limiter (REFCL) and Arc Suppression Coils (ASC) are substation devices that limit ground fault current levels and increase ground fault protection sensitivity. These technologies have the potential to substantially limit the amount of energy released in the event of a downed power line, or ground fault, and help reduce fire ignition risks. The REFCL device expands on conventional ASC technology to allow for fault location and further improve fire ignition reductions. SCE will evaluate this technology in 2019.

4.7.2.3.2 Alternate Fault Detection Technology

In 2019, SCE will evaluate alternate fault detection technologies to improve fault identification beyond traditional overcurrent protection methods. These detection systems may help identify faults more quickly and help to minimize fault energy and related ignition risks. This includes technologies for reducing fault energy associated with circuit reclosing, and fault detection schemes which employ voltage, or other measurements, to improve fault detection beyond traditional overcurrent.

4.7.2.3.3 Fire-Resistant Wood Poles with Protective Barrier

A fire-resistant wood pole is created by applying surface treatments, such as wrapping a sacrificial composite shield around the pole. The use of fire-resistant poles will enhance the resiliency of SCE's infrastructure in HFRA and help with rapid restoration. In 2019, SCE will assess the use of a fire-retardant wrap around existing wood poles as a sacrificial layer from fire.

4.7.2.3.4 Substation Class Electronic Fuses

Substation class electronic fuses are devices that are controlled by high speed electronic measurement devices. These fuses can be remotely programmed to activate enhanced fusing protection during high fire risk conditions (e.g., high wind), while limiting service reliability impacts during normal conditions. Additionally, reduced fault energy in the mainline circuitry would help reduce ignition risk. An alternate application of this current-limiting technology is the capability to remotely control energy reduction for highly loaded portions of circuitry. In 2019, SCE will evaluate substation-class electronic fuses for potential deployment in the future.

4.7.2.3.5 Single Phase Reclosers

Single phase reclosers are CAL FIRE-exempt electronic reclosers capable of "gang operation." Gang operation allows for the de-energization of all three phases due to a single-phase fault to prevent energized wire down situations. SCE intends to expand its branch line protection strategy to include single phase recloser applications by development of standard installation practices in 2019.

4.7.2.4 Alternative Technology Implementation (Activity AT-4)

4.7.2.4.1 Vibration Dampers

Vibration dampers are hardware attached to conductors (usually near insulators) to inhibit conductor fatigue from vibration. Under certain conditions vibration dampers can help keep conductor connections and attachments from degrading due to vibration. SCE intends to expand its conductor resiliency effort with vibration damper applications for existing conductors by development of standard installation practices in 2019.

4.7.2.4.2 Ridge Pin Construction

Ridge Pin construction is sometimes referred to as triangular construction due to the shape created by the conductor arrangement. This configuration increases vertical separation between the center phase conductor and the two outside conductor phases to further reduce the potential for conductor-to-conductor contact. Under this configuration, the distance between poles can be larger than span distances utilizing horizontal construction and still maintain conductor clearances in turbulent wind conditions. This type of conductor orientation can be used in difficult terrain conditions where access roads below the conductor may not allow the installation of line spacers. SCE intends to expand its conductor resiliency effort with ridge pin construction for existing conductors by the development of standard rebuild practices in 2019.

4.7.2.4.3 Expanded Connector Selection in HFRA

SCE has expanded its CAL FIRE-exempt connector options to include the bolted wedge connector. In 2019, SCE intends to refine its distribution overhead standards requirements for connector selection for HFRA application.

4.7.3 ACTIVITIES AND 2019 GOALS

In 2019, SCE will continue to explore and implement alternative technologies as part of its grid hardening efforts to reduce the probability of an ignition event and/or reduce public exposure to a hazardous condition during periods of high fire risk. The following table details performance measures for SCE's alternative technology goals.

Activity	Description	2019 Goal	Compliance Evidence
AT-1	Alternative Technology Pilots	1) Pilot installation of 50 CAL FIRE-exempt surge arrestor units in target locations 2) Pilot meter alarming for downed energized conductor	1) Results of 50 CAL FIRE-exempt surge arrestor pilot 2) Results of meter alarming pilot for downed energized conductor
AT-2	GSRP Wildfire Mitigation Program Study	1) Evaluate distributed fault anticipation technology and conduct pilot installation of at least 10 DFA devices 2) Evaluate BVLOS UAS capabilities	1) Results of distributed fault anticipation technology assessment and pilot 2) Evaluation of results of BVLOS of UAS
AT-3	Alternative Technology Evaluations	1) Evaluate REFCL/ASC 2) Evaluate alternate fault detection technology 3) Evaluate fire retardant barrier for wood poles 4) Evaluate substation-class electronic fuses 5) Evaluate branch line protection to include single phase reclosing	1) Assessment of REFCL/ASC feasibility 2) Assessment of technologies for reducing fault energy 3) Assessment and development of specifications of fire-retardant barriers for wood poles 4) Assessment of substation-class electronic fuses 5) Assessment of single phase reclosing
AT-4	Alternative Technology Implementation	1) Develop standard installation practices for Aeolian vibration dampers 2) Develop standard installation practices for ridge pin construction for conductor rebuild 3) Update DOH requirements for connector selection in HFRA	1) Publish vibration damper installation procedure 2) Publish ridge pin construction installation procedure 3) Publish updated connector selection requirements document

4.8 POST INCIDENT RECOVERY, RESTORATION AND REMEDIATION ACTIVITIES

Post-incident recovery, restoration, and remediation activities are important for SCE customer public safety and infrastructure resiliency. As such, SCE follows the recovery, restoration, and remediation guidelines established by CPUC standards for disaster and emergency preparedness plans pursuant to PUC Section 768.6 through its Storm Plan, which is included in SCE's annual GO 166 compliance filing. The plan is designed for disaster preparation and safe and efficient restoration for any type of outages caused by exogenous natural forces. Additional details on post-incident activities are provided in Section 5.2.1.1.

SCE's emergency response plans are periodically reviewed, evaluated, and updated to maintain continued effectiveness in protecting public and employee health and safety, and minimizing damage to public and private property as well as SCE infrastructure. Additionally, after incidents, SCE incorporates lessons learned into its emergency preparation and response plans to further refine its processes including post-incident activities. Additional details on emergency preparedness and disaster response activities are provided in Section 5.1.

SCE may conduct post-wildfire debris-flow assessments to identify and safeguard SCE assets in high-risk debris-flow areas after wildfires. The post-wildfire debris-flow assessment framework uses United States Geological Survey (USGS) modeling to identify areas of high-debris-flow risk. An analysis is conducted to identify substation, transmission, sub-transmission, distribution and telecom assets that could be potentially impacted. Mitigation options will be determined based on the results. Also, for areas of concern, SCE monitors predicted rainfall data.

5 EMERGENCY PREPAREDNESS AND RESPONSE

SCE strives to minimize the impacts of any disruptive event regardless of the size or scope, while consistently focusing attention on the Company's most critical systems and infrastructure. In the utility industry, including at SCE, business resiliency has traditionally been rooted in storm response. That paradigm has evolved to align more closely with emergency management programs at the local, state and national level. The terms emergency management and resiliency are broader in scope than traditional utility storm response and include preparing for all risks, threats and hazards a utility may experience.

5.1 EMERGENCY PREPAREDNESS AND RESPONSE PLAN OVERVIEW

SCE's Business Resiliency organization has led the development of emergency preparedness and response plans based on National Incident Management System (NIMS) and Incident Command System (ICS) principles and protocols as developed by the Federal Emergency Management Agency (FEMA). SCE's preparedness and response plans build upon SCE's continuity protocols and SOBs related to disaster preparedness and response, and involve input from subject matter experts across the company. This cross-functional approach to emergency preparedness and response planning has resulted in emergency action plans that facilitate an effective company-wide response to incidents of varying sizes and emergency disruptions, including wildfire response operations. Emergency preparedness and response plans are periodically reviewed, evaluated, and updated to maintain continued effectiveness in protecting public and employee health and safety, and minimizing damage to public and private property as well as SCE infrastructure.

SCE's emergency preparedness and response plans consider numerous hazards that have been identified as potentially impacting the SCE's service territory and the grid, including earthquakes, cybersecurity, and wildfires. These plans are developed to streamline SCE response efforts, inform critical actions and decision-making, determine roles and responsibilities of SCE first responders, and maximize SCE's ability to respond and recover following any type of disruptive incident. By undertaking comprehensive planning efforts and utilizing these plans, SCE aims to minimize the impacts of these incidents on customers and communities. SCE's emergency preparedness and response plans make available critical information for incident response and recovery team members to implement an efficient, effective, and safe response to any type of incident, disruption, or disaster.

5.1.1 EMERGENCY RESPONSE ORGANIZATION STRUCTURE

SCE employs the ICS as the basis for the Company's Emergency Response Organization (ERO) structure. Trained personnel are assigned the responsibility for key functions within the ICS structure to manage a wide range of incidents ranging from a routine unplanned outage to a major disaster, such as an earthquake or wildfire. Utilization of the ICS structure facilitates SCE's effective response to incidents based on their relative scale and impact to customers.

Key components of SCE's ERO structure are the Emergency Operations Center and the company's IMT. During a major incident (including wildfires), the IMT will manage the organization, assignment, direction, and tracking of relevant resources, both material-and personnel-related. IMT members are regularly trained regarding their roles and responsibilities regarding all types of hazards. The ERO structure facilitates SCE's ability to streamline response efforts and direct skilled personnel towards the most critical restoration priorities.

5.1.1.1 Incident Command System

The ICS is a standardized all-hazards incident management approach that achieves the following:

- Allows the integration of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure;
- Enables a coordinated response among jurisdictions and functional agencies, both public and private through interaction with the IMT; and
- Establishes common processes for planning and managing resources, as well as determining and setting objective and priorities

ICS is used by all levels of government—federal, state, and local—and by many non-governmental organizations and the private sector. ICS is also applicable across disciplines, typically structured to facilitate activities in five major functional areas: Command; Operations; Planning; Logistics; and Finance/Administration. These functional areas may or may not be activated based on the needs of the incident. By utilizing ICS in SCE's planning, training, and response structures, the company is better able to communicate and integrate with local, county, state, and federal response efforts. Utilizing ICS has proven to be beneficial when coordinating response efforts with SCE's government and non-governmental partners in training exercises and during real-world incidents.

5.1.1.2 Mutual Assistance

Currently, SCE is party to multiple mutual assistance agreements, which provide a mechanism to quickly obtain or supply emergency assistance prior to, during, or after an incident that affects generation, transmission, distribution or other SCE facilities. Assistance can be received or supplied in the form of personnel, equipment, materials, and other associated services. Having a robust mutual assistance program is necessary to effectively respond to and restore power following complex and/or large incidents. To access or supply mutual assistance resources, SCE maintains the following mutual assistance agreements:

- California Utilities Emergency Association (CUEA) among California utilities
- Western Region Mutual Assistance Agreement for Electric Utilities (WRMAG), a regional agreement
- Edison Electric Institute (EEI), a national mutual assistance program

These mutual assistance agreements have been pre-established in advance of future incidents, are standardized across utilities, and outline specific requirements and authorizations before crews are received or deployed. SCE regularly participates in mutual assistance calls, planning efforts, and coordinating body meetings, and has provided mutual assistance to other utilities in large-scale emergencies.

In addition to a robustly-trained SCE workforce and mutual assistance agreements, SCE can utilize contractors to assist in restoring service following a major incident, including wildfires, as described in Section 5.2.4 below.

5.2 DESCRIPTION OF HOW THE PLAN IS CONSISTENT WITH DISASTER AND EMERGENCY PREPAREDNESS PLAN PURSUANT TO PUBLIC UTILITY CODE SECTION 768.6

As described below, SCE's 2019 WMP is consistent with the PUC Section 768.6's requirements to have disaster and emergency preparedness plans. Details of these plans are reported to the Commission pursuant to GO 166.

5.2.1 PROGRAM OVERVIEW

SCE follows the restoration guidelines established by CPUC standards for disaster and emergency preparedness plans pursuant to PUC 768.6 through its Storm Plan, which is included as part of its annual GO 166 compliance filing.

5.2.1.1 SCE Storm Plan

The SCE Storm Plan is an effort to respond to emergency incidents resulting in disruptions to the electrical system. It describes the operations and policies that guide how the company plans for, addresses, and responds to emergency electrical incidents using the ICS structure adapted with utility-specific solutions. The plan is designed to facilitate safe and efficient restoration for any type of outages caused by exogenous natural forces by:

- Development of accurate situational awareness and the distribution of a consistent common operating picture;
- Consistent use of the ICS response structure, organization and principles;
- Application of pre-determined restoration priorities; and
- Application of pre-determined processes to manage emergency functions/roles:
  - Damage Assessment
  - Field Resources
  - Mutual Assistance
  - Communications

The intent of the Storm Plan is to help SCE prepare for and respond to storms cohesively across all applicable functions using common protocols, terminology, and organizational structures aligned with nationally-recognized best practices. It outlines how SCE will collaborate with the communities it serves in preparing for and responding to emergency events; this may include things such as pre-staging of field resources or equipment in advance of forecasted weather events. The Storm Plan objectives include:

- Defining the criteria for activating and deactivating the SCE Storm Plan;
- Outlining the communications strategy and notification procedures by which SCE will communicate with its customers, the public at large, appropriate state and local government agencies, essential service providers and critical care customers, and other important stakeholders in the restoration process; and
- Providing an overview of the strategies that SCE will use to employ mutual assistance to share resources with other utilities in order to expedite the restoration of service to customers.

5.2.2 EMERGENCY COMMUNICATIONS

SCE has a comprehensive plan for communicating with its customers during emergencies, especially during outages. SCE's current process includes automated outbound notification to customers through each customer's preferred method of contact when an outage occurs, as outage restoration times are determined or shifted, and upon conclusion of the outage. This schedule of notifications applies to repair (unplanned) outages and maintenance (scheduled) outages. For maintenance outages, SCE provides advance notice to customers at least three days prior to the outage, but usually up to two weeks in advance. These notifications are followed with an automated reminder call twenty-four hours ahead of the scheduled outage. Further, SCE's Outage Map on SCE.com provides customers with information regarding outages that are affecting their service location.

Following the 2017 wildfires, SCE enhanced its emergency communication plans, focusing on building awareness about the importance of wildfire mitigation and how SCE is undertaking critical work in HFRA. Components include proactive communications and education about wildfire and emergency preparedness as well as communications and awareness during and following wildfire events. As part of GSRP, SCE implemented phase one of its new Emergency Outage Notification System (EONS) in fall 2018. This new system has the capability to execute high-volume notifications within very short timeframes, enabling SCE to reach a large number of customers in areas potentially subject to PSPS.

As discussed in Section 4.6, in 2019, SCE will enhance EONS' capabilities to expand in-language notifications based on customer preference including, but not limited to, Spanish, Mandarin, and Cantonese. SCE relies on customers' self-identification of their preferred language. SCE is committed to continuous improvement in all areas of its wildfire mitigation efforts and will examine the feasibility of using Census data, and other methods, in 2019.

5.2.3 ADDITIONAL ACTIONS TAKEN WITHIN HFRA

5.2.3.1 Communications and Education about Wildfire / Emergency Preparedness:

5.2.3.1.1 Annual Wildfire Customer Direct Mailer (Activity DEP-1)

The annual wildfire awareness direct mailer is a proactive communication solution that allows SCE to target specific areas of its territory with important customer information. As SCE began its campaign to raise wildfire awareness for customers who reside in HFRA, it sent a direct mailer that focused on the "new normal" in California, SCE wildfire mitigation efforts, and PSPS. Approximately 1.5 million customers in HFRA received this letter via direct mail. SCE plans to send the 2019 direct mailer by May 31.

5.2.3.1.2 Local Government Education and Engagement (Activity DEP-1)

SCE has held several meetings with local government officials regarding SCE's overall wildfire mitigation efforts, with discussions focused on educating local governments about the PSPS de-energization process and how the company will communicate and work with government agencies and emergency operations during outages. These meetings were helpful in understanding local government's needs before, during, and after PSPS events. SCE will continue these meetings in 2019 to further educate local government officials, enhance partnerships, increase awareness, and discuss lessons learned.

5.2.3.1.3 Community Meetings (Activity DEP-1)

SCE has conducted several community meetings in HFRA to provide SCE customers who may be impacted by a PSPS event an opportunity to hear firsthand from SCE staff and other community leaders or agencies about the "new normal" in California and what that means to them; how to be prepared and remain resilient; information about SCE's wildfire mitigation efforts; and to share their questions and concerns. These forums allow SCE to obtain up-to-date customer information that is critical for outreach during events. SCE intends to continue customer engagement efforts in HFRA in 2019 and will develop its 2019 community meeting plan and conduct meetings accordingly.

5.2.3.1.4 SCE.com

At SCE's website (SCE.com), customers can find content regarding important utility information and specifics about their individual SCE account. SCE has created a dedicated, interactive and informative landing page where customers can increase their awareness about SCE's wildfire mitigation efforts, learn techniques and considerations that can help prepare them to be more resilient during major events and receive up-to-date information regarding outages in their area. SCE is studying opportunities, and benchmarking with other utilities across the nation, on meaningful enhancements to its website in 2019 to improve the customer experience and PSPS awareness.

5.2.3.1.5 Executing Annual IMT Training Focused On Wildfire Response (Activity DEP-2)

SCE is currently updating its annual IMT training plan which focuses on wildfire mitigation and emergency preparedness. Internally, this will include seminars for IMT members that support execution of wildfire response and protocols for de-energization. Additionally, a series of training exercises utilizing wildfire scenarios that include testing de-energization protocols will be conducted in 2019. These opportunities are in addition to regular IMT trainings and exercises that are required annually as part of SCE's response organization.

5.2.3.2 Communications and Awareness During and Following Wildfire Events

SCE uses a combination of methods for reaching customers during and following wildfire events based primarily on impacted customer population. These methods are described below:

- Toll-free (1-800) phone line staffed with trained resources in SCE's customer contact center who receive calls from impacted customers as a priority; they provide customer-service-related protections to customers.
- Home page alerts on SCE.com that drive customers to a dedicated webpage regarding consumer protections.
- Targeted paid social media campaigns to areas specifically impacted by a disaster (e.g., a wildfire) to inform customers about emergency protections available to those impacted by a specific disaster.
- Trained staff deployed to local assistance centers to work in-person with impacted customers, and advertising on city/county websites about services offered by SCE at these venues.
- Media releases to inform customers about protections and to drive customers to reach SCE through its website or via the toll-free (1-800) phone line.
- Outreach to partnering community-based organizations that serve income-eligible customers to enable awareness of customer-service protections for their organizations' staff who might be working with SCE customers.

5.2.4 SHOWING THAT THE UTILITY HAS AN ADEQUATE AND TRAINED WORKFORCE TO PROMPTLY RESTORE SERVICE AFTER A MAJOR EVENT TAKING INTO ACCOUNT MUTUAL AID AND CONTRACTORS

SCE maintains an adequate and trained workforce ready to provide assistance during emergencies. As described above, SCE has a Storm Plan to respond to emergencies that can vary in scope and size and which may require the activation of mutual assistance to restore power in a safe and timely manner. SCE also has a robust ICS training program for employees identified as emergency responders and currently has approximately 540 employees that have gone through the ICS training program. These

IMT are placed on rotations, and when their teams are on call they are required to respond to the EOC within two hours, with limited exceptions. These teams are specifically structured to have multiple back-ups available, so that response and recovery efforts can be conducted 24 hours a day for several days or even weeks. Moreover, SCE has a large field workforce (both employees and contractors) that is highly skilled and able to restore service during and after a major event.[63] SCE's field workforce has many years of experience, on average, which allows it to effectively respond to major events. SCE also employs contract resources that can be reassigned to assist with a major event.

IMT and EOC capabilities are tested regularly both via real-world incidents such as windstorms, wildfires, and PSPS, and via exercises and drills that all team members are required to participate in annually. These exercises, drills, and real-world activations provide an opportunity for team members to utilize their training, refresh their skills, and learn on the job. During exercises and drills, team members are also evaluated on their performance and given real-time feedback on areas for improvement and best practices.

In addition to SCE's internal response and recovery capabilities, SCE maintains existing mutual assistance agreements with outside providers to meet restoration objectives, as described in Section 5.1. These mutual assistance agreements are activated in incidents which exceed the capacity of SCE's crews and emergency contracting capabilities. The IMT and EOC maintain visibility on the workforce and incidents, maintaining situational awareness of any staffing shortages or other potential shortages, looking ahead at potential needs and requesting appropriate support via additional internal staffing, emergency contracts, or mutual assistance. These requirements are captured in SCE's Storm Plan.

Recognizing the impacts of climate change, the increasing wildfire risk within SCE's service territory, and the potential for numerous PSPS-related EOC activations, SCE is evaluating the need for additional trained staff members and more robust capabilities in its IMT structure. To mitigate these needs, SCE is implementing additional training and exercise opportunities in 2019 to increase team capacity. (Activity DEP-3)

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[63] Please see Appendix E for a list documenting the current (approximate) number of SCE field workers, support personnel and contract crews.

5.2.5 ACTIVITIES AND 2019 GOALS

Activity	Description	2019 Goal	Compliance Evidence
DEP-1	Customer Education and Engagement	1) Conduct a direct mail campaign to inform customers in HFRA 2) Develop Local Government Education and Engagement Community Meeting plan 3) Execute Local Government Education and Engagement Community Meeting according to plan	1) Copy of letter and customer list 2) Schedule/Plan of community meetings 3) Presentation materials, sign-in sheet, invitee list
DEP-2	Emergency Responder Training	1) Wildfire response training for new or existing responders 2) Conduct internal IMT Training around wildfire response and de-energization protocols	1) Training sign-in sheets 2) Training/Seminar materials, exercise notes, log of attendees/sign-in sheet
DEP-3	Bolster Incident Management & Incident Support Team members	1) Determine positions that need enhanced staffing 2) Train, exercise, and qualify new staff to meet identified need	1) List of new positions created, or number of personnel needed in existing positions 2) Roster of newly trained personnel

5.3 CUSTOMER SUPPORT IN EMERGENCIES

5.3.1 PROGRAM OVERVIEW

SCE's Emergency Disaster Relief program provides customers impacted by disasters certain protections on their SCE accounts. This program complies with Commission regulations and requirements, including, but not limited to, Resolution M-4833, Resolution M-4835, and D.18-08-004.

The following customer protections are included in SCE's Emergency Disaster Relief program: support for low-income customers, billing adjustments, deposit waivers, extended payment plans, and suspension of disconnection and non-payment fees. These protections remain in effect for one year from the date of the disaster event included in the Governor's state of emergency proclamation.

SCE works with appropriate city and county agencies to identify and verify homes and small businesses in SCE's service territory that were destroyed or damaged by wildfires. SCE conducts field verifications to validate the information and places each home or small business into one of the two following eligibility categories:

- Homes and small businesses destroyed by a disaster are considered total losses, and their accounts are flagged in SCE's Customer Service system as eligible for protections as outlined in the Emergency Disaster Relief program. These accounts remain flagged until the customers establish replacement residences or small businesses for one year from the date of the event included in the Governor's state of emergency proclamation, or as otherwise specified or extended by CPUC order.

- Homes and small businesses damaged by a disaster are not considered total losses. These accounts are flagged in SCE's system and are eligible for protections as outlined in Resolution M-4833, Resolution M-4835 and D.18-08-004.

SCE's dedicated customer support representatives are trained on emergency customer protections and provide information to customers about eligibility for SCE's Emergency Disaster Relief program, and the processes to receive appropriate assistance. Upon receipt of lists of impacted customers from relevant building and safety departments, SCE reaches out to customers directly using customer-indicated preferred contact methods to provide targeted messages about their customer-protection eligibility.

The section below includes information about these customer protection and disaster relief programs. SCE has also included information related to its outage reporting and repair processing and timing.

5.3.2 ACTIONS TAKEN TO SUPPORT CUSTOMERS DURING AND AFTER A WILDFIRE

SCE takes specific actions to support customers during and after wildfires, including:

- Providing support to low-income customers
- Facilitating billing adjustments
- Offering account deposit waivers
- Extending payment plans
- Suspending disconnection and non-payment fees
- Providing access to utility representatives
- Submitting outage reports
- Communicating repair processing and timing

These activities are described in the sections below:

5.3.2.1 Providing Support for Low-Income Customers

SCE partners with a network of more than 100 non-profit community and faith-based organizations across its service territory. Through these alliances, SCE helps eligible customers enroll in income-qualified programs, including the California Alternate Rates for Energy (CARE) program, the Family Electric Rate Assistance (FERA) program, the Energy Assistance Fund (EAF), and the Energy Savings Assistance (ESA) program.

Within SCE's Customer Service business unit, the group responsible for the CARE program identifies and flags CARE customers impacted by a disaster. All CARE program standard- and high-usage post-enrollment eligibility verification requests for these customers are frozen, which allows impacted customers who have pending verification requests to remain in the CARE program for one year from the date of the disaster event without any further affirmative customer action.

SCE partners with the United Way of Greater Los Angeles, its EAF program administrator, to provide an additional, one-time bill payment assistance amount of $100 for eligible, impacted customers. This is in addition to the standard one-time $100 EAF bill credit, amounting to a total one-time assistance amount of $200 for customers impacted by a disaster who apply and qualify for the EAF grant.

The ESA program is a direct-install program that offers income-qualified customers energy efficiency-related services and measures at no cost. The ESA program can provide benefits to income-qualified customers whose homes are damaged by wildfires, and who qualify for replacement of existing appliances. SCE educates low-income customers impacted by a disaster about the ESA program and, if customers are interested, deploys its ESA contractors to customers' homes to confirm ESA program qualification and assists in the enrollment process.

5.3.2.2 Facilitating Billing Adjustments

SCE discontinues billing and closes the service accounts for customers whose homes or small businesses were destroyed by a disaster from the date of the disaster event included in the Governor's state of emergency proclamation. However, SCE maintains these customers' account information and history to support their rebuilding efforts and transfers the customers' information to their new residences or small businesses, and re-establishes their credit history.

SCE suspends bill estimation for customers impacted by disasters, including those customers who were away from their residences or businesses when evacuations were ordered. In some instances, this takes SCE additional time to compile and verify the dates when the residences and businesses were unoccupied due to a disaster. SCE works with the appropriate city and county agencies to identify and verify homes and small businesses in SCE's service territory that were destroyed or damaged by wildfires and follows up with field verifications. Upon contact from customers who receive bills based on estimated usage for the times they were evacuated, SCE conducts an account review and makes appropriate billing adjustments. If a customer is billed during the evacuation period based on actual electricity usage, SCE considers adjusting customer bills under specific circumstances, even if the customer's residence or business was not destroyed in the disaster. In addition, SCE adjusts minimum charges for evacuated customers, as appropriate.

5.3.2.3 Offering Account Deposit Waivers

SCE customers who request utility service re-activation and have been identified as impacted by wildfires are not required to provide security deposits for their accounts.

5.3.2.4 Extending Payment Plans

Though SCE identifies customers whose homes or small businesses were destroyed or damaged during the disaster, SCE relies on its customers to contact SCE and self-certify their particular, disaster-related financial situation. SCE works with impacted customers who contact SCE to establish reasonable payment arrangements based on individual customer need. SCE works with impacted customers to establish an initial payment no greater than 20 percent of the amount due, and the remaining amount due to be paid in equal installments over at least 12 billing cycles for customers with prior arrearages, and exceed at least eight billing cycles for other impacted customers. SCE customers are eligible to pay off their arrearages at any time (sooner), if they prefer.

5.3.2.5 Suspending Disconnection and Non-payment Fees

As part of its regular business practice, SCE does not assess or charge disconnection fees for destroyed homes or small businesses. Upon identification of impacted customers, SCE immediately confirms that customer accounts are flagged, suspends disconnection for non-payment, waives late fees and deposit requirements, and discontinues late payment reports to credit reporting agencies.

SCE keeps the accounts of residential and small business customers whose homes or small businesses were damaged by disaster active for one year, to support their home or small business re-building efforts.

5.3.2.6 Providing Access to Utility Representatives

Following a disaster event, SCE communicates disaster-related information to its communities via multiple channels, including, but not limited to, a designated, toll-free (1-800) SCE Customer Support phone line available Monday-Friday, 6 a.m.- 9.p.m. and Saturdays, 8 a.m.-5 p.m., and representatives deployed to Local Assistance Centers (LAC), ready to assist impacted customers to offer available protections. In addition, SCE makes the information regarding the disaster relief programs, the eligibility requirements for these programs, and how customers can inform SCE regarding their circumstances available on SCE.com.

5.3.2.7 Submitting Outage Reports

Commission requirements for outage reporting include notifications to customers about outages and reporting on outages pursuant to GO 166 and ESRB-8.

5.3.2.7.1 Notifications to Customers about Outages

SCE provides targeted and customized messages to customers regarding potential PSPS outage events, as well as repair and maintenance outages. They include notifications on potential time and duration of outages, update alerts, and restoration messages. These are communicated to customers through a variety of methods such as customer-stated, preferred methods of contact (e-mail, text, and/or SMS) and direct mailers (for maintenance outages).

Additionally, SCE posts emergency alerts, outage information, and restoration updates on its website, SCE.com, where impacted customers can view outage details.

5.3.2.7.2 G.O 166, Standards for Operation, Reliability, and Safety during Electric Emergencies and Disaster – Reporting Requirements

SCE submits reports to the CPUC within required timeframes for various outage types and circumstances, as detailed in GO 166, Standards for Operation, Reliability, and Safety during Electric Emergencies and Disaster. The following table provides a summary:

Outage Type/Circumstance	Report Requirements	Report Submitted to CPUC
Every time circuit block interruption is intended.	• Start time and anticipated curtailment or rotating outage duration • Interruptible load for firm-load rotating outage blocks/groups and sub-blocks/groups • Total amount of interruptible load curtailments or firm load outages, and major firm load interruption locations • SCE’s emergency contact person and numbers	As soon as possible.
Outages expected to accrue to more than 300,000 customer hours, exceed 300	• Possible outage cause • Time and location of initiating event • Approximate number and location of impacted customers	Within one hour.

Outage Type/Circumstance	Report Requirements	Report Submitted to CPUC
megawatts of interrupted load, or affect more than 10% of customers.	• Work necessary to restore service • Estimated service restoration time • SCE's event contact person and numbers	
Emergencies involving SCE facilities or personnel, likely to be reported statewide or in more than one major media market.	• Where, when, how, and what happened • Effects on electric service • Injuries, hospitalizations, or casualties • Property damage • Steps taken to resolve the emergency • Time when the situation is expected to return to normal • SCE's emergency contact person and numbers	Within one hour.
Interruptions to bulk power supply that are likely to lead to an ISO-declared Stage 2 or 3 emergency on or before the next business day.	• Interruption cause • Time and location of initiating event • Factors that would mitigate or worsen the emergency • Location and number of customers potentially impacted • Expected duration of the low-capacity situation • SCE's event contact person and numbers	Within one hour.
Outages affecting more than 30,000 customers, or lasting over 24 hours for 2,500 customers, or expected to total over 60,000 customer hours, or for situations likely to lead to such outages.	• Interruption cause and time • Name and location of impacted facilities • Outage start and end times • Location and number of impacted customers • Number of customers for whom the outage exceeded four hours • When service will be restored • SCE's event contact person and numbers	By 9:00 a.m. the next business day.
Outages associated with Office of Emergency Services (OES)-declared states of emergency, not otherwise reportable under the criteria above	• Outage cause • Outage start and end times • Location and number of impacted customers • Number of customers for whom the outage exceeded four hours • When service will be restored • Emergency crew movement between regions • Mutual-assistance requests to other utilities • SCE's event contact person and numbers	As soon as possible.

5.3.2.7.3 ESRB-8 Reporting Requirements

IOUs are required to submit a report to the Director of SED within 10 business days after each de-energization event, and after high-threat events where the IOU provided notifications to local government, agencies, essential services, and customers of possible de-energization but no de-energization occurred. These reports must include at a minimum the following information:

- A list of the local communities' representatives the IOU contacted prior to de-energization, the date on which they were contacted, and whether the areas impacted by the de-energization are classified as Zone 1, Tier 2, or Tier 3 as per the definition in GO 95, Rule 21.2-D.
- An explanation if the IOU is not able to provide customers with notice at least 2 hours prior to the de-energization event.
- Summary of the number and nature of complaints received as the result of the de-energization event, including claims that are filed against the IOU because of de-energization.
- Detailed description of the steps the utility took to restore power.
- The address of each community assistance location during a de-energization event, describing the location (in a building, a trailer, etc.) and describing the assistance available at each location, including the days and hours that it was open.

5.3.2.7.4 Communicating Repair Processing and Timing

During and following a disaster event, repair and power restoration timelines are largely dependent on access to the damaged area, damage to SCE assets, ability to secure materials and repair resources, and customer restoration priority. Essential services and facilities associated with safety will receive a higher restoration priority, when feasible. SCE communicates repair and restoration priority status to customers via its website, SCE.com. In addition, SCE makes efforts to communicate estimated restoration times to customers through their preferred or alternate methods of contact. These communications typically take place at the beginning of an outage and continue throughout the duration of the outage period and restoration efforts.

In 2018, SCE implemented Customer Crew Communications (C3) into its Outage Management System (OMS) which allows crews to enter outage information directly into the system. This enhancement allows SCE to provide customers with more timely, accurate outage status and creates a direct flow of information from SCE's field personnel into the OMS, which then pushes information directly to customers. Further customer benefits include SCE's ability provide information on estimated arrival times and other restoration details more accurately.

On SCE's website, the dedicated outage page has undergone enhancements in 2018. The outage map progress tracker, a customer-facing graphic, now has intuitive reasoning built in that more thoroughly displays several steps in the outage process, providing customers with the current status and what to expect next. The information includes the type of outage, such as maintenance or repair, estimated restoration time, crew arrival information, and number of customers impacted. Additionally, this page continues to link customers to helpful and relevant information such as outage tips and preparedness.

6 PERFORMANCE METRICS AND MONITORING

This chapter identifies SCE's management overseeing this WMP and includes the operating unit(s) and department(s) responsible for carrying out the activities described in the previous chapters. SCE describes the controllable metrics that are different from the activity goals. Like the activity goals, these metrics are used to demonstrate compliance of this WMP. This section also describes indicators that will be used for tracking purposes. Section 6.3 then provides background information on historical measures. Lastly, Section 6.4 describes SCE's monitoring and auditing process, and corrective actions (if necessary).

6.1 SCE MANAGEMENT RESPONSIBLE FOR EXECUTING THE WILDFIRE MITIGATION PLAN

SCE's 2019 goal planning process assigns overall responsibility for the WMP at the executive level and responsibility for individual activities to specific operating units and departments.

6.1.1 EXECUTIVE LEVEL WITH OVERALL RESPONSIBILITY

Phil Herrington, SCE's senior vice president of T&D, has overall responsibility for this WMP.

6.1.2 SCE OPERATING UNIT RESPONSIBILITY SPECIFIC TO EACH COMPONENT OF THE PLAN

Mitigation Activities	Operating Unit and Department
Risk Analysis: • Expansion of Risk Analysis (RA-1)	Finance; Enterprise Risk Management
Evaluation of HFRA: • Evaluation of HFRA boundaries (EVAL-1)	T&D; Grid Modernization & Resiliency
Operational Practices: • Annual SOB 322 Review (OP-1) • Wildfire Infrastructure Protection Team Additional Staffing (OP-2)	T&D; Transmission, Substation & Operations (OP-1) Safety, Security & Business Resiliency; Business Resiliency (OP-2)
Inspections: • Distribution Enhanced Overhead Inspections and Remediation in HFRA (IN-1) • Transmission Enhanced Overhead Inspections and Remediation in HFRA (IN-2) • Quality Oversight / Quality Control program based on EOI (IN-3) • Infrared Inspection of hot spots on overhead distribution facilities and equipment (IN-4) • Infrared Inspection, Corona Scanning, and High Definition imagery of overhead	T&D; Distribution and Transmission, Substation & Operations

Mitigation Activities	Operating Unit and Department
transmission facilities and equipment (IN-5)	
System Hardening: • Covered Conductor (SH-1) • Evaluation of Undergrounding in HFRAs (SH-2) • Composite Poles and Cross Arms (SH-3) • Branch Line Protection Strategy (current limiting fuses, CLFs) (SH-4) • Remote Controlled Automatic Reclosers Installations (SH-5) • Remote Controlled Automatic Reclosers Setting Updates (SH-6) • Circuit Breaker Fast Curve (SH-7)	T&D; Distribution and Transmission, Substation & Operations
Vegetation Management: • Hazard Tree Removal program (VM-1) • Expanded Pole Brushing (VM-2) • Expanded clearance distances at time of maintenance (VM-3) • DRI quarterly inspections and removals (VM-4) • LiDAR Inspections of Transmission (VM-5)	T&D; Distribution (Vegetation Management)
Situation Awareness: • Additional Weather Stations (SA-1) • Fire Potential Index Phase II (SA-2) • Additional HD Cameras (SA-3) • High-Performing Computer Weather Modeling System (SA-4) • Develop Asset Reliability & Risk Analytics Capability (SA-5)	Safety, Security & Business Resiliency; Business Resiliency
Protocols on Public Safety Power Shut-Off: • De-Energization Notifications (PSPS-1)	Safety, Security & Business Resiliency; Business Resiliency
Alternative Technologies: • Alternative Technology Pilots (AT-1) • GS&RP Wildfire Mitigation Program Study (AT-2) • Alternative Technology Evaluations (AT-3)	T&D; Asset Management, Strategy & Engineering

Mitigation Activities	Operating Unit and Department
• Alternative Technology Implementation (AT-4)	
Emergency Preparedness: • Customer Education and Engagement (DEP-1) • Emergency Responder Training (DEP-2) • Bolster Incident Management & Incident Support Team (DEP-3)	Safety, Security & Business Resiliency; Business Resiliency (DEP-2, DEP-3) Customer Service; Customer Service Operations Division (Consumer Affairs) (DEP-1)

6.2 METRICS TO EVALUATE THE PERFORMANCE OF THE PLAN AND UNDERLINING ASSUMPTIONS

6.2.1 METRICS

This section describes the performance metrics that will be used to assess compliance with this WMP. Mitigation plans in the GSRP are currently under review by the CPUC; accordingly, the relevant GSRP-related performance metrics in this WMP may be updated in future years' plans based on the CPUC's review and eventual decision in A.18-09-002.

In order to assess compliance with this WMP, SCE has included a set of performance metrics that are both "controllable" and "quantifiable." A controllable metric is one that SCE has the ability to control or influence the outcome through planned activities. A quantifiable metric is one that is measurable. Uncontrollable metrics are those that are outside of SCE's control. For example, the number of car hit pole events or the number of RFW days. SCE's metrics defined in this chapter are intended to track progress to specific goals to evaluate this WMP's performance.

In addition to metrics, this section describes indicators that do not evaluate compliance performance in 2019 because drivers contributing to the indicators include uncontrollable factors, making it difficult to set accurate, achievable, and numerical goals in 2019. Indicators are included in this WMP to evaluate trends that can help inform current and future strategies and programs. For example, SCE will continue to track and analyze the number of ignitions using the CPUC-reportable ignitions criteria as an indicator. However, given that a subset of ignitions can be caused by uncontrollable events unrelated to SCE's electrical equipment, this value will continue to be tracked in 2019 for informational purposes, and is not being used as a 2019 performance-based compliance metric with a specific target in this section.

Cumulatively, the success of the individual programs and activities in this WMP are expected to result in an overall reduction of controllable fire ignition events. Table 6.6 below summarizes the work streams and associated performance metrics. Not all activities described in previous chapters are considered performance metrics and do not appear in the table below. Both activities and performance metrics are relevant to WMP compliance evaluation. Further below SCE describes these metrics.

Table 6-6
Metrics

Work Stream	Performance Metric	Unit of Measurement	2019 Goal
Vegetation Management	Enhanced Vegetation Management	The number of trees removed as part of HTMP (VM-1)	7,500 trees
	Quality Control Inspections in HFRA	Circuit miles inspected	400 Transmission circuit miles 450 Distribution circuit miles
	Drought CEMA Program Trees Removed in HFRA	The number of trees removed as part of DRI	30,000 trees forecast
System Hardening	Wildfire Covered Conductor Program (WCCP) Miles Hardened	The number of circuit miles replaced with covered conductor (SH-1)	At least 96 circuit miles re-conductored
Operational Practices	Fuses Installed	The count of fuses installed on un-fused branch lines (SH-4)	At least 7,500 fuses
Situational Awareness	Weather Stations Installed	Count of weather stations installed (SA-1)	At least 315 weather stations
	HD Cameras Installed	Count of HD cameras installed (SA-3)	At least 62 HD Cameras
Patrols & Inspections	Enhanced Overhead Inspections (EOI) in HFRA	Inspect all Distribution, sub-transmission and transmission overhead lines in HFRA	100% of overhead lines in HFRA inspected

6.2.1.1 Vegetation Management

Vegetation, particularly palm fronds, are common foreign objects that contact conductors. Dry vegetation can also act as fuel in case of a wildfire. Therefore, enhancing SCE's vegetation management program is a priority in HFRA. Vegetation Management activities include tree trimming and tree removal in proximity to utility power lines and weed abatement around overhead structures in HFRA. SCE employs contractors to perform the work and performs quality control inspections on the completed work. To measure the success of SCE's vegetation management activities, the following three metrics will be used: (1) Enhanced Vegetation Management, (2) QC inspections in HFRA, and (3) Drought CEMA Program trees removed in HFRA.

6.2.1.1.1 Enhanced Vegetation Management

This metric measures the number of trees (including palms) removed as part of HTMP. HTMP expands vegetation management activities to assess the structural condition of trees in HFRA that are not dead or dying, but could nevertheless fall into or otherwise impact electrical facilities and potentially lead to ignitions and outages. These trees can be located up to 200 feet on either side of SCE's electrical facilities, significantly beyond the 4-foot clearance requirement in HFRA. The Hazard Tree Mitigation Program is described in more detail in Section 4.4.

6.2.1.1.2 Quality Control Inspections in HFRA

SCE will perform Quality Control compliance inspections in HFRA to verify compliant contractor work. The 2019 goal is to inspect vegetation adjacent to approximately 400 transmission circuit miles and approximately 450 distribution circuit miles.

6.2.1.1.3 CEMA Program Trees Removed in HFRAs

As described in Section 4.4, SCE established the DRI as a separate and distinct program from SCE's ongoing vegetation management activities. Under the DRI, SCE plans to remove approximately 30,000 trees in HFRA in 2019 that are dead, dying, or diseased, and that could impact SCE's electrical facilities.

6.2.1.2 System Hardening

SCE's system hardening programs are designed to reduce the risk of wildfire ignitions associated with be electrical infrastructure.

6.2.1.2.1 Wildfire Covered Conductor Program Miles Hardened

As discussed in Chapter 3, 53 percent of fire ignition events from 2015 to 2017 were on distribution voltage-level infrastructure in HFRA and due to contact from external objects (e.g., palm fronds, metallic balloons, debris) and an additional two percent from wire-to-wire contact. To reduce the probability of these ignitions, SCE is replacing existing overhead conductor with covered conductor that insulates and protects electrical lines against contacts from foreign objects and against power lines coming into contact with each other during high wind events. This program's performance will be measured by the execution of replacing overhead bare conductor with covered conductor in HFRA which has a 2019 goal of installing at least 96 circuit miles of covered conductor.

6.2.1.3 Operational Practices

6.2.1.3.1 Fuses Installed

Equipment or facility failure accounts for 30 percent of fire ignition events associated with electrical infrastructure based on SCE's CPUC-reportable ignitions data from 2015 to 2017. A fuse serves to protect an overloaded circuit by interrupting the flow of electricity. Fuses have the ability to limit the amount of energy associated with a fault, which minimizes the ignition potential. Currently, many of SCE's HFRA circuits have un-fused branch lines. SCE plans to install CLF on these un-fused branch lines to further minimize ignition risk. The 2019 performance metric that will be used to measure this program's effectiveness is the number of fuses installed in HFRA. The 2019 goal is to install at least 7,500 CLFs in HFRA.

6.2.1.4 Situational Awareness

The above mitigation activities can significantly lessen the likelihood of fire ignition events, but there are factors, such as severe weather events, that are uncontrollable. SCE relies on technologies and weather experts to better anticipate and plan for these occurrences. The following activities can help improve situational awareness prior to and during such events.

6.2.1.4.1 Weather Stations Installed

SCE is focused on accessing real time information about wildfire risk at a more granular level. This will help SCE better understand how weather conditions might impact utility infrastructure and public safety in HFRA. Additional details on the benefits of these weather stations are in Section 4.5. The performance metric proposed to measure how effectively this program is executed is the number of weather stations installed, with a goal of at least 315 units in 2019.

6.2.1.4.2 HD Cameras Installed

As discussed in Section 4.5, additional HD cameras in HFRA may help fire agencies respond more quickly if an ignition occurs. The performance metric to measure how effectively this program is executed is the number of cameras installed, with a target of 62 HD cameras installed in 2019.

6.2.1.5 Patrols and Inspections

6.2.1.5.1 Enhanced Overhead Inspections in HFRA

SCE plans to inspect all distribution, sub-transmission and transmission overhead lines in HFRA in 2019. Any issues found through these enhanced inspections will follow SCE's existing process for work prioritization as described in Section 4.2.

6.2.2 INDICATORS

SCE will use indicators to track values that are not used to evaluate WMP compliance performance in 2019. Additional analysis over time is needed to potentially adjust indicators for uncontrollable factors before considering proposing them as performance goals in future plan filings.

Table 6-7
Indicators

Indicators	Unit of Measurement
Wire Downs on Circuits in HFRA	Count of wire down events on HFRA circuits
Ignitions on Circuits in HFRA	Count of all ignitions on HFRA circuits associated with contact from object or equipment failures
Counts of all faults on Circuits in HFRA	Count of all faults on HFRA circuits associated with contact from object or equipment failures

6.2.2.1 Wire Downs on Circuits in HFRA

The Wire Downs indicator is a count of all events involving conductors that contact the ground or foreign object on circuits in HFRA.

6.2.2.2 Ignitions on Circuits in HFRA

A count of CPUC-reportable ignitions in SCE's service territory that meet the following conditions:

a. A self-propagating fire of material other than electrical and/or communication facility; and
b. The resulting fire traveled greater than one linear meter from the ignition point; and
c. The utility has knowledge that the fire occurred

SCE's ignition data collection process includes a variety of fields to track ignition data including start time, location, size, and drivers covering contact from object and equipment. To the extent the information is known, SCE documents it in its system.

6.2.2.3 Counts of all faults in HFRA Circuits categorized by driver

SCE will track counts of all faults on HFRA circuits associated with contact from object or equipment failures.

6.3 HISTORICAL INDICATORS AND METRICS

Fire mitigation has been an integral part of SCE's operational practices for years. SCE collects fire-related data to improve its wildfire mitigation efforts. This section documents the CPUC-reportable ignitions as the current and historical primary indicator used to track wildfires associated with electrical equipment.

6.3.1 CPUC REPORTABLE IGNITIONS INDICATORS

The primary indicator that the Commission tracks for wildfires associated with electrical infrastructure is known as "reportable ignitions."[64] A reportable ignition is any event where utility facilities are associated with the following conditions:

(a) A self-propagating fire of material other than electrical and/or communication facility, and

(b) The resulting fire traveled greater than one linear meter from the ignition point, and

(c) The utility has knowledge that the fire occurred.

SCE began tracking ignitions in May 2014. Because the 2014 dataset reflected partial annual counts, SCE used data from 2015 to 2017 in its risk analyses; these risk analyses influenced the wildfire mitigation programs and mitigation measures proposed within the GSRP Application. CPUC-reportable ignition data from 2015 to 2017 tracked 302 ignitions associated with SCE utility equipment, with 133 of these ignitions located within HFRA. SCE is in the process of analyzing 2018 fire ignition data. In addition to incorporating additional 2018 historical ignition data reportable to the CPUC, SCE will supplement this analysis in 2019 as described in Section 3.2.

6.3.2 OUTAGE DATABASE AND RELIABILITY METRICS

ODRM is a database that is used to gather information about electrical outages. Since January 2006, SCE has recorded all unplanned outages that affect a single line transformer or more on SCE's electrical system. For all such outages, every restoration step, the associated time, customers affected and associated outage cause (if known) are recorded.

6.4 COMPARISON OF THE WILDFIRE MITIGATION PLAN WITH THE FIRE PREVENTION PLAN (FPP)

SCE's 2017 FPP describes measures implemented to mitigate the threat of overhead powerline-associated ignitions and/or equipment-related ignitions within SCE's service territory. The FPP outlined SCE's use of applicable RFW methods in HFRA and assigned responsibilities of organizational units in preventing ignitions:

- D.12-01-032 required SCE to prepare a FPP to identify 3-second wind gusts in real time and address situations where all three of the following conditions occur simultaneously: 1) 3-second wind gusts exceeding the structural or mechanical design standards for the affected overhead powerline facilities, 2) these 3-second gusts occur during a period of high fire danger, and 3) the affected facilities are located within a high fire threat area.

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64 *See* D.13-02-015. Reportable ignitions do not include fires that cause damage to utility facilities but whose ignition is not associated with utility facilities are excluded from this requirement.

- D14-05-020 modified D.12-01-032 and eliminated the requirement to identify 3-second wind gusts in real time if a utility does not deploy fire-prevention measures that rely on real time observations of wind gusts. D.14-05-020 required SCE to "identify the parts of its service territory where it is reasonably foreseeable that the following conditions may occur simultaneously: 1) 3-second wind gusts exceed the structural or mechanical design standards for the affected overhead powerline facilities, 2) these 3-second gusts occur during a RFW, 3) the affected facilities are in a high fire threat area; and 4) that "[i]n making this determination, the utility shall use a minimum probability of 3 percent over a 50-year period that 3-second wind gusts which exceed the design standards for the affected facilities will occur during a RFW in a high fire-threat area."

In 2018, SCE completed a comprehensive update to its FPP that included many elements in this WMP. The 2018 FPP update encompassed all CPUC requirements identified in previous versions of the FPP and included additional strategies and programs focused on fire prevention, including the following items:

- System hardening
- Recent engineering and technical solutions
- Vegetation Management program improvements
- Operational enhancements (e.g., PSPS)
- Situational Awareness Center upgrades
- Weather monitoring and modeling improvements
- External engagement and outreach

A comparison of all elements included in the 2018 FPP and this WMP can be found in Appendix F.

6.5 COMPLIANCE, CORRECTIONS AND MONITORING PROCESSES AND PROCEDURES

6.5.1 MONITORING AND AUDITING OF THE PLAN

Protecting public and employee safety is a core value for SCE. This WMP is focused on identifying, prioritizing and executing mitigation programs and activities to further protect the public, customers, employees and contractors, and the grid from evolving and increasing wildfire risk. In accordance with SB 901, SCE's performance metrics described herein will measure the effectiveness of SCE's strategies and programs described in previous chapters.

SCE will use a performance dashboard as the platform to track progress on the wildfire mitigation metrics/activities included in this WMP and to illustrate progress in a visual manner. Progress towards 2019 goals of individual activities and higher-level metrics will be updated and reported on a monthly basis to SCE senior leadership. In accordance with PUC Section 8386, SCE will file a report with the CPUC addressing SCE's compliance with its 2019 WMP by March 31, 2020.

In addition to the required compliance report, SCE will maintain the compliance documentation described for each activity and make such documentation available to the independent evaluator upon request.

Additionally, SCE's internal Audit Department provides independent evaluations and assessments of risk management, governance, and controls to improve the effectiveness of Company operations. The annual audit plan is developed with input from SCE management and approved by the Board of Directors' Audit Committee each February. The annual audit plan may include evaluation of specific mitigation programs or activities included in the WMP.

6.5.2 IDENTIFYING AND CORRECTING ANY DEFICIENCIES IN THE PLAN

Progress towards 2019 goals of individual activities and higher-level metrics will be monitored by the PMO and management to enable SCE to address any potential performance challenges. All stakeholders are empowered to suggest improvement opportunities, including: field crews conducting work in HFRA, management reviewing results or trends, or formal internal or external auditors. The owner of each mitigation program or activity will be responsible for developing and implementing corrective actions for improvement opportunities encountered during implementation or for metrics that are off-track or trending negatively.

Ensuring implementation of corrective actions and overall monitoring of the metrics will be the responsibility of the applicable organization. These organizations will report to T&D executive leadership through existing channels.

6.5.3 MONITORING AND AUDITING THE EFFECTIVENESS OF WILDFIRE MITIGATION PROGRAMS

SCE has already started executing many aspects of this WMP, and the Company will continue to assess and evaluate the effectiveness of each mitigation program or activity. As noted in Section 6.2.2, analysis of indicators over time will help inform the effectiveness of SCE's mitigation strategies and programs and will provide data to continually improve and adjust these efforts accordingly. By evaluating trends of events linked to specific drivers for circuits that have gone through one or more wildfire mitigation programs and activities, SCE will assess how effective the mitigations are at preventing future ignitions. SCE's ability to measure the effectiveness of wildfire mitigation programs will be limited in 2019 and will require years of observation in HFRA to develop a complete view on the effectiveness of SCE's wildfire risk mitigation efforts.

7 ANY OTHER INFORMATION THAT THE CPUC MAY REQUIRE

7.1 COST INFORMATION

The following table provides potential cost implications of the strategies and programs described in Chapter 4 of this WMP.

7.1.1 EXPLANATION OF HOW DOUBLE TRACKING IN MEMORANDUM ACCOUNTS IS PREVENTED

SCE's new mitigation strategies/programs identified in Table 7-1 include three memorandum accounts (MA) that SCE will use to track its incremental costs, as appropriate. These memorandum accounts include the GSRP MA, SB 901 MA, and the Fire Hazard Prevention Memorandum Account (FHPMA). SCE has and will set up separate accounting in its SAP system to track cost for each MA. The separate accounting will ensure that SCE does not account for these incremental costs more than once. Moreover, SCE will seek cost recovery for the incremental costs in the SB 901 MA and the FHPMA in its 2021 GRC. In its 2021 GRC, SCE will be delineate these separate incremental costs by the activities described in the WMP and will demonstrate that the costs are incremental. Prior to seeking cost recovery, SCE will also assess and review the entries to these memorandum accounts for quality oversight purposes and will make adjustments should it find errors. SCE will have a similar accounting structure to ensure incremental costs recorded to its FHPMA are not also recorded elsewhere. Additionally, SCE will monitor these accounts and make adjustments when appropriate if costs are determined to be non-incremental.

SB 901 Activity Identifier	Activity/Program	2019 Cost (Capital) ($M) ($Nominal) (2019 Goal)	2019 Cost (O&M) ($M) ($Nominal) (2019 Goal)	2019 Cost (Capital) ($M) ($Nominal) (2019 Expansion/ Acceleration)	2019 Cost (O&M) ($M) ($Nominal) (2019 Expansion/ Acceleration)	Costs Currently reflected in Revenue Requirement	Funding that is or will be Addressed in Another Case	Memo accounts where the cost of program/ strategy are being tracked
AT-1	Alternative Technology Pilots	0.2	N/A	N/A	N/A	2018 GRC Pending	2018 GRC and/or 2021 GRC	Potentially SB 901 MA
AT-2	GSRP Wildfire Mitigation Program Study	N/A	0.6	1.4	N/A	No	GSRP Application and potentially pending 2018 GRC and/or 2021 GRC	GSRP MA and potentially SB 901 MA
AT-3	Alternative Technology Evaluations	N/A	0.0	N/A	N/A	Cross-organization labor costs included in 2018 GRC Pending (labor costs not included in cost estimate)	2018 GRC and/or 2021 GRC	Potentially SB 901 MA
AT-4	Alternative Technology Implementation	N/A	Cross-organization labor costs included in 2018 GRC	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
IN-1	Distribution Enhanced Overhead Inspections and Remediation in HFRA	102.8	144.9	N/A	N/A	No	2018 GRC and/or 2021 GRC	SB 901 MA
IN-2	Transmission Enhanced Overhead Inspections and Remediation in HFRA	9.9	25.0	N/A	N/A	No	2018 GRC and/or 2021 GRC	SB 901 MA
IN-3	Quality Oversight / Quality Control of EOI	N/A	Part of Division Overhead costs included in 2018 GRC	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
IN-4	Infrared Inspection of energized overhead distribution facilities and equipment	N/A	0.5	N/A	N/A	No	GSRP Application	GSRP MA
IN-5	Infrared Inspection, Corona Scanning, and High Definition imagery of energized overhead Transmission facilities and equipment	N/A	5.7	N/A	N/A	No	2021 GRC	SB 901 MA
N/A	AGP – Drive by of overhead Distribution facilities and equipment	N/A	Included in ODI	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Automatic Reclosers Replacement Program	2.4	N/A	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Capacitor Bank Replacement Program	18.1	N/A	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Detailed inspection of Transmission facilities and equipment	N/A	5.7	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Deteriorated Pole Program	251.2	N/A	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Insulator Washing	N/A	1.2	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	IPI – Intrusive pole inspections to identify rot and decay	N/A	6.1	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	ODI – Detailed inspections of Distribution overhead facilities and equipment	N/A	8.6	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Overhead Conductor Program	143.9	N/A	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	PCB Transformers Replacement Program	1.5	N/A	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Performance of joint patrols with fire agencies	N/A	See Supplemental Inspections of HFRA line item	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Pole Brushing	N/A	See Supplemental Inspections of HFRA line item	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Pole Loading Program	N/A	26.4	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	PSPS/De-energization Protocol Support Costs	N/A	4.3	N/A	N/A	No	GSRP Application	GSRP MA
N/A	Road and Right-of-Way Maintenance	N/A	3.9	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Substation Inspection and Maintenance	N/A	2.2	N/A	N/A	2018 GRC Pending	2018 GRC	N/A

SB 901 Activity Identifier	Activity/Program	2019 Cost (Capital) ($M) ($Nominal) (2019 Goal)	2019 Cost (O&M) ($M) ($Nominal) (2019 Goal)	2019 Cost (Capital) ($M) ($Nominal) (2019 Expansion/ Acceleration)	2019 Cost (O&M) ($M) ($Nominal) (2019 Expansion/ Acceleration)	Costs Currently reflected in Revenue Requirement	Funding that is or will be Addressed in Another Case	Memo accounts where the cost of program/ strategy are being tracked
N/A	Supplemental inspections of HFRA	N/A	69.1 (Distribution) 11.3 (Transmission)	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
N/A	Transmission Line Rating Remediation	157.9	8.2	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
OP-1	Annual SOB 322 Review	N/A	Cross-organization labor costs included in 2018 GRC	N/A	N/A	2018 GRC Pending	2018 GRC	N/A
OP-2	Wildfire Infrastructure Protection Team Additional Staffing	N/A	0.5	N/A	N/A	No	GSRP Application	GSRP MA
PSPS-1	De-Energization Notifications	N/A	1.3	N/A	N/A	No	GSRP Application	GSRP MA
SA-1	Additional Weather Stations	5.4	0.6	6.0	0.6	No	GSRP Application	GSRP MA
SA-2	Fire Potential Index Phase II	N/A	0.6	N/A	N/A	No	GSRP Application	GSRP MA
SA-3	Additional HD Cameras	2.3	2.6	2.8	4.3	No	GSRP Application	GSRP MA
SA-4	High-Performing Computer Weather Modeling System	3.8	0.1	N/A	N/A	No	GSRP Application	GSRP MA
SA-5	Develop Asset Reliability & Risk Analytics Capability	0.5	N/A	N/A	N/A	No	GSRP Application	GSRP MA
SH-1	Covered Conductor	47.4	1.0	133.7	2.7	No	GSRP Application and potentially pending 2018 GRC and/or 2021 GRC	GSRP MA and potentially SB 901 MA
SH-2	Evaluation of Undergrounding in HFRA	0.0	0.0	3.1	0.1	No	2021 GRC	SB 901 MA
SH-3	Composite Poles and Crossarms	5.1	0.1	15.6	0.3	No	GSRP Application and potentially pending 2018 GRC and/or 2021 GRC	GSRP MA and potentially SB 901 MA
SH-4	Branch Line Protection Strategy	46.1	0.9	52.3	1.1	No	GSRP Application	GSRP MA
SH-5	Remote Controlled Automatic Reclosers Installations	4.9	0.1	N/A	N/A	No	2021 GRC	FHPMA
SH-6	Remote Controlled Automatic Reclosers Setting Updates	N/A	0.3	N/A	N/A	No	GSRP Application	GSRP MA
SH-7	Circuit Breaker Fast Curve	9.1	0.2	N/A	N/A	No	GSRP Application	GSRP MA
VM-1	Hazard Tree Mitigation program (HTMP)	N/A	25.5	N/A	56.9	No	GSRP Application	GSRP MA
VM-2	Expanded Pole Brushing	N/A	0.9	N/A	9.6	No	2021 GRC	SB 901 MA
VM-3	Expanded clearance distances at time of maintenance	N/A	28.0	N/A	N/A	No	2021 GRC	FHPMA
VM-4	DRI quarterly inspections and removals	N/A	41.5	N/A	N/A	No	Drought CEMA	Drought CEMA
VM-5	LiDAR Inspections of Transmission	N/A	3.7	N/A	N/A	No	2021 GRC	SB 901 MA

Appendix A

List of Acronyms

LIST OF ACRONYMS

A.	Application
AB	Assembly Bill
ACS	Arc Suppression Coils
AGP	Annual Grid Patrol
Air Operati	SCE's Air Operations department
ANSI	American National Standards Institute
AR	automatic reclosers
BLF	Branch Line Fuses
BVLOS	Beyond Visual Line of Sight
C3	Customer Crew Communications
CAISO	California Independent System Operator
CAL FIRE	California Department of Forestry and Fire Protection
Cal OES	California Office of Emergency Services
CARE	California Alternate Rates for Energy
CB	Cicuit Breaker
CCC	Customer Contact Center
CEII	critical energy infrastructure information
CEMA	Catastrophic Event Memorandum Account
CLF	current-limiting fuses
CPUC	California Public Utilities Commission or Commission
CSWC	California State Warning Center
CUEA	California Utilities Emergency Association
D.	Decision
DDS	Distribution Design Standards
DFA	Distribution Fault Anticipation
DIMP	Distribution Inspection and Maintenance Program
DOH	Distribution Overhead Constuction Standards
DRI	Drought Relief Initiative
EEI	Edison Electric Institute
EOC	SCE's Emergency Operations Center
EOI	enhanced overhead inspections
EONS	Emergency Outage Notification System
EPUC/IS	Energy Producers and Users Colation and Indicated Shippers
ERO	Emergency Response Organization
ESA	Energy Savings Assistance
FEMA	Federal Emergency Management Agency
FERA	Family Electric Rate Assistance
FERC	Federal Energy Regulatory Commission
FHPMA	Fire Hazard Prevention Memorandum Account
FHSZ	Fire Hazard Severity Zone
FPI	Fire Potential Index
FPP	Fire Prevention Plan
FRP	fiber reinforced polymer
GIS	Geographic and Information System
GO	General Order
GRC	General Rate Case
GSRP	Grid Safety and Resiliency Program

HD	high definition
HFRA	High Fire Risk Areas
HFTD	High Fire Threat District
HHZ	High Hazard Zones
HPCC	High Performance Computing Cluster
HTMP	Hazard Tree Management Program
I.	Investigation
ICS	Incident Command System
IMT	Incident Management Team
IOUs	Investor-Owned Utilities
IPI	Intrusive Pole Inspection program
IR	Infrared
ISA	Internationl Society of Arborculture
LAC	Local Assistance Center
LiDAR	light detection and ranging technology
MA	Memorandum Account
MADEC	meter alarming for downed energy conductor
MAVF	Multi-Attribute Value Framework
MVCD	Minimum Violation Clearance Distance
NERC	North American Reliability Corporation
NFPA	National Fire Protection Association
NIFC	National Interagency Fire Center
NIMS	National Incident Management System
OCP	Overhead Conductor Program
ODI	Overhead Detail Inspection program
ODRM	Outage Database and Reliability Metrics
OEM	Offices of Emergency Management
OIR	Order Instituting Rulemaking
OMS	Outage Management System
PCB	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
PLP	Pole Loading Program
PMO	Program Mangement Office
PRC	Public Resources Code
PSPS	Publlic Safety Power Shut-Off
PTZ	pan-tilt-zoom
PUC	Public Utilities Code
QC	quality control
R.	Rulemaking
RAMP	Risk Assessment Mitigation Phase
RAR	remote-controlled automatic reclosers
RAWS	Remote Automated Weather Stations
REFCL	Rapid Earth Fault Current Limiter
RFW	Red Flag Warnings
ROW	rights-of-way
Ruling	January 17, 2019 Administrative Law Judge Ruling
SAWTI	Santa Ana Wildfire Threat Index

SB 901	Senate Bill 901
SCADA	supervisory control and acquisition data
SCE	Southern California Edison Company or Company
SDG&E	San Diego Gas & Electric Company
SED	Safety and Enforcement Division
SIMP	Substation Inspection and Maitenance Program
S-MAP	Safety Model Assessment Proceedings
SOB	Standard Operating Bulletin
SoCalGas	Southern California Gas Company
T&D	SCE's Transmission and Distribution business unit
TIMP	Transmission Inspection and Maintenance Program
TURN	The Utility Reform Network
UAS	Advanced Unmanned Aerial Systems
UAV	unmanned aerriel vehicle
UDI	Underground Inspection Program
USFS	U.S. Forest Service
USGS	United States Geological Survey
WCCP	Wildfire Covered Conductor Program
WECC	Western Electricity Coordinating Council
WMP	Wildfire Mitigation Plan
WRF	Weather Research and Forecasting
WRMAG	Western Region Mutual Assistance Agreement for Electric Utilities

Appendix B

Categorization of Strategies and Programs

SB 901 Category	SB 901 Activity Identifier	Activity/Program	Existing or New Work	Asset Addressed (Ex. lines, poles, etc.)	Previously Included in RAMP?	Evaluation Metric	Assumptions Underlying Metric
Design and Construction	AT-1	Alternative Technology Pilots	Existing	Surge arrestors, MADEC	No	1) Pilot installation of 50 CAL FIRE-exempt surge arrestor units in target locations 2) Pilot meter alarming for downed energized conductor	Engineering research
Design and Construction	AT-2	GSRP Wildfire Mitigation Program Study	New	All distribution line equipment/hardware	No	1) Evaluate distributed fault anticipation technology and conduct pilot installation of at least 10 DFA devices 2) Evaluate BVLOS UAS capabilities	Based on GSRP
Design and Construction	AT-3	Alternative Technology Evaluations	New	Vibration dampers, Line spacers, fuses , single phase reclosers, poles and crossarms	No	1) Evaluate REFCL/ASC 2) Evaluate alternate fault detection technology 3) Evaluate fire retardant barrier for wood poles 4) Evaluate substation-class electronic fuses 5) Evaluate branch line protection to include single phase reclosing	Engineering research
Design and Construction	AT-4	Alternative Technology Implementation	Existing	Vibration dampers, Line spacers, fuses , single phase reclosers, poles and crossarms	No	1) Develop standard installation practices for Aeolian vibration dampers 2) Develop standard installation practices for ridge pin construction for conductor rebuild 3) Update DOH requirements for connector selection in HFRA	Engineering research
Design and Construction	N/A	Automatic Reclosers Replacement Program	Existing	Automatic Reclosers	No	N/A: Existing program / not new program	N/A
Design and Construction	N/A	Capacitor Bank Replacement Program	Existing	Capacitor Banks	No	N/A: Existing program / not new program	N/A
Design and Construction	N/A	Deteriorated Pole Program	Existing	Poles	No	N/A: Existing program / not new program	N/A
Design and Construction	N/A	Insulator Washing	Existing	Insulators	No	N/A: Existing program / not new program	N/A
Design and Construction	N/A	Overhead Conductor Program	Existing	Conductor, poles, equipment	Yes	N/A: Existing program / not new program	N/A
Design and Construction	N/A	PCB Transformers Replacement Program	Existing	Transformers	No	N/A: Existing program / not new program	N/A
Design and Construction	N/A	Road and Right-of-Way Maintenance	Existing	Roads, line clearances	No	N/A: Existing program / not new program	N/A
Design and Construction	N/A	Transmission Line Rating Remediation	Existing	Transmission lines	No	N/A: Existing program / not new program	N/A
Design and Construction	SH-1	Covered Conductor	New	Conductor	Yes	Install at least 96 circuit miles of covered conductor in HFRA	Availability of material and design, engineering, and construction resources
Design and Construction	SH-2	Evaluation of Undergrounding in HFRA	New	Conductor	No	Conduct evaluation of undergrounding for HFRA	Management judgement
Design and Construction	SH-3	Composite Poles and Crossarms	New	Poles and crossarms	Yes	Install at least 1,100 composite poles	Circuit miles of covered conductor installed and material availability
Design and Construction	SH-4	Branch Line Protection Strategy	New	Fuses and Fuse Savers	Yes	Install at least 7,500 CLF in HFRA locations	Forecast included in GSRP
Design and Construction	SH-5	Remote Controlled Automatic Reclosers Installations	New	Remote Automatic Reclosers	Yes	Install at least 50 new RARs	Expansion of branch line segments for de-energization
Design and Construction	SH-6	Remote Controlled Automatic Reclosers Setting Updates	New	Remote Automatic Reclosers	Yes	Update at least 150 existing RAR Settings	Forecast included in GSRP
Design and Construction	SH-7	Circuit Breaker Fast Curve	New	Relays and Substation Automation	Yes	1) Develop engineering plan to upgrade remaining CB relays and update settings 2) Conduct CB upgrades and setting updates according to plan	Further assessment of remaining CB relays requires each unit to be reviewed
Inspection and Maintenance	IN-1	Distribution Enhanced Overhead Inspections and Remediation in HFRA	New	Circuits	No	1) Complete visual inspection of all distribution circuits in HFRA before 5/31 2) Remediate all conditions that create a fire risk in accordance with CPUC requirements	Assets are identified in SAP with a high fire indicator
Inspection and Maintenance	IN-2	Transmission Enhanced Overhead Inspections and Remediation in HFRA	New	Circuits	No	1) Complete visual inspection of all transmission circuits in HFRA before 5/31 2) Remediate all conditions that create a fire risk in accordance with CPUC requirements	Assets are identified in SAP with a high fire indicator
Inspection and Maintenance	IN-3	Quality Oversight / Quality Control of EOI	Existing	Transmission & Distribution Structures	No	1) Perform quality review on approximately 7,500 Transmission and Distribution structures in HFRA based on EOI inspections	Assets are identified in SAP with a high fire indicator
Inspection and Maintenance	IN-4	Infrared Inspection of energized overhead distribution facilities and equipment	New	Circuit Lines	Yes	1) Inspect 50% of overhead circuit lines in HFRA 2) Remediate conditions as required based on inspection results	Forecast included in GSRP

SB 901 Category	SB 901 Activity Identifier	Activity/Program	Existing or New Work	Asset Addressed (Ex. lines, poles, etc.)	Previously Included in RAMP?	Evaluation Metric	Assumptions Underlying Metric
Inspection and Maintenance	IN-5	Infrared Inspection, Corona Scanning, and High Definition imagery of energized overhead Transmission facilities and equipment	New	Circuit Lines	No	1) Complete IR, Corona, and HD image scanning of all overhead transmission lines in HFRA that are loaded to 40% of rated capacity or higher 2) Integrate remediation with EOI activities	Management judgement
Inspection and Maintenance	N/A	AGP – Drive by of overhead Distribution facilities and equipment	Existing	Overhead Distribution equipment and above ground underground equipment	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	N/A	Detailed inspection of Transmission facilities and equipment	Existing	Above ground and underground Transmission equipment	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	N/A	IPI – Intrusive pole inspections to identify rot and decay	Existing	Wood Distribution and Transmission/Distribution wood poles	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	N/A	ODI – Detailed inspections of Distribution overhead facilities and equipment	Existing	Overhead Distribution equipment and above ground underground equipment	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	N/A	Performance of joint patrols with fire agencies	Existing	Conductor, poles, towers and equipment	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	N/A	Pole Brushing	Existing	Conductor, poles, equipment	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	N/A	Pole Loading Program	Existing	Wood, composite, Light Weight Steel poles	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	N/A	Substation Inspection and Maintenance	Existing	Distribution Relays	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	N/A	Supplemental inspections of HFRA	Existing	Conductor, poles, towers and equipment	No	N/A: Existing program / not new program	N/A
Inspection and Maintenance	VM-1	Hazard Tree Mitigation program (HTMP)	New	Conductor, poles, equipment	Yes	1) Perform at least 125,000 tree-specific threat assessments in HFRA 2) Perform at least 7,500 risk-based tree removals or mitigations in HFRA	Threat assessments derived from an anticipated production rate for 2019 Risk-based removal forecast from GSRP
Inspection and Maintenance	VM-2	Expanded Pole Brushing	New	Conductor, poles, equipment	No	1) Inspect all poles that require 10 feet of radial brush clearance at the base of the pole (at least 25,000) 2) Clear brush as necessary to achieve 10 feet of clearance	Based on acceleration of existing program
Inspection and Maintenance	VM-3	Expanded clearance distances at time of maintenance	New	Conductor, poles, equipment	No	Obtain tree-to-line clearance distance of 12 feet, as achievable, in HFRA at time of maintenance for line voltages of 2.4kV to 69kV	Pursuant to D.17-12-024, pp. 100-102, 12' is a CPUC recommendation
Inspection and Maintenance	VM-4	DRI quarterly inspections and removals	Existing	Conductor, poles, equipment	No	1) Perform all quarterly DRI inspections. 2) Remove identified dead, dying, or diseased trees in accordance with SCE's vegetation management program	Based on DRI program inspection cadence
Inspection and Maintenance	VM-5	LiDAR Inspections of Transmission	New	Conductor, poles, equipment	No	LiDAR inspect at least 1,000 conductor miles in HFRA (results from LiDAR inspections will be used to inform of subject trees assessed under the Hazard Tree Mitigation program)	Management judgement
Operational Practices	OP-1	Annual SOB 322 Review	Existing	N/A	No	Review and update SOB 322 to reflect lessons learned from past elevated fire weather threats and integrate, where applicable, new and improved data from its situational awareness resources	N/A
Operational Practices	OP-2	Wildfire Infrastructure Protection Team Additional Staffing	New	N/A	No	Hire one additional Meteorologist	Based on GSRP
Operational Practices	PSPS-1	De-Energization Notifications	New	N/A	Yes	1) Notify applicable public safety agencies and local governments of possible de-energization 2) Notify CalOES through the State Warning Center of possible de-energization 3) Notify the CPUC of possible de-energization 4) Enhance EONS to include in-language messages	Based on GSRP

SB 901 Category	SB 901 Activity Identifier	Activity/Program	Existing or New Work	Asset Addressed (Ex. lines, poles, etc.)	Previously Included in RAMP?	Evaluation Metric	Assumptions Underlying Metric
Response and Recovery	N/A	PSPS/De-energization Protocol Support Costs	New	N/A	Yes	Line Patrols, Customer Call Center support, Mobile Generator Deployment, Community Outreach Vehicles	Based on GSRP
Situational/Conditional Awareness	SA-1	Additional Weather Stations	New	Weather stations	Yes	Install at least 315 Units in HFRA	Reduced GSRP forecast pursuant to supply chain constraints
Situational/Conditional Awareness	SA-2	Fire Potential Index Phase II	New	N/A	Yes	Enhance capabilities of FPI by increasing granularity, adding historical climatology data, and expanding to cover all of SCE's service territory	Based on GSRP
Situational/Conditional Awareness	SA-3	Additional HD Cameras	New	HD Cameras	Yes	Install at least 62 cameras on 31 Towers to monitor HFRA	Forecast included in GSRP
Situational/Conditional Awareness	SA-4	High-Performing Computer Weather Modeling System	New	N/A	Yes	Procure and install High Performance Computing Cluster weather and fuels modeling system	Based on GSRP
Situational/Conditional Awareness	SA-5	Develop Asset Reliability & Risk Analytics Capability	New	N/A	No	Complete implementation of the Asset Reliability and Risk Analytics tools	Based on GSRP

Appendix C

List of SCE Design, Engineering and Construction Standards

(as of Jan 18, 2019)

SCE Design, Engineering and Construction Standards List

As of Jan. 18, 2019

Distribution Overhead Construction Standards (DOH)
Distribution Operations and Maintenance Policies and Procedures (DOM)
Distribution Underground Construction Standards (DUG)
Electrical Service Requirements (ESR)
Distribution Design Standards (DDS)
Underground Structures Standards (UGS)
Pole Loading Manual (PLM)
Applicant Distribution Design Standards (ADS)
Distribution Substation Planning Criteria and Guidelines Document (DSP)
Electrical Construction Station (ECS)
Electrical Design Station Layout (EDSL)
Electrical Design Station Wiring (EDSW)
Contact Diagrams for Control and Instrument Switches (M-4505)
Internal Wiring Diagrams for Relays (M-6379)
Substation Operations and Maintenance Policy and Procedures (SOM)
Electrical Construction Station (ECS 3-A)
Electrical Construction Station (ECS 3-B)
Electrical Construction Station (ECS 3-C)
Electrical Design Station Wiring (EDSW-A)
Electrical Design Station Wiring (EDSW-B)
Electrical Design Station Wiring (EDSW-C)
Transmission Overhead Construction Standards (TOH)
Transmission Underground Construction Standards (TUG)
Transmission Design and Right-of-Way Manual (TDR)
Transmission Operations and Maintenance Policies and Procedures (TOM)
Transmission Overhead Construction Standards (TOH)
Transmission Planning Criteria (TPC)
Transmission System Protection Philosophy & Relay Setting Guidelines
Transmission Telecommunications Construction Standards (TTCS)
Transmission Telecommunications Planning and Design Manual (TTPD)
Subtransmission Planning Criteria and Guidelines
Subtransmission System Line Relay Criteria & Guidelines
Subtransmission System Protection Philosophy & Relay Setting Guidelines

Appendix D

Fast Growing Trees

Tree Species Names and Growth Rates

Species Name	Growth Rate	Species Name	Growth Rate
Acacia-Bbw	Medium	Joshua	Slow
Ailanthus	Fast	Juniper	Slow
Albizzia	Medi um	Lemon	Medium
Alder, White	Medium	LiqAmber-Gum	Medium
Almond	Medium	Locust	Fast
Ash	Fast	Magnolia	Slow
Aspen	Slow	Maple	Medium
Athel	Medium	Melaleuca	Medium
Avocado	Medium	Mesquite	Medium
Bamboo	Fast	Mimosa	Slow
Banana	Slow	Monkey Puzzle	Slow
Bay	Slow	Mulberry	Fast
Birch	Slow	Myoporum	Slow
Bird of Paradise	Medium	Oak	Slow
Bottle	Slow	Oleander	Slow
Bottlebrush	Sb w	Olive	Medium
Brisbane Box	Medi um	Orange	Medium
Buckeye	Slow	Orchid	Medium
Camphor	Medium	Other	Medium
Carob	Medium	Palm	Fast
Carrotwood	Medium	Palo Verde	Slow
Casuarina	Medium	Pear	Medium
Catalpa	Medi um	Pecan	Fast
Cedar	Slow	Pepper	Fast
Century Plant	Slow	Persimmon	Medium
Cherry	Medium	Pine	Medium
Chinaberry	Medi um	Pistache	Medium
Citrus	Slow	Pistachio	Medium
Coral	Medium	Pittysporum	Medium
Cottonwood	Fast	Plum	Medium
Cow Itch	Slow	Podocarpus	Medium
Crape Myrtle	Slow	Poplar	Fast
Cypress	Slow	Privet	Medium
Deodara	Slow	Redwood	Medium
Dogwood	Slow	Rubber	Medium
Elder, Box	Medium	Salt Cedar	Medium
Elderberry	Medium	Sequoia	Slow
Elm	Fast	Spruce	Medium
Eucalyptus	Fast	Sumac	Medium
Eugenia	Medium	Sycamore	Fast
Ficus	Medium	Tallow	Medium
Fg	Medium	Tulip	Fast
Fir	Slow	Unknown	Medium
Floss, Silk	Medium	Vine	Fast
Ginkgo	Slow	Walnut	Fast
Golden Rain	Slow	Willow	Fast
Grevillea	Fast	Yucca	Slow
Hackberry	Medium	Zekova	Medium
Jacaranda	Fast		

Approximate Growth Rate:

(S} Slow: 0 to 3 feet Annually

(M) Medium: 3.1 to 6 feet Annually

(F) Fast: More than 6 feet Annually

Appendix E

SCE Field Workers, Support Personnel and Contract Crews

(as of Jan 18, 2019)

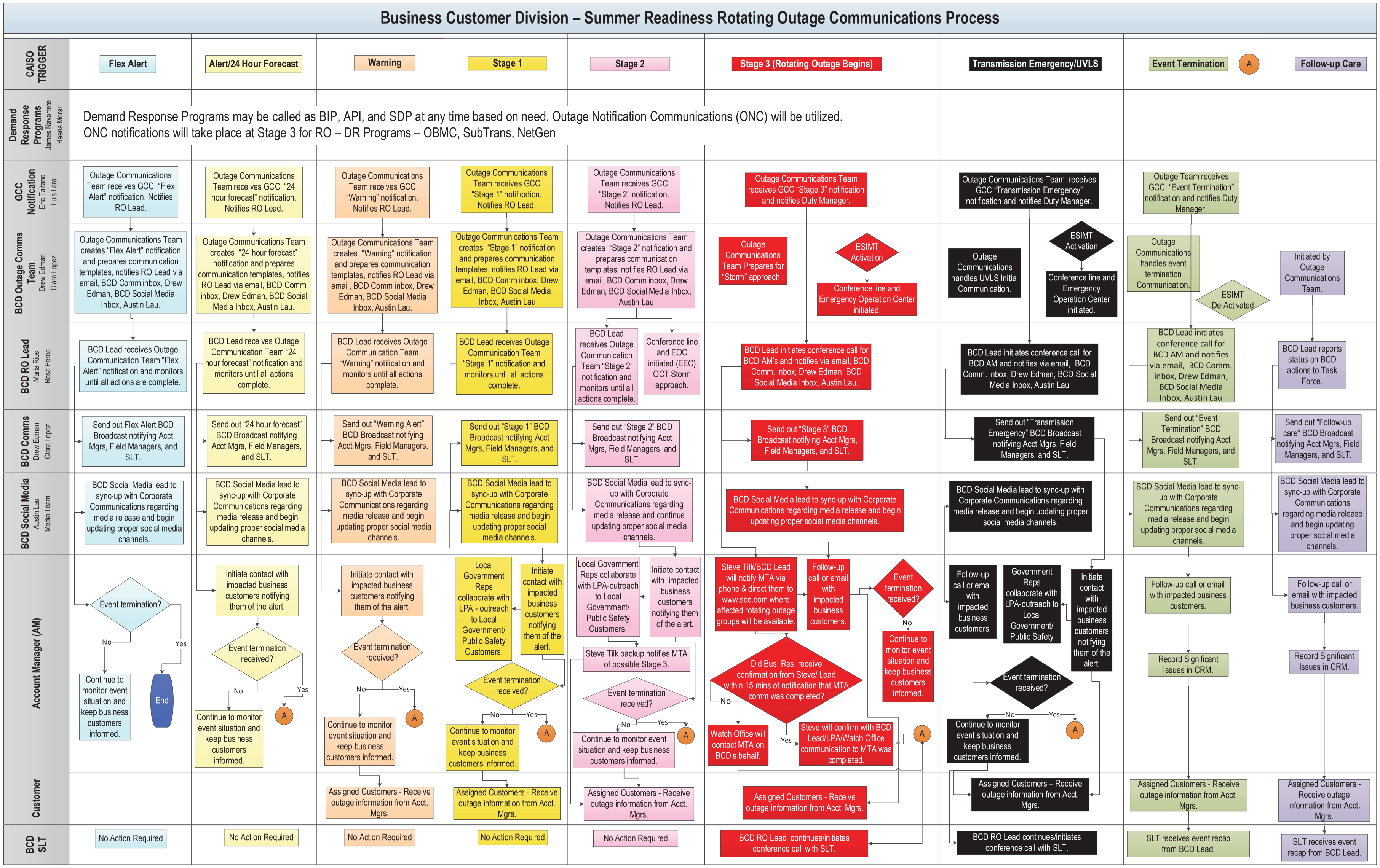
Distribution - Field Crews	**3976**	
Foreman Electl Crew	157	Trained resources to work on SCE's high voltage, overhead and underground distribution system. They perform inspections and maintenance, assess system damages, make repairs to restore service, and serve as SCE's first responders.
Journeyman Lineman	554	
Troubleman	200	
Splcr Sr Cble	18	
Streetlight Repairman	27	
Lineman, Apprentice	207	Serve as compliments to field crews, training under the direct supervision of Journeyman Lineman and Foreman.
Groundman	352	Compliments the field crews as part of their training, working in direct supervision of the Journeyman Lineman and Foreman.
Sup, Field	77	Provides management, field safety, and operational oversight and technical support for field crews in each of the SCE's district locations.
Sup, General Foreman	69	
Form Troubleman Training	4	
PSPECs	103	Coordinates outages, laying out jobs and customer contacts
Sup, Project General Sup	38	Oversees contract crews site training, safety
Field Service Rep	138	1st responders - identify problems and stand by to ensure site is secure
Meter Technicians	99	
MGR - Metering Field Ops	3	
Sr Sup, Ops	27	
Sr Sup, Engy Del / Distrib	17	
Planners/Designers	680	Damage assessments - support the field crews by conducting assessments, order material, and other admin support
Construction Material Coordinator	56	
Construction/Maintenance Clerk/Specialist/Supervise	257	
Supervise Construct/Maint Acct	50	
Meter Support Specialist	7	
Spclst Fld Svcs Support	4	
Inspector-Surveillance	32	
Contractors	800	Avg 200 crew (4-Man Crew)
Transmission, Substations & Operations - Field Crews	**1353**	
Journeyman Lineman	102	Trained resources to work on SCE's high voltage, overhead and underground distribution system. They perform inspections and maintenance, assess system damages, make repairs to restore service, and serve as SCE's first responders.
Splcr Sr Cble	33	
Patrolman Sr	32	
Right of Way Equipment Operator	5	
Safety & Environmental Specialist	2	
Groundman	11	Compliments to field crews, training under the direct supervision of Journeyman Lineman (i.e. JM Battery Electricians, Construction Electricians, Substation Cable Splicers) and Foreman.
Lineman, Apprentice	65	
Apprentice Substn Elctrcn	30	
Electn Appr Battry	3	
Electn Appr Cnstrn	6	
Hlpr Electl Constr	20	
Splcr Appr Subs Cable	3	
Sup, General Foreman	13	Provides management, field safety, and operational oversight and technical support for maintenance & test crews.
Substation Electrician	154	
Sup, Apparatus	5	
Sup, Cnstrn	12	
Sup, Substn Ops	5	
Sup, Tech Spec	1	
Supr Road R/W	4	
Sr Sup, Maint / Test	45	
PSPECs	9	Coordinates outages, laying out jobs and customer contacts
Electn Battry	6	1st responders - identify problems, stand by to ensure site is secure, analyze grid flow, and support construction (i.e. civil)
Electn Constrn	44	
Form Dstrbn Aprts	16	
Mech Structural	17	
Operator, System	131	
Opr Substation	112	
Opr Trainee	5	
Power Sys Ops Specialist	45	
Power Systems Planner 3	4	
Splcr Subs Cable	8	
Techn Dstrbn Aprts	42	
Techn Electl Aprats Test/Test A	4	
Technician, Test	92	
Technician, Test Supervising	56	
Transformer Helper	6	
Transformer Specialist	15	
Transformer Specialist Foreman	4	
Utilityman Terrtrl	16	
Welder Cnstrn	3	
Working Foreman - CFF	6	
Working Form CFF Elect Const	4	
Materials Mgmt, Advisor	12	Damage assessments - support the field crews by conducting assessments, order material, and other admin support
Planners	81	
Contractors	64	Avg 16 crews (4-Man Crew)
Telecom	13	
Form Cable	8	1st responders - identify problems, stand by to ensure site is secure, analyze grid flow, and construction
Planner	1	
Trans Telecom PSPEC	4	
Grand Total	**5342**	

Appendix F

Comparison of WMP to 2018 Fire Prevention Plan

Program/Strategy	Comparison of WMP to Prior Fire Prevention Plan
OPERATIONAL PRACTICES	
Red Flag Warning Program	WMP / FPP
Operation of Sub-Transmission Voltage Lines - Red Flag	WMP / FPP
Operation of Distribution Voltage Lines - Red Flag	WMP / FPP
Recloser Restrictions (e.g., Fast Curve Settings)	WMP / FPP
Aircraft Operations	WMP / FPP
Public Safety Power Shut-Off Protocol & Notifications	WMP / FPP
Monitoring and Enhancements	WMP Only
Wildfire Infrastructure Protection Teams	WMP / FPP
PLANS FOR INSPECTIONS OF ELECTRICAL INFRASTRUCTURE	
Distribution Inspection and Maintenance Program	WMP / FPP
Overhead Detail Inspection Program	WMP / FPP
Annual Grid Patrol	WMP Only
Underground Detail Inspection Program	WMP Only
Distribution Maintenance	WMP Only
Transmission Inspection and Maintenance Program	WMP / FPP
Substation Inspection and Maintenance	WMP Only
Intrusive Pole Inspection Program	WMP / FPP
Pole Loading Program	WMP / FPP
Quality Oversight / Quality Control	WMP Only
High Fire Risk Area (HFRA) - Enhanced Overhead Inspections	WMP Only
HFRA - Infrared Inspection Program	WMP / FPP
SYSTEM HARDENING (SAFETY, RELIABILITY & RESILIENCY)	
Overhead Conductor Program	WMP / FPP
Deteriorated Pole Program	WMP Only
Wildfire Covered Conductor Program	WMP / FPP
Underground Conductor	WMP / FPP
Poles	WMP Only
Protection and Isolation	WMP / FPP
Alternative Technologies	WMP / FPP
VEGETATION MANAGEMENT PLAN	
Compliance: NERC FAC-003-4	WMP / FPP
Compliance: CPUC General Order 95, Rule 35	WMP / FPP
Compliance: Public Resource Code 4292	WMP / FPP
Compliance: Public Resource Code 4293	WMP / FPP
Weed Abatement Program	WMP / FPP
Enhanced Vegetation Management Activities in HFRAs	WMP / FPP
Operation Santa Ana	WMP / FPP
Hazard Tree Removals	WMP / FPP
Pole Brushing	WMP / FPP
Expanded Clearance Distances at Time of Maintenance	WMP Only
DRI Quarterly Inspections and Tree Removals	WMP Only
LiDAR Inspection Program	WMP / FPP
PROTOCOLS ON SITUATIONAL AWARENESS	
HFRA - Weather Stations	WMP / FPP
HFRA - Meteorological Resources	WMP / FPP
HFRA - Deployment and Support of Situational Awareness Cameras	WMP / FPP

PROTOCOLS ON PUBLIC SAFETY POWER SHUT-OFF	
Strategy to Minimize Public Safety Risk...	WMP / FPP
Strategy to Provide for Safe and Effective Re-energization…	WMP / FPP
SCE Standards Relative to Customer Communications…	WMP / FPP
Protocols for Mitigating the Public Safety Impacts…	WMP / FPP


Business Customer Division – Summer Readiness Rotating Outage Communications Process
CAISO TRIGGER
Demand Response Programs
James Navarrete
Beena Morar
GCC Notification
Eric Taitano
Luis Lara
BCD Outage Comms Team
Drew Edman
Clara Lopez
BCD RO Lead
Maria Rios
Rosa Perea
BCD Comms
Drew Edman
Clara Lopez
BCD Social Media
Austin Lau
Media Team
Account Manager (AM)
Customer
BCD SLT
Flex Alert
Alert/24 Hour Forecast
Warning
Stage 1
Stage 2
Stage 3 (Rotating Outage Begins)
Transmission Emergency/UVLS
Event Termination
A
Follow-up Care
Demand Response Programs may be called as BIP, API, and SDP at any time based on need. Outage Notification Communications (ONC) will be utilized.
ONC notifications will take place at Stage 3 for RO – DR Programs – OBMC, SubTrans, NetGen
Outage Communications Team receives GCC "Flex Alert" notification. Notifies RO Lead.
Outage Communications Team creates "Flex Alert" notification and prepares communication templates, notifies RO Lead via email, BCD Comm inbox, Drew Edman, BCD Social Media Inbox, Austin Lau.
BCD Lead receives Outage Communication Team "Flex Alert" notification and monitors until all actions are complete.
Send out Flex Alert BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and begin updating proper social media channels.
Event termination?
No
Yes
Continue to monitor event situation and keep business customers informed.
End
No Action Required
Outage Communications Team receives GCC "24 hour forecast" notification. Notifies RO Lead.
Outage Communications Team creates "24 hour forecast" notification and prepares communication templates, notifies RO Lead via email, BCD Comm inbox, Drew Edman, BCD Social Media Inbox, Austin Lau.
BCD Lead receives Outage Communication Team "24 hour forecast" notification and monitors until all actions complete.
Send out "24 hour forecast" BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and begin updating proper social media channels.
Initiate contact with impacted business customers notifying them of the alert.
Event termination received?
No
Yes
Continue to monitor event situation and keep business customers informed.
A
No Action Required
Outage Communications Team receives GCC "Warning" notification. Notifies RO Lead.
Outage Communications Team creates "Warning" notification and prepares communication templates, notifies RO Lead via email, BCD Comm inbox, Drew Edman, BCD Social Media Inbox, Austin Lau.
BCD Lead receives Outage Communication Team "Warning" notification and monitors until all actions complete.
Send out "Warning Alert" BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and begin updating proper social media channels.
Initiate contact with impacted business customers notifying them of the alert.
Event termination received?
No
Yes
Continue to monitor event situation and keep business customers informed.
A
Assigned Customers - Receive outage information from Acct. Mgrs.
No Action Required
Outage Communications Team receives GCC "Stage 1" notification. Notifies RO Lead.
Outage Communications Team creates "Stage 1" notification and prepares communication templates, notifies RO Lead via email, BCD Comm inbox, Drew Edman, BCD Social Media Inbox, Austin Lau
BCD Lead receives Outage Communication Team "Stage 1" notification and monitors until all actions complete.
Send out "Stage 1" BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and begin updating proper social media channels.
Local Government Reps collaborate with LPA - outreach to Local Government/ Public Safety Customers.
Initiate contact with impacted business customers notifying them of the alert.
Event termination received?
No
Yes
Continue to monitor event situation and keep business customers informed.
A
Assigned Customers - Receive outage information from Acct. Mgrs.
No Action Required
Outage Communications Team receives GCC "Stage 2" notification. Notifies RO Lead.
Outage Communications Team creates "Stage 2" notification and prepares communication templates, notifies RO Lead via email, BCD Comm inbox, Drew Edman, BCD Social Media Inbox, Austin Lau
BCD Lead receives Outage Communication Team "Stage 2" notification and monitors until all actions complete.
Conference line and EOC initiated (EEC) OCT Storm approach.
Send out "Stage 2" BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and continue updating proper social media channels.
Local Government Reps collaborate with LPA-outreach to Local Government/ Public Safety Customers.
Initiate contact with impacted business customers notifying them of the alert.
Steve Tilk backup notifies MTA of possible Stage 3.
Event termination received?
No
Yes
Continue to monitor event situation and keep business customers informed.
A
Assigned Customers - Receive outage information from Acct. Mgrs.
No Action Required
Outage Communications Team receives GCC "Stage 3" notification and notifies Duty Manager.
Outage Communications Team Prepares for "Storm" approach .
ESIMT Activation
Conference line and Emergency Operation Center initiated.
BCD Lead initiates conference call for BCD AM's and notifies via email, BCD Comm. inbox, Drew Edman, BCD Social Media Inbox, Austin Lau.
Send out "Stage 3" BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and begin updating proper social media channels.
Steve Tilk/BCD Lead will notify MTA via phone & direct them to www.sce.com where affected rotating outage groups will be available.
Follow-up call or email with impacted business customers.
Event termination received?
No
Continue to monitor event situation and keep business customers informed.
Did Bus. Res. receive confirmation from Steve/ Lead within 15 mins of notification that MTA comm was completed?
No
Yes
Watch Office will contact MTA on BCD's behalf.
Steve will confirm with BCD Lead/LPA/Watch Office communication to MTA was completed.
A
Assigned Customers - Receive outage information from Acct. Mgrs.
BCD RO Lead continues/initiates conference call with SLT.
Outage Communications Team receives GCC "Transmission Emergency" notification and notifies Duty Manager.
Outage Communications handles UVLS Initial Communication.
ESIMT Activation
Conference line and Emergency Operation Center initiated.
BCD Lead initiates conference call for BCD AM and notifies via email, BCD Comm. inbox, Drew Edman, BCD Social Media Inbox, Austin Lau
Send out "Transmission Emergency" BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and begin updating proper social media channels.
Follow-up call or email with impacted business customers.
Government Reps collaborate with LPA-outreach to Local Government/ Public Safety
Initiate contact with impacted business customers notifying them of the alert.
Event termination received?
No
Yes
Continue to monitor event situation and keep business customers informed.
A
Assigned Customers – Receive outage information from Acct. Mgrs.
BCD RO Lead continues/initiates conference call with SLT.
Outage Team receives GCC "Event Termination" notification and notifies Duty Manager.
Outage Communications handles event termination Communication.
ESIMT De-Activated
BCD Lead initiates conference call for BCD AM and notifies via email, BCD Comm. inbox, Drew Edman, BCD Social Media Inbox, Austin Lau
Send out "Event Termination" BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and begin updating proper social media channels.
Follow-up call or email with impacted business customers.
Record Significant Issues in CRM.
Assigned Customers - Receive outage information from Acct. Mgrs.
SLT receives event recap from BCD Lead.
Initiated by Outage Communications Team.
BCD Lead reports status on BCD actions to Task Force.
Send out "Follow-up care" BCD Broadcast notifying Acct Mgrs, Field Managers, and SLT.
BCD Social Media lead to sync-up with Corporate Communications regarding media release and begin updating proper social media channels.
Follow-up call or email with impacted business customers.
Record Significant Issues in CRM.
Assigned Customers - Receive outage information from Acct. Mgrs.
SLT receives event recap from BCD Lead.

Appendix F: Trained Emergency Personnel

Emergency Response/ICS Training Report

AREP Training	5
BC Planner Training	69
BC TTX	12
User Group	141
Annex Seminars	141
Documentation Unit Leader	26
Environmental Officer	30
Finance Section Chief	3
Human Resources Specialist	3
ICS 300	146
ICS 400	60
Incident Commander	15
LNO	9
0-305	486
Operations Section Chief	8
Planning Section Chief	6
Public Information Officer	13
Resource Unit Leader	22
Safety Officer	8
Situation Unit Leader	8
Exercise or Real-World Activation	1985
Total	**3196**

Operating Unit	Category	PERNR	Org Role Template
Ops	T&D - TS&O - Grid Ops	100297 - Diaz, Gricelda	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	100298 - Owens, Joseph James Luke	Troubleman - Distribution - Rural Region
Ops	T&D - TS&O - Grid Ops	100347 - Goral, Chris W	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	100453 - Brown, Russ Craig	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	100525 - Mills, Tristan J	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	100536 - Ramirez III, Manuel Leonard	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	100570 - Bello, Dominick Anthony	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	100571 - Diaz, Miguel Angel	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	100587 - Smith, Derek Ryan	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	100624 - Gulmatico, Kush Jhune	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	100640 - Camacho, Jose Luis	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Grid Ops	10076 - Cochran, Randall E	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	100833 - Vincent, Sean Ryan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100841 - Moguel, Victor Estevan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100844 - Rooney, Jeremiah	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100944 - Villanueva, Stefan Titus	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100964 - Macy, Braden Louis	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100965 - Walker, Bradford Armin	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100966 - Orr, Brent Michael	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100969 - Kelly, Daniel Raymond	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100970 - Jackson, Scott	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	100972 - Zepeda, Angel	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101027 - Lima, Ben	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101028 - Arambula, Joshua R	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101050 - Duncan, Kyle Ulrich	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101147 - Andree, Aaron	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101212 - Cortez, Jorge H	CCM2 - Distribution
Ops	T&D - DIST - Distribution	101439 - Haj, Brian Yousef	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	10148 - Perry, Robert Joel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	101534 - Young, Carson	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101535 - Brown, Cody Lee	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101536 - Burton, Kyle Lee	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101608 - Dolan, Ryan J.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	10163 - Ennemoser, Mark R	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101789 - Mends, Triston James	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101790 - Pena, Jose Manuel	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101791 - Anderson, Robert Joseph	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101807 - Ayala, Brian	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101810 - Primous, Mario Andre	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101814 - Contreras, Cristian	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	101818 - Miranda, Raphael	CCM2 - Distribution
Ops	T&D - DIST - Distribution	101863 - Thorp, Andrew Steven	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102012 - Heetland, Austin Lee	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102199 - Mujica, George	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102200 - Gallegos, Robert Anthony	Groundman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	102478 - Tran, Huu Toan	Meter Tech 1 - DE&WM - Meter Engineering

Ops	T&D - DIST - Distribution	102501 - Nelson, Taylor Loren	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102585 - Aguayo, Justin Flint	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102586 - Comstock, Bart James	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102626 - Harris, David Paul	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102627 - Sale, Matthew Michael	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102628 - Barillas, Alexander	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102662 - Danley, Blain Joseph Brian	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102663 - Grant, Blake Jeffery	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	102766 - Cudney, George Jonathan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	102815 - Walker, Brayton Kenneth	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103222 - Houston, Kelly	Const/Maint Support Clerk - Distribution - Operations
Ops	T&D - DIST - Distribution	103320 - Infante, Anthony Leo	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103321 - Boyadjian, Daniel Jacque	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103324 - Leatherwood, Parker Evan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103325 - Greene Jr, Derek LaMarr	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103446 - Clark, Edward Leroy	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103447 - Quintero, Emmanuel Alejandro	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103449 - Espinoza, Gabriel Paul	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	103450 - Valencia, Gary Stephen	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103452 - Rosa Reyes, Michael S	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103453 - Millward, Nathan Garrett	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103454 - Hubler, Parker Joseph	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103455 - Reyes, Robert Joe	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103459 - Gremillion, William Emory	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	103475 - Orozco, Jonathan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103477 - Tate, Justin Christopher	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	10353 - Davidson, Cory L	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	103777 - Rivera, Eric A.	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	103812 - Schlicht, Kurt Thomas	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	103954 - Dyer, Arthur Scotte	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103955 - King, Austen	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103957 - Georgescu, Christopher David	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103963 - Vigil, Joseph Anthony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103964 - Bennett, Kevin Lee	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103969 - Okula, Mark Adam	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103971 - Hovsep, Nerses	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103980 - King, Stepfon Edward	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103983 - Bayly, Tyler Grant	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103985 - Leicht, Tyler Allen	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	103988 - Reeser, Zachary J.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104011 - Sanchez, Matthew Jesus	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104159 - Vasquez, George Joe	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104299 - Rodriguez, Luke Austin	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104301 - Maxwell, Nicholas Russell	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	104302 - Meacham-Lane, Sterling J.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104469 - Alvarez, Daniel Estuardo	Groundman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	104538 - Hendrickson, Michael Charles	Meter Tech 1 - DE&WM - Meter Engineering

Ops	T&D - AMS&E - DE&WM	104539 - Santistevan, Robert Isaac	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	104612 - Rubio, Alejandro	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104614 - Wick, Brandon Justin	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104616 - Whatley, Cameron	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104618 - Lowe, Colton Robert	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104619 - Schwartzbauer, Devin Michael	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104621 - Desraviles, Kristopher	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104622 - Eash, Russell John	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104623 - Sanchez, Ryan Rudy	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	104624 - Braden, Tyler Everett	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	10506 - Dobson, Cynthia M	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - TS&O - Trans	105581 - Prudholm, Weston Brigham	Groundman - Transmission
Ops	T&D - TS&O - Trans	105582 - Magdaleno, Eduardo Alejandro	Groundman - Transmission
Ops	T&D - TS&O - Trans	105583 - Magana Lemus, Esteban	Groundman - Transmission
Ops	T&D - TS&O - Trans	105584 - Phillips, Zachary Scott	Groundman - Transmission
Ops	T&D - TS&O - Trans	105591 - Mathiesen, Kyle Michael	Groundman - Transmission
Ops	T&D - TS&O - Trans	105605 - Dau, Jacob J	Groundman - Transmission
Ops	T&D - TS&O - Trans	105608 - Gonzalez, Armando	Groundman - Transmission
Ops	T&D - TS&O - Trans	105616 - Cochran, Anthony John	Groundman - Transmission
Ops	T&D - DIST - Distribution	106222 - Sambel, Brent Cory	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	106312 - Stanley, Nathan Ray	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	106550 - Velarde, Thomas	Groundman - Distribution - Field
Ops	T&D - C&OS - GL&IM	106564 - Krouse, Karie	LSA2 - GL&IM - Land & Forest Mgmt
Ops	T&D - C&OS - GL&IM	106635 - Rosenthal, Nicole Lee	LSA2 - GL&IM - Land & Forest Mgmt - WO
Ops	T&D - DIST - Distribution	107197 - Larson, Aaron Matthew	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107198 - Lemus, Adan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107199 - Hively, Gary Robert	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107200 - Bruno, Neil	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107201 - Medina, Nicholas	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107214 - Church, Alexander Bradley	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107228 - Oates, Patrick W	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107375 - Guerrero, Rene Jesse	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107376 - Gonzalez Jr, Luis Alberto	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107407 - Garcia, Andrew	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107408 - Tyson, Daniel Lee	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	107412 - Flores, Michael Anthony	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	107413 - Hanley, Samuel George	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107414 - Mitchell, Steven Wade	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107415 - Dewey, Tyler John	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107416 - Taylor, William Zachary	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107449 - Uribe, Christopher	Groundman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	107451 - Le, Khai Q	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - TS&O - Grid Ops	107533 - Cunningham, Brian J	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	107796 - Duran Flores, Alberto	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107805 - Bartholomew, Brett James	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107807 - Lowery, Christopher S.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107808 - Myers, Clint Charles	Groundman - Distribution - Field

Ops	T&D - DIST - Distribution	107809 - Conklin, Cody Robert	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107810 - Zuniga, Elijah Richmund	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107811 - Carr III, Frederick Arthur	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107813 - Mikkelson, James Clinton	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107814 - Monterrosa, Jeffrey	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107819 - Cuevas, Jose Cruz	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107820 - Salazar, Pablo Joseph	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107821 - Hayman, Rogan W.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107822 - Jimenez, Steven Marcus	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107823 - Collier, Thomas Dale	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107836 - Martinez, Dylan	Groundman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	107855 - Tran, Ben	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - AMS&E - DE&WM	107856 - Hockaday, Dustin Dominiq	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	107857 - Heartsill, Aaron Kenneth	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107858 - Maldonado, Adan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	107867 - waddell, kaleb	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	107949 - Lopez, Alejandro	Groundman - CFS - Constr Supt
Ops	T&D - TS&O - Grid Ops	10816 - Hrkel, Joseph J	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	10847 - Sellards, Eric M	CMA - CFS - FAO
Ops	T&D - AMS&E - DE&WM	11283 - Estinvil, Yvon	Techn Lab - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	12283 - Wimmer, Marsha	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - TS&O - SC&M	12369 - Ward, Brian D	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	12628 - Torres, Miguel	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	12710 - Carrera, Lisa	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	13175 - Spinks, Jonathan Keith	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	13296 - Nielsen, Kevin R	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	13299 - Baynham, Anthony M	Street Light Repairman - Distribution - SUP2 GS Upgrd
Ops	T&D - DIST - Distribution	13703 - James, Donn R	CCM3 - Distribution - RPS
Ops	T&D - DIST - Distribution	13804 - Andres, Shane F	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	13892 - George, Christopher B	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	14172 - Osgan, Robert D	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	14341 - Yanez, Julian T	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	14404 - Radu, Timothy Scott	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	14667 - Bedore, Nick	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	14747 - Lindsey, Keenya E	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	15274 - Robillard, Earl James	Splcr Sr Cble - Distribution
Ops	T&D - TS&O - Grid Ops	15331 - Etters, Michael T	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	15405 - Rossell, Daniel Joseph	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	15553 - Tran, Long Quoc	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	15600 - Allender, Christopher L	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	15650 - Shabazz, Swaveo Ajanaku	CCM2 - Transmission - Division
Ops	T&D - TS&O - Grid Ops	15699 - Rice, Leonard R	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	16115 - Hardy, Johnny Lee	Lineman - Transmission
Ops	T&D - TS&O - SC&M	16146 - Aycock, Sean E	Electn Constrn - SC&M
Ops	T&D - TS&O - Grid Ops	16401 - Gilmore, James Darron	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	16479 - Anderson, James Adam	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	16554 - Oakes, Edmund W.	Substation Electrician - SC&M - SUP3 Upgrd - SONGS

Ops	T&D - TS&O - SC&M	16559 - Moore, Aaron James	Electn Battry - SC&M - Construction
Ops	T&D - TS&O - Grid Ops	16577 - Brown, Christopher M	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	16597 - Spier, Douglas C	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	16618 - Hunt, Victor	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	16640 - Perez, Saul	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	16664 - Bowman, Jason T	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	16666 - Hilling, Peter	Troubleman - Distribution
Ops	T&D - DIST - CFS	16673 - Fernandez, Moises	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	16685 - Pumilio, Albert S	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	16686 - Garcia, Joe E	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	16698 - Duenas Jr, Ruben Cristino	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	16700 - King, Maurice Samuel	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	16704 - Stevenson, Brent Thomas	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	16712 - Clark, Christopher J	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	16750 - Green, Eric W	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	16753 - Lilly, Dale	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - Trans	16772 - Cruz, Douglas M	SPLICER CABLE - Transmission
Ops	T&D - TS&O - SC&M	16777 - Scheiffler, Brent David	Mech Structural - SC&M - Construction
Ops	T&D - TS&O - Grid Ops	16845 - Diiorio, Kenneth Wayne	Opr System - Grid Ops - Substation Ops - El Dorado
Ops	T&D - DIST - Distribution	16913 - Salas, George	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	16914 - Hartzog, Nicholas Lee	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	17415 - Lim, Hav	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	17626 - Wright, Barry K.	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	17653 - Wennersten, Christopher P	Lineman - Transmission
Ops	T&D - DIST - Distribution	18091 - Weurdig, Joseph M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	18145 - Tisdale, Dannie R	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	18219 - Ito, Jeremy M	Substation Electrician - SC&M - SONGS
Ops	T&D - TS&O - SC&M	18263 - Flores, Ronald L	Welder Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	18266 - Romero, Moises-Eduardo	CCM2 - Distribution
Ops	T&D - DIST - Distribution	18268 - Garcia, Samuel	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	18276 - Beard, Robert Carl	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	18288 - Staggs, Jeremiah Daniel	Troubleman - Distribution
Ops	T&D - DIST - Distribution	18289 - Carlson, Christopher M	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	18319 - Hennigan, Ken	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	18361 - Valenzuela, Eric	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	18451 - Jimenez, Abraham	Lineman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	18495 - Munoz, Michael Paul	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	18555 - Amor, Sandra	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	18612 - Velez, Frank M	Form Troubleman Training - Distribution
Ops	T&D - TS&O - SC&M	18662 - Quezada, Juan Pablo	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	18781 - Meekhof, David E.	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	18845 - Griffith, Joseph W	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	18877 - Alcin, Oznur Ihsane	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	19004 - Cunningham, Lance Bancroft	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	19025 - Barrientes Jr, John	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	19060 - Rodriguez Jr, Francisco	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	19455 - Roetzel, Jakie Philip	Technician, Test Supervising - SC&M

Ops	T&D - DIST - Distribution	19486 - Schultz, Randall	Troubleman - Distribution
Ops	T&D - DIST - CFS	19565 - Brintz, Nicholas T	CMA - CFS - FAO
Ops	T&D - DIST - CFS	19575 - Tilton, Thomas Michael	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	19721 - Fairbairn, Justin James	Troubleman - Distribution
Ops	T&D - DIST - Distribution	19958 - Humpal, William D	Troubleman - Distribution - SUP2 FGS Upgrd
Ops	T&D - TS&O - SC&M	19999 - Tran, Douglas Duc Quang	Techn Electl Aprats Tst A - SC&M - Construction
Ops	T&D - DIST - Distribution	20031 - Couser, Thomas	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	20103 - Davis, Gary	Street Light Repairman - Distribution
Ops	T&D - TS&O - Grid Ops	20105 - Holbrook, Michael A	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	20224 - Garrett, Deana B	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	20311 - Garcia, Gonzalo	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	20356 - Bravo, Dennison Matthew	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	20389 - Nagel, Ronald E.	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	20397 - Glasper, Karen Lovett	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	20466 - Olguin, Raymond Robert	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	20475 - Meyer, Eric C	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	20477 - Coyne Jr, William P	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	20525 - Gumser, Bradley Ryan	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	20584 - McClendon, Michael	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - Grid Ops	20587 - Jackson, Kelly L	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	20622 - Smith, Catherine E	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - CFS	20715 - Vetter, Greg J	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	20749 - Adams, Wade A	Troubleman - Distribution
Ops	T&D - DIST - Distribution	20918 - Bigler, Louis A	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	21016 - Thomas, Mark E	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	21045 - Brough, Brian Philip	CCM2 - Distribution
Ops	T&D - TS&O - Trans	21102 - Jackson, Dwight Eric	Form Cable - Transmission
Ops	T&D - DIST - Distribution	21121 - Noble, David Lee	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	21206 - Vervynck, Scott M	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	21261 - Nguyen, Minh	Techn Lab - SC&M - Construction - MSO
Ops	T&D - TS&O - SC&M	21282 - Esparza, Julio C	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - Grid Ops	21287 - Johnson, Amy Michelle	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	21462 - Jones, Tyson B.	Troubleman - Distribution
Ops	T&D - AMS&E - DE&WM	21463 - Felix, Michelle M	CCM3 - DE&WM - Eng Support & Bus Strategy
Ops	T&D - TS&O - SC&M	21501 - Weiser, Dana L	Techn Lab - SC&M - Construction
Ops	T&D - DIST - Distribution	21550 - Hinojos, Jeffrey Miguel	Troubleman - Distribution
Ops	T&D - DIST - CFS	21559 - Haines, Robert M	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	21624 - O'Bleness, Farren S	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	21631 - Tran, Paul Nam	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	21652 - Dick, Branden L	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	21708 - Birky, John C	Street Light Repairman - Distribution
Ops	T&D - TS&O - SC&M	21709 - Bowyer, Paul L	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	21722 - Haynes, Ronda K	Clerk, Records - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	21808 - Vigil, Ernest Manuel	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	21821 - Wood, Walter John	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	21859 - Vezzuso, Robert Joseph	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	21943 - Ross, Nathaniel Warren	Lineman - Distribution - Field

Ops	T&D - DIST - Distribution	21997 - Koble, Brent A	Splcr Sr Cble - Distribution
Ops	T&D - DIST - Distribution	22044 - Perry, Randall John	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	22086 - Torres, Matthew Anthony	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	22100 - Rahbari, Homer	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	22229 - Becerra, David	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	22368 - Martin, Stephen P	SCMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	22394 - Ellis, Robert T	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	22492 - Murillo, Mario B.	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	22544 - Jessup, Nancy J.	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	22568 - Contreras Martinez, Alfredo	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	22619 - De Yeso, Ralph E.	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	22796 - Gremillion, Patrick Gerard	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	22811 - Carreon, Christopher	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	22936 - Mendelkow, Matthew C	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	22947 - Maltez, Myrna	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	22948 - Chavez, Brandt Kenneth	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	22953 - Meyer, Thomas Gerard	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	22989 - Mosdale, John J	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	23006 - Charles, Mark A	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - CFS	23021 - Jenkins, David B	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	23058 - Whiteman, Erik Franz	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	23070 - Preciado, Gerardo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	23072 - Stout, Kevin Carleton	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	23163 - Sanchez, Jose Nelson	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	23199 - Garriss, Michael J	Opr System - Grid Ops - Substation Ops
Ops	T&D - C&OS - GL&IM	23210 - Cramton, Bruce Thomas Peter	Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - C&OS - GL&IM	23290 - Innes, William M	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - Distribution	23364 - Williams, Claude Edward	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	23373 - Lee, Matthew Charles	Troubleman - Distribution
Ops	T&D - DIST - Distribution	23484 - Anderson, Robert Warner	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	23558 - Monroe, Lisa M H	SCMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	23559 - Serrano, Jerry Daniel	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	23641 - Rodriguez, Raul L	SPLICER CABLE - Transmission
Ops	T&D - TS&O - Trans	23653 - Clinkenbeard, Michael E	Lineman, Apprentice - Transmission
Ops	T&D - DIST - CFS	23674 - Donovan, Sharonda R.	Joint Pole Specialist - CFS - JPO
Ops	T&D - TS&O - SC&M	23691 - Rasmussen, Jason R	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	23705 - Do, Quang N	Techn Electl Aprats Test - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - CFS	23810 - Quezada, William J	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	23818 - Biggins, Michael P	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	23889 - Chhay, Paul Polino	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	23899 - Luu, Jason	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	23933 - Petros, Peter Martin	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	23938 - Carter, Michael J	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	23967 - Falsafi, Behrooz	Techn Lab - SC&M - Construction - MSO
Ops	T&D - DIST - Distribution	24002 - Powell, Brian Lee	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	24009 - Morehouse, John Kenyon	Troubleman - Distribution
Ops	T&D - DIST - Distribution	24017 - Henley, Alan J	Troubleman - Distribution

Ops	T&D - DIST - Distribution	24051 - Rice, David L	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	24060 - Rock, Matthew Scott	Troubleman - Distribution
Ops	T&D - DIST - CFS	24077 - Rodriguez, Sergio	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	24103 - Curiel, Joseph Jay	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	24108 - Nichols, Herman S	Technician, Test - SC&M
Ops	T&D - DIST - CFS	24114 - Dixon, John B	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	24116 - Chavez, Rosa Ceballos	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	24120 - Alonzo, Felix G	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	24141 - Flavin, John T	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	24149 - Aceves, Sylvia A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	24161 - Algarin, Omar A	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	24162 - Algarin, Andrew M	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - TS&O - SC&M	24168 - Fontaine, Robert James	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	24184 - Kaeser Jr, John A.	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	24200 - Ward, Michael L	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	24210 - Wimmer, Russell B	Splcr Sr Cble - Distribution
Ops	T&D - DIST - CFS	24224 - Apodaca, Armando H	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	24228 - Mata, Peter Christopher	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	24245 - Simpson, Randy S	Street Light Repairman - Distribution
Ops	T&D - DIST - CFS	24279 - Kenyon, Ronald F	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	24280 - Kenyon, Steven J	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	24281 - Webb Jr, Dale A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	24297 - Barajas, Javier P	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	24327 - Bailey, Steven J	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - Grid Ops	24339 - Lewis Jr, Roy S	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	24342 - McDowell, Ty E	Troubleman - Distribution
Ops	T&D - TS&O - Trans	24382 - Cheney Jr, Jim D	Patrolman Sr - Transmission
Ops	T&D - TS&O - SC&M	24383 - Felix, Bennie L	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	24387 - Villalobos, Sergio	Street Light Repairman - Distribution
Ops	T&D - TS&O - Grid Ops	24417 - Vaca, Marco Vinicio	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	24418 - Johnson, Brittney Ericka	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	24427 - Peery, Donovan Lee	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	24431 - Blush, Eric M	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	24440 - Villamonte, Carlos W	Street Light Repairman - Distribution
Ops	T&D - DIST - CFS	24445 - Pratt, David	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	24456 - Gonzalez, Jorge A	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	24457 - Cortez-Melena, Miguel Angel	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	24488 - Best, Timothy F	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	24492 - Morgan, Stacia A	Spclst Fld Svcs Support - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	24499 - Woods, Travell Donate	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	24520 - Montoya, George G	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	24534 - Hernandez Jr, Jose David	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	24543 - Lukaesko, Michael A	CMA - CFS - FAO
Ops	T&D - TS&O - Trans	24565 - Farley, Keith M	SPLICER CABLE - Transmission
Ops	T&D - TS&O - SC&M	24589 - Sipes, Nathan P	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	24592 - Swank, Kevin W	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	24628 - Lau, Michael	CMC - CFS - FAO

Ops	T&D - DIST - Distribution	24640 - Carasa, Ramiro	Troubleman - Distribution
Ops	T&D - DIST - CFS	24735 - McCarter, Brian C	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	24738 - Maranto, Anthony C	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	24743 - Kearney, Daniel P.	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	24777 - Arreola, David	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	24803 - Brunk, Steven K	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	24816 - Carbajal, Joshua Paul	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	24817 - Navarro, Michael C	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	24836 - Cortez, Mark A	Groundman - CFS - Constr Supt
Ops	T&D - DIST - CFS	24864 - Caldwell, Edward A	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	24872 - Olson, David E	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	24874 - Ngo, Vincent	Techn Lab - SC&M - Construction
Ops	T&D - TS&O - Trans	24886 - Flores, Sal A	Lineman - Transmission
Ops	T&D - TS&O - SC&M	24890 - Sparks, Charles Robert	Technician, Test - SC&M
Ops	T&D - C&OS - GL&IM	24955 - Lopez, Phyllis	LSA2 - GL&IM - Land & Forest Mgmt - Title & Real Estate Servi
Ops	T&D - TS&O - SC&M	24963 - Jimenez, Thomas M	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	24984 - Saenz, Kathryn M	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	24997 - Holguin, Albert M	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	25001 - Carr, Michael	CCM3 - Distribution - RPS
Ops	T&D - DIST - Distribution	25024 - Stacey, Michael Gregory	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	25025 - Tobler, Christopher R	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	25038 - Takaki, Stewart S	Joint Pole Specialist - CFS - JPO
Ops	T&D - DIST - Distribution	25060 - Lybbert, Jacob J	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	25068 - Chism, Aaron M	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	25070 - Wright, Brian L	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	25120 - Atkinson, Ralph W	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - TS&O - Grid Ops	25141 - Tovar, Jesus D	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	25174 - Hollingsworth, Billy H	CCM3 - Distribution - RPS
Ops	T&D - DIST - CFS	25187 - Shugars, Christopher A	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	25205 - Campbell, Arika Jordan	SCMA - CFS - FAO
Ops	T&D - TS&O - Trans	25256 - Babish, Stephen C	Patrolman Sr - Transmission
Ops	T&D - DIST - CFS	25266 - Padilla, Joe G	Techn Electl Aprats Test - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - CFS	25293 - Campos, Raul	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	25296 - Morrison, Jason C	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	25337 - Fullerton, Craig W	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	25395 - Lujan Jr, Alvaro	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	25453 - Baston, Gary Michael	Working Foreman - CFF - SC&M - Construction
Ops	T&D - TS&O - SC&M	25469 - Reilly, Branden S	Mech Structural - SC&M - Construction
Ops	T&D - DIST - CFS	25486 - DeAnda, Jose L	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	25490 - Pedroza, Hector J	Splcr Sr Cble - Distribution
Ops	T&D - DIST - PM	25511 - Kelly, Cynthia	Streetlight Bookkeeping Spec - Prgm Mgmt - DPM - SOLO
Ops	T&D - DIST - CFS	25577 - Chavira, Robert C	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	25583 - Ramirez, Manuel Javier	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	25585 - Lilley, Keith R	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	25591 - Bynum, Terrance D	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	25611 - Leon, Edwin	CCM2 - SC&M - Construction
Ops	T&D - DIST - Distribution	25613 - Hoffman, Jeff B	Form Electl Crew - Distribution - Field

Ops	T&D - TS&O - SC&M	25615 - Manning, Brian C	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - Grid Ops	25617 - Peckler, Bryan M	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	25646 - Wells, Darion P	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	25665 - Godbout, Lance K	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - CFS	25687 - Barajas, Christian	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	25694 - Kim, Daniel S	Techn Electl Aprats Test - SC&M - Construction
Ops	T&D - DIST - CFS	25695 - Diaz, Isaac G	CMA - CFS - FAO
Ops	T&D - DIST - CFS	25696 - Himelspach, Karrie L	CMA - CFS - FAO
Ops	T&D - DIST - CFS	25719 - Ortiz, Veronica	CMA - CFS - FAO
Ops	T&D - DIST - CFS	25721 - Ceja, Jose A	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	25722 - Campos-Lomeli, Maria Gabriela	CMA - CFS - FAO
Ops	T&D - TS&O - Trans	25725 - Hart, Mose	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	25727 - Kelly, Kevin S	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	25728 - Anderson, Eric	CCM2 - Distribution
Ops	T&D - DIST - Distribution	25731 - Kelly, Curtis M	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	25740 - Catalan, Bernie Leonel	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	25762 - Slinker, Robert S	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	25790 - Devance Jr, Owen Gerald	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	25799 - Franco, Ernest Edward	Troubleman - Distribution
Ops	T&D - DIST - Distribution	25807 - Bigelow, Keith J	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	25829 - Rott, Andrew Edward Thomas	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	25860 - Cruz, Erwin James G	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	25880 - Duarte, Ernest James	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	25919 - Carrillo, Diana Rene	CCM3 - Distribution - Project
Ops	T&D - DIST - Distribution	25920 - Hernandez, Isaac	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	25947 - Antonio, Reynaldo D	Techn Electl Aprats Test - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - SC&M	25960 - Hart, Eric J.	Mech Structural - SC&M - Construction
Ops	T&D - DIST - CFS	25975 - Cazares, Antonio	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	26012 - Hajas, Nicholas A.	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	26048 - Smith, Randy R	CCM3 - Distribution - RPS
Ops	T&D - DIST - CFS	26072 - Fisher, Mario A	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	26095 - Pollard, Andrew R	Troubleman - Distribution
Ops	T&D - DIST - CFS	26107 - Setser, Michael F	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	26115 - Walker, Daniel E	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	26118 - Lovio, Frank R	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	26120 - Knight, Steven W	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - C&OS - GL&IM	26134 - Reza, Gustavo	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - CFS	26156 - Johnson, Mark A	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	26176 - Smith, Kenneth B	Street Light Repairman - Distribution
Ops	T&D - DIST - CFS	26191 - Millar, Mary C	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	26193 - Morris, Eric S	Electn Battry - SC&M - Construction
Ops	T&D - DIST - CFS	26194 - Braun, Thomas C	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	26204 - Blasquez, Jeffrey A	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	26207 - Castillo, Alfredo V	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	26209 - Haley, Brian A	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	26229 - Villegas, Jack R	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	26272 - Castaneda, Lawrence T	CMA - CFS - FAO

Ops	T&D - DIST - Distribution	26274 - Banks, Daniel L	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	26275 - Matchett, Lindsey Elizabeth	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - CFS	26291 - Brown, Steven W	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	26296 - Gonzales, Leticia Soto	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	26314 - Salas Jr, Juan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	26343 - Fleenor, Ron	Troubleman - Distribution
Ops	T&D - DIST - Distribution	26345 - Muniz, Evan Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	26349 - Fuller, Chris E	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	26353 - Ito, Shane Glenn	Electn Battry - SC&M - Construction - SUP3 Upgrd
Ops	T&D - TS&O - SC&M	26360 - Esparza, Victor Ignacio	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	26362 - Vasquez, Daniel S	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	26367 - Cataldo, Joseph M	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	26391 - Vargas, Jose Francisco	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	26410 - Salcido, Alex Thomas	CMA - CFS - FAO
Ops	T&D - DIST - PM	26411 - Blakeman, Diana C.	Streetlight Bookkeeping Spec - Prgm Mgmt - DPM - SOLO
Ops	T&D - DIST - CFS	26417 - Czellar, Joseph Z	CMA - CFS - FAO
Ops	T&D - DIST - CFS	26438 - Abarca, Paul	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	26440 - Espinoza, Jaime	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	26447 - Lomeli Jr, Raymond	Groundman - CFS - Constr Supt
Ops	T&D - DIST - CFS	26451 - Perales, Michael	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	26454 - Canales, Francisco	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	26474 - Mayorga, Ismael	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - TS&O - Grid Ops	26479 - Garcia, Juan Manuel	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	26509 - Forgey, Jon Robert	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	26525 - Aguilar, John Anthony	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	26532 - Davis, Scott A	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - Grid Ops	26566 - Dewitt, Jason L	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	26598 - Shanklin, Debra L	CCM2 - Transmission - Division
Ops	T&D - DIST - Distribution	26599 - Saugstad, Andrew J	Troubleman - Distribution
Ops	T&D - DIST - CFS	26620 - Nolan, Christy J	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - PM	26642 - Lopez, Victor M	Streetlight Bookkeeping Spec - Prgm Mgmt - DPM - SOLO
Ops	T&D - DIST - CFS	26701 - Arevalo, Patrick J	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	26705 - Blatney, Frank J	Troubleman - Distribution
Ops	T&D - DIST - Distribution	26728 - Sanchez, Hector	Street Light Repairman - Distribution
Ops	T&D - TS&O - SC&M	26736 - Krause, Joe T	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - PM	26744 - Dutcher, Pamela L	Streetlight Bookkeeping Spec - Prgm Mgmt - DPM - SOLO
Ops	T&D - DIST - CFS	26762 - Ramirez, Gilbert	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	26763 - Mejia, Salvador	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	26766 - Torrez, Jesse J	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	26767 - Aten, Cynthia G.	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	26842 - Colin, Kristofer L	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	26843 - Guevara, Joseph A	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	26856 - Gonzales, Jimmie Joe	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	26863 - Saucedo, Esteban	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	26883 - Perez, Michael J	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	26885 - Dobbins, Patrick J	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	26905 - Burton Jr, Donald F	Troubleman - Distribution - SUP2 FGS Upgrd

Ops	T&D - DIST - Distribution	26911 - Mrzlak, Shane A.	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	26912 - Scott, Daniel Warren	Splcr Subs Cable - SC&M - Construction
Ops	T&D - DIST - CFS	26913 - Patlan, Beatrice	Transformer Helper - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - SC&M	26917 - Huang, David Tjutiwaty	Technician, Test - SC&M
Ops	T&D - DIST - CFS	26945 - Bennett, Arlene F	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	26958 - Gonzalez, George	Troubleman - Distribution
Ops	T&D - DIST - Distribution	26961 - Lopez, Kevin Joe	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	26997 - Casey, Ryan B	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	27011 - Banez, Jed	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	27032 - Calienes, Jonathan Joseph	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	27033 - Russell, Louis Albert	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	27043 - Frutos, Jaime V	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	27072 - Cox, Jason Lynn	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	27074 - Hernandez, Alicia Christina	CMA - CFS - FAO
Ops	T&D - AMS&E - DE&WM	27085 - Tague, Donn W	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	27136 - Lawrence, James B	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	27209 - Coronado, Jorge	Transformer Specialist Foreman - SC&M - Construction
Ops	T&D - DIST - CFS	27211 - Bravo, Moses I	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	27212 - Baker, David A	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	27219 - Barcelo, Carlos C	Troubleman - Distribution
Ops	T&D - DIST - CFS	27231 - Terhaar, Richard Dirk	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	27269 - Benitez, Steve	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	27271 - Duval, David M.	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - TS&O - SC&M	27298 - Chuang, Paul P	Working Foreman - CFF - SC&M - Construction
Ops	T&D - TS&O - Trans	27305 - Castillejo, Mariano A	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	27319 - Watling, Michael Noel	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	27343 - Ganino, Michael C	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	27395 - Honeycutt, Kirk	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	27397 - Honeycutt, Mark A	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	27399 - Sorensen, Jeffrey Scott	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - DIST - CFS	27432 - Stearns, Cary E	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	27452 - Mitchell, David M	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	27456 - Garcia, Albert	Transformer Specialist 1 - SC&M - Construction
Ops	T&D - DIST - CFS	27503 - Hart, Brandal L	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	27591 - Istrate, Florin	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	27617 - Morris, Eric B	Splcr Sr Cble - Distribution
Ops	T&D - TS&O - Grid Ops	27622 - Barrueta, Enrique	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	27637 - Castillo, Andrey Phillip	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	27670 - Romero, Steve	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	27678 - Candelaria, Lanishae M	Electn Constrn - SC&M
Ops	T&D - TS&O - Grid Ops	27698 - Lozano, John Anthony	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	27709 - Gomez, Carlos E	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	27719 - King, Krystal Rosemarie	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	27730 - Lee, John Barry C	CMA - CFS - FAO
Ops	T&D - DIST - CFS	27733 - Nesby, Ryshear L	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	27757 - Barela, Adam Rick	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	27758 - Fitzgerald, Brian Michael	Lineman - Distribution - Field

Ops	T&D - DIST - Distribution	27772 - Alkhoutoff, Brandon Michael	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	27783 - Stone, LaToya P.	CMA - CFS - FAO
Ops	T&D - TS&O - Trans	27786 - Bullock, Scott	Patrolman Sr - Transmission
Ops	T&D - TS&O - SC&M	27790 - Shelby, Damon M	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - CFS	27815 - Reyes, Joel Andrew	Groundman - CFS - Constr Supt
Ops	T&D - DIST - CFS	27825 - Hathaway, Neil G	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	27826 - Barrett, Bryan W	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	27828 - Barrett, Jeffrey E	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	27829 - Gubernick, Ric Anthony	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	27865 - Figueiredo, John M	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	27870 - Pasillas, Alfred Ben	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	27872 - Segovia, Robert E.	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	27891 - Gordon, Terence S	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	27907 - Herrera, Pedro N	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	27923 - Vasquez, Armando J	Troubleman - Distribution
Ops	T&D - DIST - Distribution	27931 - Rotan, Billie J	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	27937 - Sanchez, Daniel S	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	27949 - McKelvy, Dustin J	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - CFS	27970 - Montero, Eric Philip	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	27971 - Worden, Jon A.	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	27982 - Kalland, Erik R	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	27994 - Gutierrez, Teodulo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	28003 - Villalobos, Armando A	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	28010 - Ramirez, Arthur J	Street Light Repairman - Distribution
Ops	T&D - TS&O - SC&M	28020 - Dixon, Cecil E	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - CFS	28048 - Quarnstrom, Kenneth I	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	28057 - Beltran, Edwin	Hlpr Electl Constr - SC&M - Construction
Ops	T&D - TS&O - SC&M	28078 - Siegel, Mark Anthony	Mech Structural - SC&M - Construction
Ops	T&D - DIST - CFS	28096 - Sandoval, Luis A	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	28102 - Allen, Jerome B	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - CFS	28119 - Lopez, Isaac M	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	28167 - Poissant, Daniel A	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - C&OS - GL&IM	28171 - Cheney, Rick	FOR3 - GL&IM - Land & Forest Mgmt
Ops	T&D - DIST - CFS	28175 - Mc Calister, Brian R	CMA - CFS - FAO
Ops	T&D - DIST - CFS	28207 - Schaffler, John D	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	28209 - Ruvalcaba, Lilly L	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - CFS	28216 - Ratliff, Carol A	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	28240 - Folkes, Walter James	CCM2 - Distribution
Ops	T&D - DIST - Distribution	28245 - Haros, Julio C.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	28259 - Perez, Oscar M	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	28264 - Avelar, Fernando	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	28268 - Madison, Charles	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - Grid Ops	28294 - Baldwin, Michael	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	28302 - Medina, Michael	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	28312 - Gray, Travis R	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	28325 - Russey, David A	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	28343 - Becerra, Carlos	Opr Substation - Grid Ops - Substation Ops

Ops	T&D - DIST - CFS	28354 - Stewart, Shelly Lynn	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	28358 - Hudak, Peter	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	28360 - Surprenant, Justin F	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	28362 - Farley, Kevin M	SPLICER CABLE - Transmission
Ops	T&D - TS&O - SC&M	28370 - Pfeifer, George K	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	28373 - Wyand, Joel T	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	28376 - Lujan, David C	Troubleman - Distribution
Ops	T&D - DIST - Distribution	28377 - Hardin, Frankie Eugene	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	28380 - Melendez, Christy M	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	28382 - Romero, Rogelio	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	28383 - Demarco, Michael J	CCM3 - Distribution - RPS
Ops	T&D - TS&O - Grid Ops	28388 - Pagenkopp, David R	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	28392 - Bixler, Robert J	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	28397 - Scott, Ronald L	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	28409 - Racicot, Greg	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	28411 - Taubman, John T	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	28413 - Harris, Larry A	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	28448 - Greene, Kelly S	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	28456 - Kimura, Jarrod A.	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	28462 - Tuominen, Ryan J	CCM2 - Distribution
Ops	T&D - DIST - Distribution	28464 - Thompson, Scott D	Repr Fld Srvce 2 - Distribution - Rural Region
Ops	T&D - DIST - Distribution	28479 - Weyers, Bryan D	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	28480 - Castillo, Manuel Adolfo	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	28483 - Castillo, Jorge Luis	Joint Pole Clerk - CFS - JPO
Ops	T&D - DIST - Distribution	28489 - Gonzalez, Gerardo	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	28506 - Thomas, Jerrone Lamar	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - CFS	28509 - Ford, Michelle L	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	28523 - Osburn, Alissa N	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	28525 - Hernandez, Fernando	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	28526 - Lowe, Lonny D	SCMA - CFS - FAO
Ops	T&D - TS&O - Trans	28527 - Galindo, Louie Michael	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	28558 - Gaona, Alfredo	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	28562 - Sandoval, Hector	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	28568 - Lopez, Rolando	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	28587 - Sanchez Jr, Francisco Javier	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	28588 - Frutos, Omar	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	28624 - Flores, David Raymond	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	28654 - Samano, Sandro Luis	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	28683 - Taylor, Dallas Taylor	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	28713 - Younkin, Barry D	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	28717 - Cagle, Donald R	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	28719 - Ceja, Armando	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	28722 - Hawkins, Travis B	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	28753 - Nunes, Kristopher Mathew	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	28760 - Molinar, Karl E	Substation Electrician - SC&M - SONGS
Ops	T&D - TS&O - SC&M	28780 - Chale, Patrick G	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	28821 - Torres, Monique Rosie	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops

Ops	T&D - DIST - CFS	28848 - Martinez, Michael	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	28897 - Sassen, Joseph E	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	28901 - Rodriguez, Craig P	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	28907 - McAuliffe, Shaughn A	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	28948 - Bloot, Henry J	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	28969 - Lopez, Greg V	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	28970 - Price, Matthew J	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	2899 - Bishop, Jesse	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	28999 - Amaral, Jose L	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	29017 - Shah-Par, Mithra M	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	29019 - Biggers, Gerald M	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	29023 - Box, Michael Wayne	Opr System - Grid Ops - Substation Ops - El Dorado
Ops	T&D - DIST - Distribution	29034 - Padilla, Patrick H	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	29046 - Grana, Lisa A	CCM2 - Distribution
Ops	T&D - DIST - Distribution	29079 - Yocum, Terry W	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	29092 - Pack, Gregory Eugene	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	29095 - Mc Dowell Jr, Jerry	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	29096 - Purtle, Steven H	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - CFS	29133 - Gallardo, Susan	CMA - CFS - FAO
Ops	T&D - C&OS - GL&IM	29163 - Keeling, Valerie J	Supervisory Mapping Tech - GL&IM - Geomatics & Property Se
Ops	T&D - TS&O - Grid Ops	29173 - Fuente, Cesar Verdin	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	29174 - Macdonald, Jeffrey A	Opr System - Grid Ops - Substation Ops
Ops	T&D - C&OS - GL&IM	29176 - Garcia, Charles M	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - TS&O - SC&M	29197 - Sinness, Steven James	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - TS&O - SC&M	29204 - Pimentel, Victor J	Technician, Test - SC&M
Ops	T&D - TS&O - Trans	29207 - Chavez, Jose G	Form Cable - Transmission
Ops	T&D - DIST - Distribution	29227 - Ramirez, Ted Joseph	Troubleman - Distribution
Ops	T&D - DIST - Distribution	29229 - Castaneda, Tony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	29234 - Neal, Erik L	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	29259 - Ramirez, Daniel M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	29262 - Keifer, Ronald L	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - TS&O - Trans	29268 - Baumgardner, Scott P	Patrolman Sr - Transmission
Ops	T&D - TS&O - SC&M	29297 - Medina, Fernando	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	29317 - Belmonte Jr, Alfredo	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	29339 - Mendoza, Daniel J.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	29346 - Alcantar, Isidro	Transformer Helper - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - Grid Ops	29397 - Moyer, Anthony	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	29398 - Shewmake, Bradley David	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	29414 - Karna, Jon Geoffrey	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	29420 - McCleary, Nicholas Troy	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	29431 - Birdsong, Jeffrey R	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - Distribution	29439 - Valdez, Salvador	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	29440 - Fury II, Terry Lynn	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	29452 - Caird-Paradise, Teri Darlene	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	29514 - Burciaga, Abel	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	29576 - McClister, Gary Paul	Lineman - Transmission
Ops	T&D - DIST - CFS	29582 - Perez, Anabel	CMC - CFS - FAO

Ops	T&D - DIST - Distribution	29583 - Koets, Nikolai Vincent	CCM2 - Distribution
Ops	T&D - DIST - Distribution	29586 - Cuzzart, Jason Lee	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	29626 - Barron Jr., Sergio J.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	29686 - Majors, Dennis Joel	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	29707 - Heavilin, Adrian N.	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	29765 - Coleman-Gibson, Saquan	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	29768 - Matas, Job Abel	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	29769 - Carranza, Lesandro	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	29775 - Navarro, Philip Anthony	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	29777 - Fethke, Christopher	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	29816 - Valdez, Stephen R	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	29851 - Santa Cruz, Brent W	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	29853 - Cardenas, Richard E	Troubleman - Distribution
Ops	T&D - DIST - Distribution	29869 - Guevara, Paul C	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	29873 - Montgomery, Allan J	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	29874 - Montgomery, Janine Camille	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	29875 - Madrid, Steven I.	Apprentice Cable Splicer - Transmission
Ops	T&D - DIST - CFS	29903 - Nomura, Allan C	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	29913 - Heintz, Kirk P	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	29942 - Calvo Jr, Louis E	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	29990 - Johnson, Keith	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	30015 - Alaniz, Paul	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	30016 - Arno, Matthew L	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	30025 - Balades, Kenny	Lineman - Distribution - Field
Ops	T&D - C&OS - GL&IM	30034 - Del Rio, Katherine M	Supervisory Mapping Tech - GL&IM - Geomatics & Property Se
Ops	T&D - TS&O - Grid Ops	30079 - Bareford, Dale E	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	30103 - Kearney, Thomas P	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	30105 - Lopez, Pedro Topete	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	30111 - Gruber, Jon M	Splcr Sr Cble - Distribution
Ops	T&D - DIST - CFS	30120 - Aguilar, Earl R	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	30170 - Thompson Jr, Charles H	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	30171 - Acosta, Juan Carlos	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	30172 - Sawyer Jr, William R	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	30196 - Ciciulla, Giuseppe A.	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	30197 - Velazquez, Zoilo	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	30213 - Cardenas, Jeffrey Allen	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	30244 - Torres, Rene T	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	30258 - Kahrs, John O	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	30288 - Davis, Dameon L	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	30333 - Chavez, Alejandro M	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	30364 - Collier, Scott P	CMA - CFS - FAO
Ops	T&D - DIST - CFS	30370 - Sanchez, Richard C	CMA - CFS - FAO
Ops	T&D - DIST - CFS	30399 - Hernandez Jr, Richard	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	30417 - Ritter, Amber Lee	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	30433 - Juhn, Mark Won	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	30442 - Lorenzen, Scott Timothy	Substation Electrician - SC&M
Ops	T&D - TS&O - Trans	30443 - Elconin, Darrow	Right of Way Equipment Operator 3 - Transmission - Construc

Ops	T&D - DIST - Distribution	30444 - Berry, John M	Street Light Repairman - Distribution
Ops	T&D - TS&O - SC&M	30488 - Bernal, Edward R	Splcr Appr Subs Cable - SC&M - Construction
Ops	T&D - DIST - CFS	30502 - Maldonado, Dave M	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	30527 - Hitch, Kimberly A.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	30529 - Esquivel, Francisco S	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	30561 - Attanasio, Jason Paul	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	30564 - Walsh, Bridget M	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	3059 - Orchanian, Gary S	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	30608 - Necochea, Santiago Vasquez	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	30610 - Koenig, Melissa Carol	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	30628 - Alfaro, Agustin	CMA - CFS - FAO
Ops	T&D - DIST - CFS	30647 - Swain, Cris Lee	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	30651 - Causey, Stephen G	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	30652 - Torres, Robert A	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - Grid Ops	30708 - Lindmayer, Andrea T	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	30710 - Antwine, Gregory J	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	30718 - Duran, Anthony James	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	30726 - Bielmeier, Keith Francis Xavier	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	30810 - Montes De Oca, Albert	Lineman - Distribution - Field
Ops	T&D - C&OS - GL&IM	30831 - Rodriguez, Daniel	Asst Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - DIST - Distribution	30832 - Edwards, Scott M	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	30925 - Warner, Christopher	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	30929 - Lettau, Nicholas Adam	CMA - CFS - FAO
Ops	T&D - C&OS - GL&IM	30938 - Bunte, Mark A	Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - DIST - Distribution	30945 - Munoz, Randolph Gonzalez	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	30972 - Bjorklund, Robert D	Lineman - Transmission
Ops	T&D - DIST - CFS	31005 - Zanone, Charles A	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	31012 - Perez, John A	Warehouse Clerk - SC&M - Construction
Ops	T&D - TS&O - Grid Ops	31026 - Doyle, William T	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	31031 - Corvese, Sean Howard	Troubleman - Distribution
Ops	T&D - DIST - Distribution	31059 - Rios, William	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	31067 - Rios, Rudolfo J	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Trans	31081 - Rivera, William P	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	31085 - Dengler, Mark D	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	31089 - McEvers, Brannon L.	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	31112 - Aldalur, Francisco J	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	31122 - Vasquez, Belinda L	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	31129 - Tovar Sr, Ruben P	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	31135 - Terrazone, Steve M	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	31154 - Elliott, Kyle Darren	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	31159 - Horton, George Keith	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	31164 - Rodriguez, Gabriel	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	31168 - Martinez, Miguel A	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	31202 - Wilson, Kenneth S	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	31204 - Kuypers, Ronald P	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - TS&O - SC&M	31217 - Elder, Eric E	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	31243 - Whittaker, Ron	CCM2 - Distribution

Ops	T&D - DIST - Distribution	31251 - Valenzuela, Robert	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	31299 - Troya, Hernan H	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	31304 - Wakefield, Scott J	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	31307 - Alvarez Jr, Frank R	Splcr Subs Cable - SC&M - Construction
Ops	T&D - TS&O - SC&M	31309 - Casillas, Eduardo G	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	31343 - Bell, Brent S	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	31360 - Diaz, Rodolfo	Transformer Specialist Foreman - SC&M - Construction
Ops	T&D - DIST - CFS	31369 - Escamilla, Elsa Consuelo	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	31395 - Ramirez Jr, Rodolfo	Transformer Specialist 1 - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	31461 - Hatfield, Gerald J	Troubleman - Distribution
Ops	T&D - DIST - Distribution	31488 - Almaraz, Larry M	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	31490 - Lopez, Jose H	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	31496 - Giroux, Jonathan L.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	31506 - Snodgrass, Tom J	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	31512 - Esparza Jr, Leonardo Efrain	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	31523 - Wirtz, Paul Gerald	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	31541 - Ramirez, Shannon M	Electn Constrn - SC&M
Ops	T&D - TS&O - Trans	31543 - Diaz, Michael	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	31545 - Rieger Jr, Randall C	SUP - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	31546 - Sharif, Meher R.	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	31560 - Fitzpatrick, Brian James	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	31576 - Medina, Miguel A	Troubleman - Distribution
Ops	T&D - DIST - CFS	31578 - Hersey, Kimberly A	Supervising Meter Sprt Spclst - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	31593 - Kelly, Christopher K	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	31595 - Kelly, Bryan Gregory	Const/Maint Support Clerk - Distribution - Operations
Ops	T&D - TS&O - Trans	31610 - Bambridge, Morre S	Patrolman Sr - Transmission
Ops	T&D - DIST - CFS	31639 - Elmore, Brandon P	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	31640 - Ball, Preston Robert	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	31642 - Davidson, Brian R	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	31658 - Greenhaw, Rosalyn	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - TS&O - SC&M	31683 - Duran, Adolph	Handlr Mtrl - SC&M - Construction
Ops	T&D - TS&O - SC&M	31747 - Morales, Heriberto	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	31751 - Zuniga Jr., Jose Guadalupe	Electn Constrn - SC&M
Ops	T&D - C&OS - VM	31772 - Dyer, Kenneth J	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	31786 - Sanchez, Salvador J	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	31841 - Pittman, Douglas F	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	31899 - Williams, John L	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	31911 - Sanders, Larry	Lineman - CFS - Constr Supt
Ops	T&D - TS&O - Grid Ops	31917 - Keysers, Robert V	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	31928 - Thompson, Terrell J	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	31979 - Hollerup, Jerry L	CCM2 - Distribution
Ops	T&D - TS&O - SC&M	31983 - Escalante, Thomas Reilly	Warehouse Clerk - SC&M - Construction
Ops	T&D - TS&O - Trans	32007 - Aguirre, Ralph A	Form Cable - Transmission
Ops	T&D - DIST - CFS	32008 - Morino, Masanobu	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - C&OS - GL&IM	32026 - Eads, Randy L	Supervisory Mapping Tech - GL&IM - Geomatics & Property Se
Ops	T&D - DIST - CFS	32030 - Valenzuela Jr, George J	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	32035 - Chapman, Matthew D	Lineman - Distribution - Field

Ops	T&D - TS&O - SC&M	32062 - Allen, Jared L	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	32064 - Terry, Mike E	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	32104 - De La Piedra, Douglas Aurelio	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	32116 - Shaw, Tracy L.	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - TS&O - SC&M	32142 - Koopman, Brandon L	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	3218 - Racine, Paul L	Troubleman - Distribution
Ops	T&D - DIST - Distribution	32181 - Plasencia, Jesus	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	32211 - Joe, Arron A.	Transformer Helper - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	32219 - Rupp, Dylan Joseph	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	32244 - Saenz, Anthony Allen	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	32261 - Linton, Page Alexandra	CMA - CFS - FAO
Ops	T&D - TS&O - Trans	32311 - Prestin, Brian J	Lineman - Transmission
Ops	T&D - TS&O - SC&M	32312 - Bryant, Darin K	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - Trans	32314 - Villarreal, Hector	CCM2 - Transmission - Division
Ops	T&D - DIST - Distribution	32315 - Gomez, Edmundo A	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	32337 - Keehmer, Jeremy William	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	32340 - Blanco, Roberto	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	32341 - Howard II, Kenneth R	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	32426 - Rogers III, Bert L	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	32429 - Ovando, Jose O	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	32439 - Lozano, Anthony R	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	32448 - Gomez, Luis A	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - TS&O - Trans	32476 - Mejia, Douglas Alfredo	Form Cable - Transmission
Ops	T&D - DIST - Distribution	32491 - Coger, Matthew William	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	32506 - Moore, Kevin Derek	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	32541 - Stephenson, Brian James	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	32578 - Jacuinde, Jose Juan	Apprentice Cable Splicer - Transmission
Ops	T&D - TS&O - Trans	32590 - Jackson, Johnny R	Lineman - Transmission
Ops	T&D - DIST - CFS	32610 - Vanden Brink Jr, Stanley	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	32614 - Gonzalez, Carlos	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	32617 - Duenas, Oscar	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	32627 - Anaya, Javier F.	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	32655 - Scott, Robert William	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	32660 - Ward, Jason S	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	32733 - Stephens, David L	SCMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	32764 - Ramos, Tony L.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	32796 - Hernandez, Tom G	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	32822 - Skov, Eric P	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	32844 - Magana, Adrian	Const/Maint Support Clerk - Distribution - Operations
Ops	T&D - DIST - CFS	32869 - Martinez, Michael G	CMA - CFS - FAO
Ops	T&D - C&OS - GL&IM	32888 - Diaz, Barbara	LSA2 - GL&IM - Land & Forest Mgmt - LAS
Ops	T&D - DIST - CFS	32896 - Matthews, Larry T	CMA - CFS - FAO
Ops	T&D - DIST - CFS	32909 - Brown, David B	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	32963 - Mowry, Cherise Marie	CMA - CFS - FAO
Ops	T&D - C&OS - GL&IM	32996 - Krumwiede, Michael G	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - CFS	33008 - Miller, Pamela A	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	33067 - Landin, Armando	Form Electl Crew - Distribution - Field

Ops	T&D - DIST - Distribution	33099 - Robinson, Wil	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	33134 - Mandle, Jason M	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	33136 - Eslava, Edward A	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	33164 - McKnight, Michael B	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	33180 - Ontiveros, Juan M	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	33185 - Smith, Gary T	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	33196 - Moncayo, Diego David	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	33199 - Chen, Ping Chan	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	33209 - Trotechaud, Frank G	Opr System - Grid Ops - Substation Ops - El Dorado
Ops	T&D - DIST - CFS	33210 - Painter, Terri	CMA - CFS - FAO
Ops	T&D - DIST - CFS	33216 - Robertson, Michael J	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	33218 - Franco, Arturo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	33221 - Beck, Richard Jesse	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - Distribution	33247 - Gillen, Travis Ray	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	33278 - Brito, Alexander A	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	33287 - Varvis, Suzanne R	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	33317 - Paris, Kevin T	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	33319 - Galicia, Leonard Joseph	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	33332 - Ashe, DeVon V	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	33350 - Ruiz, Adrian	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	33352 - Ortiz, Arturo J	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	33354 - Lopiccolo, Tyler Jon	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	33405 - Rogers, Paul S.	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	33406 - Ciccone, Matthew R	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	33423 - Dieter, Mark C	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	33477 - Escobedo, Rene	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	33483 - Lord, Aaron M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	33512 - Rivera, Rudy R	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	33531 - Hayes, Steven	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	33557 - Lopez, Mario M	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	33565 - Bustamante, Paul	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	33577 - Garcia, Jennifer	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	33583 - Avila, Anthony C	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	33620 - Green, Nathaniel George	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	33623 - Ballesteros, Edward	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	33660 - Wood, Elliott J	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	33666 - Leyva III, Jose Luis	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	33668 - Acosta, Louis R	CCM2 - Distribution
Ops	T&D - DIST - Distribution	33684 - Pledger Jr, Kevin R.	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	33700 - Henderson, Michael A	Lineman - Transmission
Ops	T&D - DIST - CFS	33706 - Beltran, Judie B	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	33721 - Williams, Myron C	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - Distribution	33731 - Siqueiros, Ramon S	CCM2 - Distribution
Ops	T&D - TS&O - SC&M	33745 - Horton, Scott T	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	33748 - Duran, Steven P.	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	33750 - Musick, James R.	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	33751 - Laib, Jeffrey W	CMA - CFS - FAO

Ops	T&D - DIST - Distribution	33753 - Torres Jr, Rodolfo P	Troubleman - Distribution
Ops	T&D - DIST - Distribution	33776 - Soltero, Adrian Ulises	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	33787 - Garibaldo Jr, Jose Luis	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	33789 - Arciaga, Michael J	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	33791 - Nuno, Agustin	CCM2 - Distribution
Ops	T&D - TS&O - SC&M	33834 - Young, David M	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - Trans	3384 - Parry, John	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	33842 - Ortiz, Roy A	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	33856 - Campa, Gary J	CMA - CFS - FAO
Ops	T&D - DIST - CFS	33864 - Bustamante, Denalonor G	Spclst Fld Svcs Support - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	33865 - Mata, Eduardo R	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	33891 - Medina, Anthony R	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	33894 - Saucedo, Rodolfo A	Hlpr Electl Constr - SC&M - Construction
Ops	T&D - DIST - CFS	33914 - Leniu, Lorna	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	33916 - Martin, Robert A	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	33923 - Shaffer, Donald R	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	33946 - Phillips, Michael B	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	33947 - Castro, Daniel	CMA - CFS - FAO
Ops	T&D - DIST - CFS	33992 - Struck, Jerry D	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	34035 - Payne, Alan K.	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	34041 - Juarez Jr, Juan F	Troubleman - Distribution
Ops	T&D - DIST - Distribution	34050 - Melendez, Elias	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	34058 - Kelly, Paul J	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	34059 - Mosby, Mark K	Troubleman - Distribution
Ops	T&D - DIST - CFS	34061 - Escobedo, Jerry	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	34082 - Hurtley, Charles Odell	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	34091 - Garcia, Steven R	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	34107 - Drawn, Raymond P	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	34115 - Garrett, Isaac J	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	34117 - Patton, Jane M	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	34119 - Winans, Thomas M	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	3413 - Gibson, Caseem D	Troubleman - Distribution
Ops	T&D - DIST - CFS	34135 - Winfrey, Ryan Eugene	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	34138 - Ramirez, Raymond	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	34140 - Harris, Durelle	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	3416 - San Mateo, Robert Paul	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	34167 - Jimenez, Alfred J	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	34184 - Marshall, Anthony D	Lineman - Transmission
Ops	T&D - C&OS - GL&IM	34186 - Gallo, Anthony R.	Asst Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - TS&O - Trans	34187 - Adams, Randy S	Patrolman Sr - Transmission
Ops	T&D - DIST - CFS	34209 - Horiuchi, Mark T	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	34300 - Bonner, Aaron L	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	34304 - Escobedo, Richard Jeral	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	34400 - Morris, Kevin R	Splcr Subs Cable - SC&M - Construction
Ops	T&D - TS&O - SC&M	34411 - Bowers, Eric R	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	34418 - Jarquin, Steve Amaya	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	34439 - Joslen, Mark W	Patrolman Sr - Transmission

Ops	T&D - TS&O - Grid Ops	34443 - Pasos, Carlos Christian	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	34446 - Snyder, Kimberly M	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	34449 - Barrios, Heriberto C.	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	34470 - Moore, Marquise Dashawn	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	34478 - Achak, Keon Ryan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	34487 - Holmes, Kevin D	CCM3 - Distribution - RPS
Ops	T&D - DIST - Distribution	34504 - Newidouski, Benjamin Lee	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	34506 - Newidouski, Carey Ann	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - SC&M	34508 - Leiva, Alan R	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	34513 - Pangelinan, Justin L	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	34541 - Delgado, Richard D	Lineman - Transmission
Ops	T&D - DIST - Distribution	34543 - Griffiths, Brandon Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	34705 - Love, Gregory Michael	Troubleman - Distribution
Ops	T&D - DIST - Distribution	34725 - Brooker, Michael A	Troubleman - Distribution
Ops	T&D - DIST - Distribution	34736 - Hall, Dwayne	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	34746 - Floyd, Kari Lyn	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	34753 - Lizardo, Jaime	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	34755 - Plascencia, Arturo	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	34757 - Gerard, Robert L	CMA - CFS - FAO
Ops	T&D - DIST - CFS	34766 - Tavarez, Samuel Michael	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	34783 - McDonald, William J	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	34817 - Sanchez, Adrian	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	34820 - Ayala, Gary P	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	3484 - Desser, Wayne H	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	34843 - Rannals, Archie R	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	34855 - Dixon, Robert	Working Foreman - CFF - SC&M - Construction
Ops	T&D - DIST - Distribution	34886 - Madera, Melanio	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	34915 - Baier, Richie A	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	34919 - Cantarero, Douglas	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	34955 - Bailey, Clifford	CCM2 - Distribution
Ops	T&D - DIST - Distribution	34964 - Sanchez, Ramon	Splcr Sr Cble - Distribution
Ops	T&D - DIST - Distribution	35020 - Berumen, Albert Froylan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	35022 - Kredo, Jon E	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	35023 - Gendry, Tom James	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	35028 - Hobbs, Daniel S	Troubleman - Distribution
Ops	T&D - DIST - Distribution	35035 - Holston, Michael Wayne	CCM2 - Distribution
Ops	T&D - TS&O - SC&M	35082 - Riddle, Thomas L	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	35087 - Valdez, Eric C	Groundman - CFS - Constr Supt
Ops	T&D - TS&O - Trans	35102 - Brown, Ryan James	Patrolman Sr - Transmission
Ops	T&D - TS&O - Grid Ops	35139 - Knapp, Kevin Robert	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	35163 - Montecino, Richard A	Troubleman - Distribution - SUP2 FGS Upgrd
Ops	T&D - DIST - CFS	35164 - Ramirez, Alicia	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	35226 - Roy Jr, Herman Hawthorne	Hlpr Electl Constr - SC&M - Construction
Ops	T&D - TS&O - SC&M	35257 - Navarro, Roland A	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	35260 - Torres, Leonard M	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	35282 - Guevara, Brad S	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	35284 - Boynton, John R	Lineman - Distribution - Field

Ops	T&D - TS&O - SC&M	35287 - Ordaz, Armando	Transformer Helper - SC&M - Construction
Ops	T&D - DIST - Distribution	35303 - Sanchez Jr, Alberto	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	35308 - Casarez, Arturo	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	35309 - Springer, David R.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	35314 - Ayoub, John M	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	35320 - Turrubiartes, Francisco	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	35324 - Moat, Jaime R	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	35368 - Contreras, Robert A	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	35376 - McIntyre, Daniel M	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	35378 - Harper, Gregory A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	35467 - Daniel, Shannon	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	35500 - Robledo, Ricardo R	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	35520 - Soto, Andre R.	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	35589 - Newcomb, Trevor R.	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	35610 - Gonzales, Paul E	Troubleman - Distribution
Ops	T&D - DIST - CFS	35685 - Chamness, Cindy L	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	35690 - Vitalie, Nicholas Dean	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	35696 - Metz, Jason B Roscoe	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	35697 - McAlister, Shawn A.	CMA - CFS - FAO
Ops	T&D - DIST - CFS	35700 - Hartung, Odyssey Lynn	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	35722 - Ibarra Jr, Raul	Troubleman - Distribution
Ops	T&D - DIST - CFS	35760 - Johnson, Dyeann	CMA - CFS - FAO
Ops	T&D - DIST - CFS	35762 - Salido, Steve A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	35766 - McWilliams, Michael David	Working Foreman - CFF - SC&M - Construction
Ops	T&D - DIST - Distribution	35792 - Alvarado, Eduardo O	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	35839 - Booth, Jamesie A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	35842 - Trujillo, John A	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	35864 - Castro, Arthur Johnny	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	35884 - Rodriguez, Ruben J	Street Light Repairman - Distribution
Ops	T&D - TS&O - Grid Ops	35893 - Terrones, Sandra	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	35895 - Quintana, Teresa	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - TS&O - SC&M	35908 - Dillon, James P	Working Form CFF Elect Const - SC&M - Construction
Ops	T&D - DIST - Distribution	35912 - Jimenez, Richard A	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	35914 - Altman, Gary S	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	35973 - Paul, Richard L	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	35987 - Torgerson, Lance S	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	35989 - Baldwin, Micah Andrew	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	35991 - Furuyama, Jeffrey Tomio	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	36009 - Thacker III, Zachariah Taylor	Troubleman - Distribution
Ops	T&D - TS&O - Trans	36014 - Payne, William Alan	Patrolman Sr - Transmission
Ops	T&D - TS&O - SC&M	36015 - Galindo, Jesus I	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	36054 - Hatz, Ed	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	36058 - Raitz, Matthew E	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	36063 - Senteno, Ronald A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	36089 - Aguilar, David	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	36090 - Orlina, Raymund S	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	36100 - Jones, Lisa Marie	CMA - CFS - FAO

Ops	T&D - DIST - Distribution	36114 - Micallef, Frank J	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	36115 - Reimer, Kasey E	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	36123 - Ducheny, Dale C	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	36159 - Velazco, Juan Enrique	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	36222 - Lambropoulos, Anthony J	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	36268 - Bemowski, Mark A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	36387 - Roberts, James Andrew	Splcr Subs Cable - SC&M - Construction
Ops	T&D - TS&O - SC&M	36396 - Saenz, Mark R	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	36407 - Salas, Patricia	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	36411 - Allmang, Trina A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	36413 - Turner, Kjol W.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	36447 - Becerra, Bryan Elias	Troubleman - Distribution
Ops	T&D - DIST - CFS	36450 - Zamacona, Abraham N	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	36452 - Antonsen, Douglas James	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	36475 - Luna, Michael J	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	36505 - Barney II, Keven Eugene	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	36513 - Stapleton, Michael A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	36520 - Romero, Desiree Christina	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - TS&O - SC&M	36550 - Magana, Jesus A	Technician, Test - SC&M
Ops	T&D - DIST - CFS	36562 - Arciniega, Steven	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	36568 - Barney, Matthew Larry	Troubleman - Distribution
Ops	T&D - DIST - Distribution	36569 - Gallagher, Robert William	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	36571 - Ramirez, Justin Daniel	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	36575 - Shull, Robert M	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	36586 - Wong, King Pong	Meter Support Specialist - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	36592 - Rosales, Ben A	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	36634 - Pinedo Jr, Arturo	Troubleman - Distribution
Ops	T&D - DIST - Distribution	36637 - Evans Jr, Larry L	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	36638 - McCarthy, Daniel Joseph	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	36662 - Sanchez, Gerardo H	CMA - CFS - FAO
Ops	T&D - DIST - CFS	36664 - Gil, Hector	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	36684 - Torres, Jose F	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	36692 - Solis, Carlos	CMA - CFS - FAO
Ops	T&D - DIST - CFS	36722 - Novak, John V	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	36773 - Valle, Jose J	Apprentice Structural Mechanic - SC&M - Construction
Ops	T&D - TS&O - SC&M	36782 - Quezada, Thomas Edward	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CD&Eng	36814 - Munoz, Jesus Anthony	CCM2 - CD&Eng - NDP - IMS
Ops	T&D - DIST - Distribution	36856 - Delgado, Richard C	Troubleman - Distribution
Ops	T&D - DIST - CFS	36857 - Castro, Phillip G	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	36862 - Barstow, David L	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	36901 - Jones, Dustin Louis	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	36909 - Gonzalez JR, Julian	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	36910 - Portugal, Jose L	Troubleman - Distribution
Ops	T&D - DIST - CFS	36916 - Scott, Douglas W	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	36923 - Aguilar, Brian Giovanni	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	36949 - Fabian, Paul E	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - C&OS - GL&IM	36950 - Maxwell, Brian W	Mapping Tech - GL&IM - Geomatics & Property Services

Ops	T&D - DIST - CFS	36962 - Gonzalez Jr, Frank B	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	36966 - Kaupp, Mark	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	36969 - Cooper, Kevin R.	Troubleman - Distribution
Ops	T&D - DIST - CFS	36970 - Williams, Cedric D	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	36989 - Venegas-Cano, Victor	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	37007 - Sandoval, Juan Jose	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	37018 - Robinson Jr, Carlvin	Hlpr Electl Constr - SC&M - Construction
Ops	T&D - DIST - CFS	37038 - Harms, Thomas L	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	37053 - Wilson, Stephen R	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	37095 - Bejarano, Edgar E.	Lineman - Transmission
Ops	T&D - TS&O - SC&M	37097 - Crapenhoft, David K	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	37119 - Hernandez, Eric	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	37149 - Ashby, William Robert	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	37151 - Sandoval, Louis	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	3721 - Rose, Antoine Harold	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	37232 - Cale, Matthew Lee	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	37266 - Ruano, Anthony L	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - Grid Ops	37388 - Scarbrough, John Robert	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	37420 - Love, Steven L	CCM2 - Distribution
Ops	T&D - DIST - CFS	37433 - Nott, Susan J	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - C&OS - GL&IM	37483 - Murillo, Jerry L	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - Distribution	37484 - Molina, Mariano	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	37530 - Barden, Christopher D.	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	37543 - Espinoza, Rosalinda	CMA - CFS - FAO
Ops	T&D - DIST - CFS	37547 - Romo, Ricardo Duran	Joint Pole Specialist - CFS - JPO
Ops	T&D - DIST - Distribution	37570 - Douglass, Trazell Rashmon	Troubleman - Distribution
Ops	T&D - DIST - Distribution	37579 - Gooden, Robert Michael	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	37581 - Garcia, Andres T	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	37601 - Voelker, William E.	Troubleman - Distribution
Ops	T&D - DIST - CFS	37612 - Vaiz, Michael P	CMA - CFS - FAO
Ops	T&D - TS&O - Trans	37615 - Brophy III, William J	CCM2 - Transmission - Division
Ops	T&D - DIST - CFS	37618 - Mogote, Brian A	CMA - CFS - FAO
Ops	T&D - DIST - CFS	37633 - Genet, Joshua T	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	37655 - Webb, Randi C	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - CFS	37657 - Prado, Delayna Elyse Olivera	CMA - CFS - FAO
Ops	T&D - DIST - CFS	37659 - Olivera II, Stephen Charles	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	37664 - Santiago, Victor	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	37665 - Statom, Jeffrey J	Troubleman - Distribution
Ops	T&D - DIST - Distribution	37686 - Ryan, Brendan	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	37701 - DeTrinidad, Noel A	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	37708 - Lopez, Jose R	Mech Structural - SC&M - Construction
Ops	T&D - DIST - CFS	37721 - Villasenor, Alberto Jaime	Joint Pole Specialist - CFS - JPO
Ops	T&D - DIST - CFS	37724 - Vasquez, Annette J	CMA - CFS - FAO
Ops	T&D - DIST - CFS	37765 - Varela, George	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	37788 - Terry, Roy T	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	37834 - Silva, Teresa Marie	Joint Pole Specialist - CFS - JPO
Ops	T&D - DIST - Distribution	37861 - McMahon Jr, Vincent Joseph	Lineman - Distribution - Field

Ops	T&D - TS&O - Grid Ops	37866 - Wilson, Sean J	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	37868 - Coburn, Vincent T	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	37923 - Aranda, Steven S	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	37925 - Greene III, Lyle Young	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	37930 - Ochoa, Danny	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	37940 - Navarrete, Ruben Julian	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	37945 - Chong, Matthew Yong	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	37949 - Standish, Brian David	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	37950 - Soto, Pablo A	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	37954 - Schooley, Michael L	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	37981 - Platt, Aaron	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	37982 - Warmath, Linda L	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	38014 - Ortega, Gustavo	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	38019 - Frutos, Alejandro R	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	38023 - Burton Jr, Vincent G	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	38024 - Villagran, Jesus	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	38027 - Gracia, Alberto	CCM2 - Distribution
Ops	T&D - DIST - Distribution	38031 - Zavala, Gilbert Cervantez	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	38043 - Delanghe, Richard J	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	38045 - Balderas Jr, Jesus	Splcr Sr Cble - Distribution
Ops	T&D - TS&O - SC&M	38063 - Salazar, Albert	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	38081 - Hemme, Cara Enid	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	38102 - Seale, Jeffrey G	Troubleman - Distribution
Ops	T&D - DIST - Distribution	38112 - Hoefs, Ronald D	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	38143 - Sims, Ronald W	Opr System - Grid Ops - Substation Ops
Ops	T&D - C&OS - GL&IM	38171 - Boyd, James Scott	Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - TS&O - Trans	38205 - Collins, Mathew Brian	Lineman - Transmission
Ops	T&D - TS&O - SC&M	38231 - Blunt, Jerred William	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	38252 - Markel, Garett T	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	38259 - Gomez, Rafael	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	38303 - Estrada, Enrique Manuel	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - SC&M	38388 - Lopez, Victor M.	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - DIST - Distribution	38396 - Bracamonte, Ralph L.	Troubleman - Distribution
Ops	T&D - DIST - Distribution	38416 - Juarez, Manuel M.	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	38420 - Kersey, Jeffrey P	Lineman - Transmission
Ops	T&D - TS&O - SC&M	38470 - Easton, Robert B	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	38487 - Stillwell, Robert lee	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	38511 - Widner, Chad C	Lineman - Transmission
Ops	T&D - DIST - Distribution	38558 - Hernandez, Jason Lee	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	38585 - Carlos, Tomas	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	38586 - Rodriguez, Mark A	Street Light Repairman - Distribution
Ops	T&D - DIST - CFS	38592 - Vierra Jr, David L	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	38603 - Morris, Larry L	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	38619 - DeSoto, Joe	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	38626 - Richardson, Richard M	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	38642 - Radcliffe, Shae Kathleen	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	38652 - Lopez, Robert T	CCM2 - Distribution

Ops	T&D - DIST - Distribution	38672 - Smith, Dennis A	Troubleman - Distribution
Ops	T&D - DIST - CFS	38675 - Musacco, Tina M	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	38683 - Davis, Edward E	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	38732 - Martinez, Andrew J	SCMA - CFS - FAO
Ops	T&D - C&OS - GL&IM	38737 - Moore, Rick W	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - Distribution	38738 - Hess, James R	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	38750 - Rubio, Julian B	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	38751 - Gizzi, Bernard	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	38830 - Goudeau, Malinda Rose	SCMA - CFS - FAO
Ops	T&D - DIST - PM	38835 - Castillo, Lucy	Streetlight Bookkeeping Spec - Prgm Mgmt - DPM - SOLO
Ops	T&D - TS&O - SC&M	38860 - Frazier, Jamezia V.	Electn Appr Battry - SC&M - Construction
Ops	T&D - TS&O - SC&M	38862 - Crigna, John P	Electn Battry - SC&M - Construction
Ops	T&D - DIST - CFS	38863 - Bernard, John S	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	38909 - Therrien, Lisa Mary	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	38919 - Aoyagi, Kevin Tatsuo	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	38931 - Murillo, Alejandro	Troubleman - Distribution
Ops	T&D - DIST - Distribution	38971 - Linares, Delbert I	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	38973 - Alix, Imelda V	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	38976 - Linares, Jeffrey A	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	38992 - Jaramillo, Benjamin L	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	39026 - Muro, Ernest G	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	39027 - Tejeda, Samuel L	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	39050 - Stanley II, Robert	Lineman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	39076 - Arpon, Regnar A	Techn Lab - DE&WM - Meter Engineering
Ops	T&D - TS&O - SC&M	39079 - White, Maurice Jareau	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - CFS	39080 - Sandoval, Rudolph	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	39081 - Aguayo, Mirella	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	39111 - Pinedo, Mario A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	39128 - Eslava, David A.	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	39134 - Barbas, Andrew G	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	39151 - Valdez, Anthony Christopher	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	39157 - Perez, Sergio	Lineman - Transmission
Ops	T&D - DIST - Distribution	39201 - Montes, Marco A	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	39202 - Alvizo, Jesus	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	39205 - Stuit, Donald Wayne	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	39246 - Alix, Jason	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - C&OS - GL&IM	39254 - Garcia-Medrano, Melissa Ashley	LSA2 - GL&IM - Land & Forest Mgmt - LAS
Ops	T&D - TS&O - SC&M	39263 - Takacs, Michael J	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	39291 - Pate, Curtis A	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	39306 - Ruiz, Robert Eddie	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	39309 - Moore, Stephanie K	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	39338 - Cabral, Jesse J	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	39344 - Weaver, Timothy	Patrolman Sr - Transmission
Ops	T&D - DIST - CFS	39362 - Breazeal, Robert C	Techn Electl Aprats Test - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	39387 - Ibarra, Andres Luis	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	39392 - Barry, Scott Michael	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	39404 - Villa, Jorge R	Street Light Repairman - Distribution

Ops	T&D - DIST - CFS	39426 - Shadrick, Jody M	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	39432 - Salazar, Michael W	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	39444 - Sanchez, Jose G	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - TS&O - SC&M	39451 - Allen II, Rubin E	Laborer - SC&M - Construction
Ops	T&D - DIST - Distribution	39452 - Brown, Eric Y	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	39457 - Valle Anello, Eduardo D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	39466 - Valdez, Anthony Steven	CCM2 - Distribution
Ops	T&D - DIST - CFS	39515 - Buzzo, David V	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	39520 - Canchola, Daniel	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	39543 - Moreno, Peter M	CCM3 - Distribution - RPS
Ops	T&D - DIST - Distribution	39566 - Lopez, Mike	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	39568 - Galindo, Thomas J.	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	39570 - Martinez, Alex	Troubleman - Distribution
Ops	T&D - DIST - Distribution	39587 - Alvarez, Rudy J	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	39598 - Chaffin-Kaluahine, Lisa Joan	Joint Pole Clerk - CFS - JPO
Ops	T&D - TS&O - Trans	39603 - Otwell, Michael Gary	Patrolman Sr - Transmission
Ops	T&D - DIST - CFS	39617 - Cordova, Michael P.	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	39620 - Vasquez, Aaron R	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	39655 - Wight, Bruce C	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	39713 - Mendenhall, Troy A	Form Troubleman Training - Distribution
Ops	T&D - TS&O - SC&M	39724 - Bowen, Robin J	Warehouse Clerk - SC&M - Construction
Ops	T&D - TS&O - Grid Ops	39747 - Flores, Rudolph	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	39750 - Taylor, Edward	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	39766 - Resendez, Michael J	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	39777 - Saenz, Irma	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	39785 - Montano, Nick J	Troubleman - Distribution
Ops	T&D - DIST - CFS	39788 - Hall, Velva	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	39820 - Leyva, Andrew	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	39825 - Rodriguez, Jesus	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - C&OS - GL&IM	39833 - Bradley, Mark	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - TS&O - SC&M	39852 - Roque, Marco Antonio	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	39912 - Steele, James S	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	39949 - Gutierrez, Gabriel	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	39952 - Rivas Jr, Robert	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	39976 - Mora, Marco	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	39977 - Ramos, Anthony	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	40049 - Villalba, Carlos	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	40054 - Connolly, Dennis Michael	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	40059 - Cerda, Louis	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	4006 - Rivera, Jason	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	40074 - Davis, Gregory N	Troubleman - Distribution
Ops	T&D - DIST - CFS	40102 - Gonzalez, Manuel Martin	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	40103 - Blevens, Gary Eugene	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	40104 - Bueno, Michael Lee	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	40105 - Tipton, Kayin Kantu	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	40108 - Miller, Lucas J	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	40109 - Almaraz, Christopher	Substation Electrician - SC&M

Ops	T&D - TS&O - SC&M	40118 - Steventon, John G	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - DIST - CFS	40144 - Larrison, Myles T	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	40152 - O'Connor, Ryan P	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	40154 - Carrasco, Jesse D	CCM2 - Distribution
Ops	T&D - TS&O - SC&M	40177 - Wood, Donald James	Substation Electrician - SC&M
Ops	T&D - TS&O - Trans	40180 - Rinaldi, John D	Patrolman Sr - Transmission
Ops	T&D - TS&O - SC&M	40182 - Cox, Mathew W	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	40202 - Evans Jr, Harvey	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	40220 - Kaustinen, Jonathan A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	40222 - Daugherty, Epitacio A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	40225 - Casper, Donald G	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	40226 - Smith, Michael J	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	40227 - Michel, Rosendo	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	40234 - Alcaraz, Ernesto D	Repr Fld Srvce 2 - Distribution - Rural Region
Ops	T&D - DIST - Distribution	40272 - Richter, Lori A	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - TS&O - Grid Ops	40285 - Vasquez, Gilbert E	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	40288 - Villasenor, Christina	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	40332 - Needham, Joel	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	40351 - Williamson, Christopher R	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	40368 - Bradshaw II, John Patton	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	40373 - Martinez, James Anthony	Splcr Subs Cable - SC&M - Construction
Ops	T&D - DIST - CFS	40379 - McKinney, Patrick E	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	40401 - Ontiveros, Michael N	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	40426 - Ewalt, Marc S.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	40435 - Bigham, Ryan Keith	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - CFS	40438 - Mota, Manny M	CMA - CFS - FAO
Ops	T&D - DIST - CFS	40442 - Butterweck, Kyle C	CMA - CFS - FAO
Ops	T&D - AMS&E - DE&WM	40454 - Tett, Rhonda Lynn	CCM3 - DE&WM - Eng Support & Bus Strategy
Ops	T&D - DIST - Distribution	40466 - Guardado, Benjamin	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	40504 - Rizkowsky, Martin L	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - CFS	40530 - Crowder, John A	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	40562 - Neville, Johnny A	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	40565 - Matson, Michael D	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	40570 - Gonzales, David J	Troubleman - Distribution
Ops	T&D - DIST - CFS	40572 - Carson, Bridgitt D	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	40646 - Puentes, Victor A	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	40650 - Roberts, Steven M	Opr System - Grid Ops - Substation Ops - El Dorado
Ops	T&D - DIST - CFS	40662 - Alvarez, David	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	40667 - Black, Brian H	Worker Warehouse - SC&M - Construction
Ops	T&D - DIST - Distribution	40671 - Alvarez, Michael A	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	40675 - Viramontes Jr, William	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	40682 - Fine, Jill E	Spclst Fld Svcs Support - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	40685 - Taylor, David W	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	40711 - Snyder, Melissa Marie	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - SC&M	4072 - Dunleavy, Patrick G	Mech Structural - SC&M - Construction
Ops	T&D - DIST - Distribution	40746 - Lopez, Conrad Michael	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	40748 - Saragosa, Michael	Troubleman - Distribution

Ops	T&D - TS&O - Grid Ops	4076 - Trujillo, Julie L	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - Trans	40762 - Ousley, William B	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	40801 - Garibaldo, Ernie E	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	40808 - Linn, Paul L	Transformer Specialist Foreman - SC&M - Construction
Ops	T&D - DIST - CFS	40818 - Burcombe, Mike A	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	40824 - Araujo, Ryan T	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	40826 - Hasselman, William P	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	40828 - Duenas, Juan	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	40845 - Moore Jr, James C	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	40846 - Brown, Jeremiah L	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	40900 - Smith, Daniel Ray	Troubleman - Distribution
Ops	T&D - TS&O - Trans	40917 - Silva, Bryan Alan	Patrolman Sr - Transmission
Ops	T&D - TS&O - Trans	40918 - Guerrero, Marcelino De La Luz	Form Cable - Transmission
Ops	T&D - DIST - Distribution	40928 - Van Vleet, David W	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Trans	40949 - Cabada, Carlos	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	40950 - Massey, Ronald K	Splcr Sr Cble - Distribution
Ops	T&D - DIST - Distribution	40954 - Brady, Patrick M	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	40997 - Duarte, Michael	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	41001 - Kampfe, Douglas Paul	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - C&OS - GL&IM	41049 - Morse, Justin Alan	Asst Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - DIST - Distribution	41056 - Salazar, Rick	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - Distribution	41080 - Vargas, Carlos	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	41102 - Yagi, John Senshin	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	41104 - Hundsdorfer, Ryan S	Troubleman - Distribution
Ops	T&D - DIST - CFS	41107 - Moody, Erin C	SCMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	41161 - Muhammad, Grant	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	41178 - Hook, Kurt Anthony	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	41191 - Monge, Victor	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	41192 - Orduno, Stephanie L	CMA - CFS - FAO
Ops	T&D - DIST - CFS	41206 - Ramirez, Arleen	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	41212 - Morales, Ronald C	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	41218 - Gomez, Ramon A	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	41230 - Ramirez Jr, Roman G.	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	41249 - Cornelison, Charles E	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - Distribution	41260 - Socia, Ryan Keith	CCM2 - Distribution
Ops	T&D - DIST - Distribution	41274 - Jennings, Michael Edward	Splcr Sr Cble - Distribution
Ops	T&D - DIST - Distribution	41356 - Malsed, Christopher Dean	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	41370 - Villagran, Miguel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	41371 - Gabriel, Danny	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	41377 - Osendorf, Jody Robert	Troubleman - Distribution
Ops	T&D - DIST - CFS	41404 - Frias, Hector	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	41412 - Huisar Jr, Joe Louis	Electn Constrn - SC&M
Ops	T&D - TS&O - Grid Ops	41429 - Gonzalez, Peter	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	41453 - Tremblay, Joseph A	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - Distribution	41472 - Stouff, Charles R	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	41473 - Crawford, Timmy L	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	41485 - White, Matthew J	Opr System - Grid Ops - Substation Ops

Ops	T&D - TS&O - SC&M	41490 - Trujillo, Arthur R	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	41497 - De La Cerda, Ricardo K	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	41503 - Hall Jr, Bernard Charles	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	41513 - Rodriguez, Carlos	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	41580 - Escamilla, Sergio M	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	41620 - Nelson, Candace C	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - CFS	41670 - Muratalla, Linda	CCM3 - CFS - FAO
Ops	T&D - DIST - Distribution	41689 - Lekvold, Steven L	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	41696 - Bergman, Duane F	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	41703 - Verkaik, Thomas H	Troubleman - Distribution
Ops	T&D - TS&O - Trans	41713 - Medina, Jesse	Lineman - Transmission
Ops	T&D - DIST - CFS	41715 - Becerra, Juan G	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	41720 - Villa, Ernesto G	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - CFS	41721 - Rodriquez, Ernest A	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	41724 - Laporte, Dominic Vincent	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	41727 - Rodriguez, Thomas A.	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	41731 - Dunn Jr, Kenneth	SCMA - CFS - FAO
Ops	T&D - TS&O - SC&M	41743 - Steele, Michael Julian	Splcr Subs Cable - SC&M - Construction
Ops	T&D - TS&O - SC&M	41749 - De Marco, Vincent D	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	41752 - Ginchereau, Matthew G	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	41782 - Cassel, Gregory B	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	41785 - Gaines, Jeffrey H	Troubleman - Distribution
Ops	T&D - DIST - Distribution	41786 - Scott, Jason D	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	41795 - Cardoza Jr, Samuel	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	41796 - Wright, Mark L	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	41860 - Vasquez, Richard R	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	41864 - Gutierrez, Art M	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	41876 - Tuando, Daniel P	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	41925 - Emery, Eric R	Form Troubleman Training - Distribution
Ops	T&D - DIST - CFS	41929 - Sanchez, Richard G	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	41978 - Goldsmith, Cindy L	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - CFS	41983 - Gonzalez, Ignacio	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	41990 - Cordes, Dirk B	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	41994 - Arriaga, Fernando	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	42008 - Anglin, Harold L	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	42014 - Martinson, Russell S	Welder Foreman - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - Grid Ops	42044 - Bonner, Michael A.	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	42046 - Ducheny, Duane B	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	42047 - Hernaez, Rosendo	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	42051 - Carrillo, Roberto L.	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	42055 - Wilhelm, James M	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	42093 - Romero, Armando	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	42095 - Trinidad Jr, Luis M.	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	42097 - Ramirez, Jose Manuel Cruz	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	42098 - Lee, Bernard	Troubleman - Distribution
Ops	T&D - DIST - Distribution	42105 - Anderson, Charles E	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	42107 - West, Kenneth J	Lineman - Distribution - Field

Ops	T&D - DIST - CFS	4212 - Bellrose, Scott A	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	42129 - Vasquez Jr, Oscar	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	42132 - Lopez, Richard	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	42135 - Beardslee, Benjamin G.	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	42150 - Saunders, Kimberly	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	42176 - Gonzales III, David Adrian	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	42203 - Armienta, Roberto	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	42228 - Petrie, Neil J	Opr System - Grid Ops - Substation Ops - El Dorado
Ops	T&D - TS&O - Grid Ops	42235 - Espinoza, Eric Joseph	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	42246 - Cello, Benjamin Francis	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	42280 - Hansen, Wendy L	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	42281 - Cabral, Patrick J	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	42282 - Bavero, David A	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	42298 - Fernandez, Ernest Patrick	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	42299 - Rivera, Eric	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	42306 - Luquin, Alejandro	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - DIST - CFS	42339 - Bilbrew, Sean	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	42340 - Nickell, Todd Brandon	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	42351 - Morris, Jeff Steven	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	42353 - Boynton, Kimberly Ann	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	42378 - Cartwright, Daniel C.	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	42430 - Lins, Randall Raymond	Transformer Specialist 1 - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - CFS	42499 - Contreras, Ramon S	CMA - CFS - FAO
Ops	T&D - DIST - CFS	42501 - Galicia, Joe	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	42508 - Mejia, Raymond	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - TS&O - SC&M	42526 - St. Cyr, Brice J	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - TS&O - SC&M	42578 - Newman, James L	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - Trans	42614 - Meggs, Douglas R	SPLICER CABLE - Transmission
Ops	T&D - TS&O - SC&M	42618 - Freeman, Warren P	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	42624 - Guinan, Brian	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	42641 - Lemus, Daniel M	Troubleman - Distribution
Ops	T&D - TS&O - Trans	42642 - Diaz, Jesus	Lineman - Transmission
Ops	T&D - TS&O - SC&M	42663 - Plevney, James B	Substation Electrician - SC&M - SUP3 Upgrd - SONGS
Ops	T&D - TS&O - SC&M	42709 - Moran, Raul	Techn Dstrbn Aprts - SC&M - Apparatus - Upgrade
Ops	T&D - DIST - CFS	42716 - Lopez, Elizabeth M	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	42722 - Marquez, Eddie	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	42735 - Garza, Louis	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	42736 - Sarabia, Jimmie A	CMA - CFS - FAO
Ops	T&D - DIST - CFS	42777 - Angeles, Gracie	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	42811 - Acuna, Enrique O	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	42851 - Lussi, Paul A	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - Trans	42873 - Medina Jr, David	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	42887 - Cuellar, Esteban	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	42932 - Watkins, Brian S	CMA - CFS - FAO
Ops	T&D - DIST - CFS	42936 - Gallegos, Jesse	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	42941 - Diaz, Hugo R	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	42962 - Edwards, TD	Opr Substation - Grid Ops - Substation Ops

Ops	T&D - DIST - CFS	42968 - Kendrick, Eric Eshawn	Groundman - CFS - Constr Supt
Ops	T&D - TS&O - SC&M	42981 - Torres, Nestor Gonzales	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	42997 - Marroquin, Aldo E.	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	42998 - Marroquin, Fabricio	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	43058 - Devoe, Heather Nicole	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	43062 - Blankenship Jr, Tommy R	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	43075 - Lim, Henry	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	43081 - Quinones, Raul	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	43084 - Bamsey, Christopher P	Street Light Repairman - Distribution
Ops	T&D - DIST - Distribution	43089 - Colca, Adam C	Street Light Repairman - Distribution
Ops	T&D - DIST - CFS	43093 - Rodriguez, Kim Elaine	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	43098 - Ramos, David	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	43099 - Verdugo, Matthew A	Transformer Specialist 1 - SC&M - Construction
Ops	T&D - TS&O - SC&M	43108 - Williams, Paul B.	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	43109 - Turchyn, Mark D.	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	43142 - Ramirez, Alex O	Troubleman - Distribution
Ops	T&D - TS&O - Trans	43203 - Swatzel, David	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	43251 - Guardado Jr, Luis	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	43270 - Chacon, Rafael I	CMA - CFS - FAO
Ops	T&D - DIST - CFS	43321 - Rodriguez, Robert D	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	43322 - King, Marvin L	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	43331 - Watkins, Jerry J	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - TS&O - SC&M	43376 - Alvarez, Daniel M.	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	43388 - Ortega, Manuel E	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	43400 - Runyan, Kenneth K	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	43404 - Guerrero, Marcel R	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	43406 - Galindo, Robert C	Splcr Appr Subs Cable - SC&M - Construction
Ops	T&D - DIST - Distribution	43407 - Peck, Brian Daniel	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	43419 - Miranda, Daniel	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	43427 - Gaxiola, Jason A	SCMA - CFS - FAO
Ops	T&D - TS&O - Trans	43449 - Swearingen, Haskell R	SPLICER CABLE - Transmission
Ops	T&D - TS&O - Grid Ops	43466 - Harris, Elvis R	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	43487 - Valdivia, Albert M	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	43503 - Flores, Peter R	CCM2 - Distribution
Ops	T&D - DIST - CFS	43517 - Boschee, Lawrence August	Lineman - CFS - Constr Supt
Ops	T&D - TS&O - Trans	43520 - Frutos, Miguel Gonzalo	Lineman - Transmission
Ops	T&D - DIST - Distribution	43557 - Navarro Jr., Jose Luis	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	43560 - Morales, Desi G	CMA - CFS - FAO
Ops	T&D - DIST - CFS	43583 - Cruz, Joseph A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	43587 - Diaz-Infante, Juan	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	43606 - Argueta, Richard A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	43617 - Trejo, Michael Joe	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	43628 - Mauk, Robert	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	43662 - Chavez, Luis Guerrero	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	43687 - Gomez, Alfredo	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	43706 - Garcia, Esteban M	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	43710 - Newman, David A	Repr Supvg Fld Srvce - CFS - Metering Field Ops

Ops	T&D - DIST - CFS	43784 - Jones, Aaron Levell	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	43798 - Ponce, Charles Drew	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	43826 - Gomez, Jesus	CMA - CFS - FAO
Ops	T&D - DIST - CFS	43830 - Magana Jr, David	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	43844 - Robles, Isaias	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	43847 - Brodie, Robert J	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	43870 - Correa, Jose	Troubleman - Distribution
Ops	T&D - DIST - Distribution	43872 - Delgado, Michael D	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	43875 - Gutierrez, Saul N	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - CFS	43894 - Lundstrom, Grant James	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	43986 - Ruiz Jr, Santos Santiago	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - TS&O - SC&M	43992 - Pendleton, Chase Elliott	Mech Structural - SC&M - Construction
Ops	T&D - TS&O - SC&M	44012 - Aguilar, Raul	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	44034 - Ballinger, Clarence E	CCM3 - Distribution - RPS
Ops	T&D - TS&O - SC&M	44063 - Blaise, Kenneth	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	44072 - Montanez, Ricardo	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	44082 - Wright, Brandon S	Troubleman - Distribution
Ops	T&D - DIST - CFS	44085 - Lara, Griselda	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	44109 - Outten, Robert L	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	44139 - Escobedo, Hilario	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	44160 - Hines, Gregory C	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	44164 - Scott, Raleigh Christopher	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	44211 - Diliberti, Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	44213 - Smeerdyk, Richard A	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	44214 - Johnson, Cherese Lee	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - CFS	44223 - Mc Coy, Keith E	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	44241 - Hudson, Shaun W	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - Grid Ops	44284 - Johnson, Melissa Janene	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	4430 - Stewart, Guy Morris	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - Distribution	4434 - Joblon, John J	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	44357 - Finch, Edward Allen	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	44360 - Arana, Roberto	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	44417 - Friend, Andrew D	Troubleman - Distribution
Ops	T&D - DIST - Distribution	44421 - Cooper, Donald Spencer	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	44457 - Cordova, Arthur R	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	44463 - Forcum, Brenda Elaine	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	44467 - Katangian, Timothy J	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	44512 - Lugo, Edward D	Opr System - Grid Ops - Substation Ops - El Dorado
Ops	T&D - DIST - CFS	44527 - Nieves, Mario A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	44539 - Martinez, Randolph Jay	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	44560 - Bagshaw, Eric E	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	44563 - Regalado, John J	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	44584 - Williams, John H	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - CFS	44599 - Baca, Sylvia	Meter Support Specialist - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	44600 - De Luna Jr, Fernando	CMA - CFS - FAO
Ops	T&D - DIST - CFS	44633 - Meza, Timothy A	CMA - CFS - FAO
Ops	T&D - DIST - CFS	44668 - Olson, Debbie Lynn	CMA - CFS - FAO

Ops	T&D - DIST - Distribution	44673 - Andersen, John Kraig	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	44678 - Webb, Derrick	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	44681 - Vasquez, Donald J	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	44704 - Cooper, Steven G	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	44711 - Loya, Robert	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	44728 - Carrasco, Frank T	Const/Maint Support Clerk - Distribution - Operations
Ops	T&D - DIST - Distribution	44729 - Lackey, Lawrence E	Troubleman - Distribution
Ops	T&D - DIST - CFS	44738 - King, James V	SCMA - CFS - FAO
Ops	T&D - TS&O - Trans	44748 - Debinder, Gregory S	SPLICER CABLE - Transmission
Ops	T&D - DIST - CFS	44773 - Garcia, Louie A	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	44776 - Donato, James M	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	44777 - Worth, Larry Edward	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - TS&O - SC&M	44829 - Davis, Brian R	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	44831 - Eckard, Randy S.	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	44862 - Hart, Christopher L	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	44864 - Avilez, Lawrence	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	44869 - Hart, Devin R	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	44870 - Cabrera Jr, Roberto	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	44871 - Ruiz Jr, Juan	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	44890 - Ortega, Joseph V	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	44908 - Dempsay, Charles I	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	44915 - Green, Letron D	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	44916 - Desrosiers, Pierre C	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	44919 - Smith, Peter A	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	44925 - Bollin, Tony G	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - TS&O - Trans	44951 - Steelman, Brian L	Lineman - Transmission
Ops	T&D - DIST - Distribution	44969 - Blair, Craig	Splcr Sr Cble - Distribution
Ops	T&D - DIST - CFS	44972 - Howard, Brian K	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - Grid Ops	44978 - Sanborn, Rae E	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	45008 - McKinley, Jeffrey T.	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	45049 - Redd, Linda Irene	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	45114 - Russell, Trina Maree	SCMA - CFS - FAO
Ops	T&D - C&OS - GL&IM	45120 - Thompson, Marc A	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - Distribution	45152 - Tone, Patrick J	Troubleman - Distribution
Ops	T&D - DIST - Distribution	45157 - Murillo, George A.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	4516 - Couse, Daniel T	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - CFS	45169 - Wilkinson, Shawn C	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	45171 - Moore II, Jefferey K.	Technician, Test - SC&M
Ops	T&D - DIST - CFS	4518 - Bejar, Paolo Edward	CMA - CFS - FAO
Ops	T&D - DIST - CFS	45194 - Taylor, Jeffery M	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - Grid Ops	45233 - Vargas, Randy P.	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	45235 - Girotti, Robert	Transformer Helper - SC&M - Construction
Ops	T&D - TS&O - SC&M	45261 - Troke, Brent Roland	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	45282 - Gutierrez, Danny	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	45298 - Allodoli, Christopher Marco	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	45301 - Fernandez, Joseph A	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	45304 - Watkins, Christopher M.	Form Electl Crew - Distribution - Field

Ops	T&D - DIST - CFS	45308 - O'Rourke, Thomas G	Techn Electl Aprats Test - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - SC&M	45334 - Rankin, Anthony D	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - TS&O - SC&M	45341 - Matas, Daniel	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - Grid Ops	45347 - Johnson, John Daniel	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	45380 - Reeder, Matthew M.	Splcr Sr Cble - Distribution
Ops	T&D - TS&O - SC&M	45384 - Noyola, Daniel Saldana	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	45412 - Kennedy, Eric J	Transformer Specialist 1 - SC&M - Construction
Ops	T&D - DIST - Distribution	45438 - Yanez, Jorge	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	45500 - Wirt, Aaron P	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	45512 - Leon, Jorge	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	45537 - Mix, Everett	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	45549 - McCarthy, Patrick E	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	4557 - Perales, Richard A	Troubleman - Distribution
Ops	T&D - DIST - CFS	45571 - Nilsson, Daniel K	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	45576 - Del Franco, William T	Troubleman - Distribution - SUP2 FGS Upgrd
Ops	T&D - DIST - CFS	45638 - Strodes, Leslie H	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	45666 - Frey, Manuel	Transformer Specialist Foreman - SC&M - Construction
Ops	T&D - TS&O - Trans	45668 - Ramirez, Daniel J	Patrolman Sr - Transmission
Ops	T&D - DIST - CFS	45672 - Moore, Scot G	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	45684 - Truss, Denise A	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	45688 - Passmore Jr, Richard A	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	45722 - Clark, Matthew Tyrone	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	45723 - Kashima, Jamie M	CMA - CFS - FAO
Ops	T&D - DIST - CFS	45754 - Erskine, John J	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - AMS&E - DE&WM	45769 - Theetge, Shelia P	CCM3 - DE&WM - Eng Support & Bus Strategy
Ops	T&D - TS&O - SC&M	45806 - Cervantes, Pedro	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	45816 - Fazekas, Antal Alexander	Hlpr Electl Constr - SC&M - Construction
Ops	T&D - DIST - CFS	45843 - Godfrey, Jill K	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	45882 - Smith, Richard P	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	45888 - Wortley Jr, Robert C	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	45918 - Gaeta, Paul M	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	45927 - Zapata, Adolph	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	45930 - Bosinoff, Stephen Harvey	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	45933 - Araiza, Bernardo A	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	45966 - Martin, Christopher Allen	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	45970 - Barboza, Richard D.	CMA - CFS - FAO
Ops	T&D - DIST - CFS	45974 - Johnson, Christopher J	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	46008 - Beltran, Matthew P	CMA - CFS - FAO
Ops	T&D - DIST - CFS	46022 - Salazar, Marc A.	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	46060 - Carrillo, Ricardo	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - DIST - CFS	46066 - Bucaroff, Jacob	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	46085 - Blaylock, Nicholas J	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	46124 - Ibarra Jr, Jose J	Troubleman - Distribution
Ops	T&D - DIST - Distribution	46127 - Ruitenschild, Jeff G	Street Light Repairman - Distribution
Ops	T&D - DIST - CFS	46128 - Geeson, Jess	CMA - CFS - FAO
Ops	T&D - DIST - CFS	46133 - Goss, Brian A	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	46136 - Bueno, Jimmy	Techn Dstrbn Aprts - SC&M - Apparatus

Ops	T&D - TS&O - Grid Ops	46139 - Lenaburg, Dustin D.	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	46141 - Newman, Robert J	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	46142 - Esguerra, Bernie J	Working Form CFF Elect Const - SC&M - Construction
Ops	T&D - TS&O - SC&M	46153 - Riley, Shaun M	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	46196 - Bryson, Bryan T	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	46202 - Herrera Jr, Ralph	Splcr Sr Cble - Distribution
Ops	T&D - TS&O - Trans	46204 - Patino, Ricardo	CCM3 - Transmission - Construction & Technical Support
Ops	T&D - TS&O - SC&M	46230 - Belanger, William J.	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	46235 - Valdivia, Adrian	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	46273 - Villa, Michael R	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	46291 - Aguilar, Alfredo	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	46297 - Dollar, Patrick M	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	46298 - Petersen, Daniel Dwayne	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	46320 - Rodriguez, Reyes R	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	46324 - Murillo, Michael Alexander	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	46329 - Jackson, Marlon J	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	46334 - Epperson, Bruce J	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	46358 - Ellis, Adam N	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	46375 - Ramirez, Oswaldo	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	46402 - Houghton, Darin E	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	46403 - Olmos, Samuel	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - DIST - Distribution	46405 - McGee, Joshua B	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	46429 - Caballero, Roberto A	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	46431 - Spence, Brian W	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	46440 - Beabout, Michael H	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - TS&O - Grid Ops	46483 - Bleavins II, Arthur Gordon	Opr Substation - Grid Ops - Substation Ops - CMS
Ops	T&D - TS&O - Grid Ops	46487 - Spatz, Gregg R	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	46504 - Voorheis, Glenn	CCM2 - Distribution
Ops	T&D - DIST - Distribution	46513 - Diaz, Dennis G	Troubleman - Distribution
Ops	T&D - DIST - CFS	46564 - Van Grinsven, Sean D	CMA - CFS - FAO
Ops	T&D - DIST - CFS	46565 - Middleton, Daniel	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	46604 - Holguin, Nick G	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	46612 - Diesslin, Dale R	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	46674 - Valles, Alfonso	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	46681 - Mojica, Daniel A.	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	46726 - Noriega, Mario	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	46734 - Arciaga, Mark K	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - SC&M	46759 - Ramos, Eric M	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - CFS	46804 - Lopez, Carlos	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	46806 - Estrada, Anthony A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	46845 - Gonzalez, Ignacio	Troubleman - Distribution
Ops	T&D - DIST - CFS	46855 - Recinos, Maurice Alexander	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	46870 - McNeely, Jeffrey D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	46873 - Butanda, Danny A.	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	46877 - Leclerc, Brad A	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	46933 - Davis, David R	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	46936 - Navarro, Felipa M	Repr Fld Srvce 2 - CFS - Metering Field Ops

Ops	T&D - DIST - Distribution	46941 - Johnson, Kevin C	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	47009 - Bustillo, Matalino Shawn	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	47011 - Fuentes III, Armando	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	47023 - Ledford, Andrew Jefferson	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	47038 - Clary, Kevin S	Troubleman - Distribution - Rural Region
Ops	T&D - TS&O - Grid Ops	47041 - Lee, Jonathan T	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	47095 - Escalante, Raymond B	Electn Appr Battry - SC&M - Construction
Ops	T&D - DIST - Distribution	47096 - Vasquez, Gerardo	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	47097 - Sanders, Brian P	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	47135 - Lockman, David V	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	47137 - Acosta, Jason A	Techn Electl Aprats Test - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - SC&M	47139 - Riggins, Harris L	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	47140 - Lozano II, Alan R	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	47143 - Vallett, Jason Matthew	Troubleman - Distribution
Ops	T&D - DIST - CFS	47145 - Olea, Frank G	Meter Support Specialist - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	47147 - Hernandez, Alan Cristobal	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	47149 - Martinez, Sergio E	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	47168 - Piggue, Airion Thomas	Groundman - Distribution - Field
Ops	T&D - C&OS - GL&IM	47172 - Lopez, William Hernandez	Asst Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - DIST - Distribution	47221 - Manning, Michael E	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	47248 - Ceja, Jose	Splcr Subs Cable - SC&M - Construction
Ops	T&D - TS&O - SC&M	47277 - O'Brien, James Patrick	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	47294 - Wilson, Christina Marie	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	47300 - Burgett, James D.	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	47320 - Lay, Samnith	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	47322 - Monaco, John A	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	47356 - Vargas, Gary C	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	47391 - Vasallo, Juan M	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	47393 - Chamois Jr, Tyrone R	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	47395 - Romero, Ricardo	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	47401 - Lapointe, James Paul	Lineman - Transmission
Ops	T&D - DIST - Distribution	47403 - McGee, Andrew Vincent	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	47404 - Fife, James Randall	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	47409 - Murray Jr, Michael F	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	47429 - Batchelor, Bryan K	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	47436 - Clark, Bryce A	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	47437 - Garcia, Edwin E	Electn Battry - SC&M - Construction
Ops	T&D - DIST - CFS	47442 - Rodriguez, Rolando	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	47447 - Kempel-Salazar, Jennifer Joy	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	47453 - Uribe, Fernando	Repairer Tool & Equip - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - CFS	47493 - Mendoza, Richard M	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	47495 - Redd, Gregory Everett	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	47504 - Whalen, Darren William	Troubleman - Distribution
Ops	T&D - TS&O - Trans	47558 - Gomez, Brian Alexander	Lineman - Transmission
Ops	T&D - DIST - CFS	47559 - Gonzales, Michelle Y	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	47563 - Calderon, Alfredo	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	47600 - Martinez, Freddy A	CCM2 - Distribution

Ops	T&D - DIST - CFS	47676 - Moreno, Gerardo	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - Grid Ops	47692 - Miranda, Jerry Jason	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	47717 - Marquez, Guillermo	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	47726 - Towns, Darryl A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	47753 - Law, Wayne Wai	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	47769 - Lopez, Thomas Mack	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	47798 - Brown, Wayne M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	47801 - Wilson, Kimberly Ann	Const/Maint Support Clerk - Distribution - Operations
Ops	T&D - DIST - Distribution	47818 - Schneider, John	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	47830 - Rueda, Ricky Rene	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	47841 - Arthur, Jon E	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - Distribution	47874 - Price, Donald	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - CFS	47877 - Gallegos, Juan Marcos	Transformer Specialist 1 - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	47880 - Alcaraz, Agustin O	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	47929 - Macias, Julian J.	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	47984 - Montanez, Monica	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	47989 - Castellanos, Cesar J.	CMA - CFS - FAO
Ops	T&D - TS&O - Trans	48040 - Tinker, Clarence H	Form Cable - Transmission
Ops	T&D - DIST - Distribution	48071 - Wright, Brandon Cody	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	48094 - Zavala, Isaac	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	48095 - Alarcon, Aaron Anthony	Lineman - Transmission
Ops	T&D - DIST - Distribution	48112 - Galvan Jr, Larry A	Troubleman - Distribution
Ops	T&D - DIST - CFS	48115 - To, Vi Chi	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	48136 - Diaz, Marc Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	48144 - Hyatt, Brandon Scott	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	48199 - Totten, Edward C.	Lineman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	48204 - Kim, Hyun Seok	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	48206 - Salas, Antonio	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	4823 - Rivera Jr, Nelson Luis	Troubleman - Distribution
Ops	T&D - TS&O - Trans	48236 - Hernandez, Sammy R	Lineman - Transmission
Ops	T&D - DIST - Distribution	48245 - Meyer, William J	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	48302 - Farlow, Zachary James	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	48307 - Tovar, Joseph Manuel	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	48314 - Lowenberg, Carlos	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	48335 - Mendoza, Marcus A	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	48347 - Valenzuela, Fernando Victor	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	48349 - Adams, Michael L	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	48362 - Burns, Shane Everett	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	48376 - Flores, Armando J	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	48388 - Comeau, Dennis J	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	48390 - Little, Martin A	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	48417 - Delgado, Arturo J	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	48421 - Howard, Mark A	Troubleman - Distribution
Ops	T&D - DIST - CFS	48453 - Lara, Teresa	Joint Pole Specialist - CFS - JPO
Ops	T&D - DIST - Distribution	48462 - Dominguez, Vincente	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	48464 - Vasquez, Christopher J	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	48468 - Hermosillo, Jorge Arturo	Opr System - Grid Ops - Substation Ops

Ops	T&D - DIST - Distribution	48472 - Prieto Jr, Samuel	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	48473 - Garrity, Robert Edward	Electn Battry - SC&M - Construction
Ops	T&D - DIST - Distribution	48484 - Carlos, Fernie	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	48490 - Compton Jr, Donald	Working Form CFF Elect Const - SC&M - Construction
Ops	T&D - DIST - Distribution	48511 - Sandoval, Robert Michael	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	48513 - Chacon, Ramon	CMA - CFS - FAO
Ops	T&D - DIST - CFS	48569 - Mason, Marlene R	Clerk, Records - CFS - Constr Supt - Apparatus Shop - Gatekee
Ops	T&D - DIST - CFS	48573 - Clark, Clifford W	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	48637 - Titius, Neil E	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	48646 - Bostic, Anthony	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - CFS	48648 - Wilhite, John S	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	48671 - Kominski, Jason Allen	CCM3 - Distribution - RPS
Ops	T&D - DIST - CFS	48672 - Bravo, Rudy I	Painter - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - CFS	48701 - Celentano, Sheli R	Spclst Fld Svcs Support - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	48712 - Lohr, Robert J	CMA - CFS - FAO
Ops	T&D - DIST - CFS	48719 - Zul, Lucio	CMA - CFS - FAO
Ops	T&D - DIST - CFS	48756 - Zamudio, Victor M	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	48770 - Wood, James Melvin	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	48787 - Gonzalez, Mark Anthony	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	48822 - Lopez, Valerie	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	48830 - Salazar, Jonathan R	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	48839 - Schmidt, Jamie L	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	48844 - Harjes, David L	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	48916 - Cervantes, Andres	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	48921 - Ocegueda, Daniel	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	48955 - Segura, Ruben E	Repr Utilty Fld Srvce - Distribution - Catalina
Ops	T&D - TS&O - Trans	48986 - Rosalez, David	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	49032 - Cascio, Joel N.	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	49033 - Lopez, Manuel Phillip	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	49046 - Marquez, Jason G	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	49061 - Luna Jr, Frank	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	49138 - Bonner, Deon L	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	4918 - Ngo, Quang V	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - DIST - Distribution	49261 - Bartholomew, Jason Matthew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	49262 - Valenciana II, Miguel	CCM3 - Distribution - RPS
Ops	T&D - TS&O - Trans	49308 - Hickman, Thomas Benjamin	Patrolman Sr - Transmission
Ops	T&D - TS&O - Grid Ops	49373 - King, Roy M.	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	49374 - Quirarte, Alejandro	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	49425 - Salinas, John M	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	49444 - Tavarez, Hipolito J	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	49454 - Watson, Chad M	Troubleman - Distribution
Ops	T&D - DIST - CFS	4946 - Weist, Thomas John	CMA - CFS - FAO
Ops	T&D - DIST - CFS	49474 - Carpenter Smith, Donna Lynn	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	49494 - Valdez, Nicolas R	SCMA - CFS - FAO
Ops	T&D - TS&O - SC&M	49495 - Slavich, Thomas Nguyen	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - CFS	49501 - Ward, Elijh Dale	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	49518 - Rojas, Javier	Substation Electrician - SC&M

Ops	T&D - AMS&E - DE&WM	49520 - Rodriguez, Albert S	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - TS&O - Trans	49539 - Hall, Craig A	Lineman - Transmission
Ops	T&D - DIST - Distribution	49559 - Mc Gown, Joe S	Street Light Repairman - Distribution
Ops	T&D - TS&O - SC&M	49595 - Souza, Steven A	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - CFS	49607 - Tolbert-Wyche, Kenyon Scott	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	49616 - Williams, Vanessa	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	49629 - Lincoln Jr, Joseph C	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	49645 - Cervantes, Edward R	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	49647 - Florez, Leo K	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	49687 - Martinez, Marcos	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	49700 - Cardona Jr, David M	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	49711 - Pennington, Justin K	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	49715 - Montefu, Philip M	CCM3 - Distribution - RPS
Ops	T&D - DIST - Distribution	49716 - Pennington, Jason	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	49721 - Pennington, Jeffry A	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	4973 - Kapyski, Andrei Borisovich	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - TS&O - Trans	49737 - Rios, Anthony G	CCM2 - Transmission - Division
Ops	T&D - TS&O - SC&M	49738 - Jackson, Arthur D	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	49746 - Feiker, Greg L	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	49768 - Ramos, Andre J.	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	49776 - Curatola, Ralph E	Splcr Sr Cble - Distribution
Ops	T&D - DIST - CFS	49788 - Lacy, Gregory P	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	49790 - Ibon, Raymond D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	49861 - Johnson, Vance S	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	49870 - Langley, Joshua A	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	49895 - Smith, Brian R	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	49909 - Ocegueda, Gabriel	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	49921 - Franczak, Stanley Joseph	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	49928 - Hoff, Steven W	Electn Battry - SC&M - Construction - SUP3 Upgrd
Ops	T&D - TS&O - Trans	49947 - McElligott, Dan R	Lineman - Transmission
Ops	T&D - DIST - Distribution	49993 - Chavez, James M	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Trans	50010 - Orozco, Jaime	Lineman - Transmission
Ops	T&D - TS&O - SC&M	50017 - Esmas, Louis	Transformer Specialist 1 - SC&M - Construction
Ops	T&D - TS&O - SC&M	50047 - Munoz, Joe V	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	50048 - Kranz, Mikeal J	CMA - CFS - FAO
Ops	T&D - DIST - CFS	50052 - Le Van, Gregory R	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	50089 - Nader, Gerald L	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	50149 - Bermudez, Rolando	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	50156 - Romano, Juan M	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	50210 - Arana, Luis	Substation Electrician - SC&M
Ops	T&D - TS&O - Trans	50211 - Lewis Jr, Kenneth R	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	50244 - Sanchez, Tony P	Splcr Sr Cble - Distribution
Ops	T&D - DIST - Distribution	50269 - Jimenez, Victor A.	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	50270 - Stewart, Caesar A	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	50280 - Herman, Kimberly M	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	50329 - Hartsough, Daniel V	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	50348 - Rethorn II, Richard A	Opr System - Grid Ops - Substation Ops

Ops	T&D - DIST - CFS	50360 - Pitts, Michael A	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	50379 - Perez, Jon G	Troubleman - Distribution
Ops	T&D - TS&O - Trans	50383 - Griffin, Jesse Wayne	Lineman - Transmission
Ops	T&D - DIST - CFS	50386 - Romero, Charmaine	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	50395 - Lopez, Manuel H	Painter - CFS - Constr Supt - Apparatus Shop
Ops	T&D - C&OS - GL&IM	50403 - Evasic, John R	Supervisory Mapping Tech - GL&IM - Geomatics & Property Se
Ops	T&D - DIST - Distribution	50405 - Cutright, Scott Edward	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	50410 - Philip, Brandon Y	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	50431 - Ashley, Craig	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	5045 - Cooper, Brian B	Troubleman - Distribution
Ops	T&D - DIST - CFS	50453 - Cerda, Michele Lynn	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	50458 - Finan, Jared T	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - Grid Ops	50467 - Camarillo, Jason E.	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	50478 - Gonzales, Jared A	CMA - CFS - FAO
Ops	T&D - DIST - PM	50497 - Armitage, John M	Supervising Bookkeeping Spclst - Prgm Mgmt - DPM - SOLO
Ops	T&D - DIST - CFS	50508 - Higuera, Beatrice	CMA - CFS - FAO
Ops	T&D - DIST - CFS	50544 - Madrigal, Robert A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	50549 - Olvera, Richard D	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	50578 - Cortez, Aggio J.	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	50579 - Gonzalez, Gilbert	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	50589 - Green, Quintin E	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	50606 - Prudholme, Darren	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	50625 - Mulvaney, Jay O	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - Grid Ops	50632 - Patlan, Gregory J	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	50634 - Lopez, David F	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	50636 - Cortez, Ricardo	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	50658 - Sagendorf, Ron G	SCMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	50677 - Balmer, Randy Allen	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	50690 - Engel, Tanner Joseph	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	50699 - Saldana, Sergio	Splcr Subs Cable - SC&M - Construction
Ops	T&D - TS&O - Grid Ops	50716 - Gutierrez, Arleen R	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	50768 - Flynn, Brian L	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	50781 - Gonzales, Mylo	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	50788 - Bryant, Averial L	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	50789 - Kim, Jong W	Repairer Tool & Equip - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	50800 - Arias, Cipriano J	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	50802 - Gilmore, Matthew Aaron	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	50811 - Maytorena, James M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	50814 - Pillado, Alan D	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	50819 - English, John T	Splcr Sr Cble - Distribution
Ops	T&D - DIST - CFS	50847 - Harrington III, Laross Ivan	Joint Pole Specialist - CFS - JPO
Ops	T&D - DIST - CFS	50859 - Gravina, Gloria	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	50866 - Archuleta, Mark J	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	50870 - Duffy, Tony A	CMA - CFS - FAO
Ops	T&D - DIST - CFS	50910 - Russell, Lawrence K	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	50918 - Sandoval, Caesar	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - CFS	50965 - Trueman, Andrea M.	CMC - CFS - FAO

Ops	T&D - TS&O - Grid Ops	50996 - Griffin, Michael Lee	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	50999 - Armstrong, Christopher A	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	51006 - Wills Jr, James W	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	51034 - Delgado, Randy E	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	51053 - Macpherson, Craig J	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	51058 - Parra, Anthony Lawrence	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	51166 - Morris, John P.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	51167 - Elliott, Floyd E	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Trans	51195 - Morales Jr, Juan Pablo	Lineman - Transmission
Ops	T&D - DIST - Distribution	51204 - Vaughan, Derrick R	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	51238 - Atondo III, Raymond	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	51291 - Martinez, Brian P	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	51338 - Morgan, Brad Albert	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	51377 - Alvarado, Christopher L	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	51485 - Stranieri, De Ann Rae	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	51491 - Hendrix, Keith	Warehouse Clerk - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - SC&M	51502 - Hulsey, Tyler Reid	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	51510 - Keeling, Marcell M	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	51537 - Cervantes, Angel	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	51545 - Alcala, Hector J	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	51547 - Huysman, Kenneth Michael	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - C&OS - GL&IM	51551 - Kong, Jerry Kollayuth	Asst Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - TS&O - SC&M	51646 - Pruitt, Jeffrey S	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	51651 - Medina, Natalie Marie	Meter Support Specialist - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	51656 - McElligott, Shane Thomas	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	51670 - Tudor, Nicholas J	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	51689 - Smith, Spencer	Troubleman - Distribution
Ops	T&D - DIST - Distribution	51702 - Doll, Edward	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	51712 - Young, Joshua Keith	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	51721 - Yolas, Mark F	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	51757 - Reynoso, Juventino Fidinco	CCM2 - Distribution
Ops	T&D - DIST - Distribution	51758 - Gonzalez, Jaime R	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	51813 - De La Cadena, Gilbert	CMA - CFS - FAO
Ops	T&D - DIST - CFS	51817 - Hathaway, Rosita M	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	51825 - Heyer, James K	Meter Tech 6 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	51828 - Byerrum, George W	Repr Supvg Fld Srvce - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	51854 - Medina, Annalisa	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	51865 - Romo, Pedro	CMA - CFS - FAO
Ops	T&D - DIST - CFS	51885 - Arias, Roberto	Transformer Specialist 1 - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	51937 - Zepeda, Steven J	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	51957 - Straub, Ronald C	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	51995 - Flores, Carlos T	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	52004 - Pulido, Juan M	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	52008 - Sparrow, Jared James	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	52010 - Valencia, James C	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	52046 - Zavala, Jessie	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	52054 - Carter, Roger C	Technician, Test Supervising - SC&M

Ops	T&D - DIST - CFS	52099 - Rodgers, Edwin Anthony	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	52125 - Daum, Tyrone D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	52137 - Pineau, Kazuo K	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	52139 - Doll, Matthew M	Electn Constrn - SC&M
Ops	T&D - C&OS - GL&IM	52140 - Beeal, David B	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - CFS	52210 - McGowan, Patricia Anita	CMA - CFS - FAO
Ops	T&D - DIST - CFS	52214 - Hunter Jr, John W	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	52268 - Durnerin, Ted W	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	52273 - Cossani, Valentino	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	52306 - Swavely, Nicholas R	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	52329 - Margeson, Charles B	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - CFS	52367 - De Loza, Christian	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	52398 - Latham, Christopher John	Repairer Tool & Equip - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - SC&M	52490 - Kluz, Darin A.	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	52494 - Hernandez, Marcos	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	52504 - Stickel, Derick Christian	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	52510 - Carlos, Jason S	Lineman - Transmission
Ops	T&D - DIST - Distribution	52513 - Martinez Jr, Charles E	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	52515 - Bateman, John Dustin	Opr System - Grid Ops - Substation Ops - El Dorado
Ops	T&D - DIST - CFS	52529 - Gonzalez, Cesar	Groundman - CFS - Constr Supt
Ops	T&D - DIST - CFS	52530 - Mosher, Shannon M	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	52532 - Sexton, Christopher William	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	52536 - Garibay, Joel N.	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	52540 - Pedraza Jr, Gerard Anthony	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	52565 - Nelson, Randy D	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	52577 - Tillett Sr, Gordon P	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	52591 - Altmann, Brandon L	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	52622 - Sullivan, Michael J.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	52636 - Gramenz, Mark L	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	52671 - Perine, Eric A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	52733 - Yamada, David Masataka	Techn Lab - SC&M - Construction
Ops	T&D - TS&O - SC&M	52750 - Velonza Jr., Romualdo	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	52767 - Puuohau, David Kelii	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	52777 - Enriquez, Mariano O	Groundman - CFS - Constr Supt
Ops	T&D - TS&O - SC&M	52788 - Hubbard, Matthew S.	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	52800 - Holland, Wiley David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	52801 - Contreras, Lee Brian	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	52857 - Cooksey, Jeffrey Allen	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	52879 - Bargas, Ramon Cirilo	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	52886 - Dennison, Michael R	Form Cable - Transmission
Ops	T&D - TS&O - SC&M	52922 - Bridgeo, Jonathan L	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	52955 - Ohara, Michael M.	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	53000 - Pulido, Ben	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	53146 - Rojas, Jose Manuel	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	53148 - Anderson IV, James Clayton	Transformer Helper - SC&M - Construction
Ops	T&D - DIST - CFS	53151 - Sanders, Charlotte Faye	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	53154 - Blocksage, Kenneth Royce	Mech Structural - SC&M - Construction

Ops	T&D - DIST - Distribution	53161 - Winter, Storm Atom Liselotte	Troubleman - Distribution
Ops	T&D - DIST - Distribution	53162 - Herron, Javor J	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	53182 - Mullen, Joshua	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	53189 - Diaz, Daniel Rene	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	53191 - Ybarra, Ryan Sal	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	53194 - Hagopian, Troy M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	53197 - Thomas, Zachary John	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	53201 - Rucker, Damion L	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	53217 - Welton, Ryan Scott	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - PM	53226 - Haney, Rick	CCM1 - Prgm Mgmt - DPM - SOLO
Ops	T&D - DIST - Distribution	53280 - Polanco, Christopher R.	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	53309 - Escamilla, Frank D	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	53354 - Kinkade, Johnny M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	53377 - Priest, Laura Faye	Repr Utilty Fld Srvce - Distribution - Catalina
Ops	T&D - DIST - CFS	53428 - Bui, Robert Khoi	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	53447 - Duong, Tai V	Techn Lab - SC&M - Construction - MSO
Ops	T&D - TS&O - SC&M	53471 - Tran, Keith Ngoc	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	53489 - Le, Hung T	Techn Lab - SC&M - Construction - MSO
Ops	T&D - DIST - CFS	53516 - Le, Adam Hoang	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	53753 - Towner, Kenneth Leo	Transformer Helper - SC&M - Construction
Ops	T&D - DIST - Distribution	53813 - Johnson Jr, Jeffery Lee	Troubleman - Distribution
Ops	T&D - DIST - Distribution	53854 - Jolley, Kenneth Michael	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	53898 - Herrera, Erika	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	53912 - Brown, James D	Troubleman - Distribution
Ops	T&D - DIST - CFS	53915 - Gabaldon, Jacqueline	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	54007 - Doll, Richard Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	54019 - Gattoni, Kevin Lawrence	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	5402 - Coleman, Christopher P	Troubleman - Distribution
Ops	T&D - DIST - CFS	54048 - Canterbury Jr, Bruce M	Joint Pole Clerk - CFS - JPO
Ops	T&D - DIST - CFS	54051 - Bowman, Christopher Donald	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - C&OS - GL&IM	54053 - Laurice, Travis S	Asst Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - DIST - CFS	54054 - Sok, Samang	SCMA - CFS - FAO
Ops	T&D - C&OS - GL&IM	54059 - Spoelstra, Grant David	Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - TS&O - Trans	54069 - Solana, Bill	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	54093 - Jessup, Benjamin T	Troubleman - Distribution
Ops	T&D - DIST - Distribution	54148 - Sanson, Joby D	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	5415 - Pagan Jr, Robert Christopher	Substation Electrician - SC&M - SUP3 Upgrd
Ops	T&D - DIST - Distribution	54171 - Waite, Dillon James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	54194 - Leon, Miguel Gaona	Const/Maint Support Clerk - Distribution - Operations
Ops	T&D - DIST - Distribution	54208 - Campos, Martin	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	54218 - Coburn, Gerad Eugene	Troubleman - Distribution
Ops	T&D - DIST - CFS	54220 - Silva, Jose A	CMA - CFS - FAO
Ops	T&D - DIST - CFS	54225 - Gonzalez, Lucero A	SCMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	54232 - Lavorin, Ryan P	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	54233 - Calderon, Jorge Alberto	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	54241 - Stiner, Serene E.	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	54252 - Udell, John M	Lineman - Distribution - Field

Ops	T&D - DIST - CFS	54253 - Molero, Jose A	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	54257 - Walker, Jackie L	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	54260 - Aguilar, Alex Ace	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	54269 - Martinez, Juan C	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	54272 - Lopez, Isaac	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	54277 - Long, Robert	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	54278 - Montoya, John M.	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	54287 - Flores Valencia, Juan C	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	54298 - Torres, Jonathan Matthew	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	54299 - Arellano, Kyle Anson	Troubleman - Distribution
Ops	T&D - TS&O - Trans	54300 - Hipolito, Leonardo Vigil	Patrolman Sr - Transmission
Ops	T&D - TS&O - SC&M	54331 - Arroyo, Pedro	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	54352 - Henry, Dylan Ryan	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	54364 - Ventura, Benny	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	54376 - Gutierrez, Martin M.	Troubleman - Distribution
Ops	T&D - TS&O - Trans	54389 - Esquivel, Nicholas Joseph	Lineman - Transmission
Ops	T&D - DIST - Distribution	54391 - Samples, Sanger R	Troubleman - Distribution
Ops	T&D - DIST - Distribution	54392 - Edwards Jr, James Hoy	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	54397 - Kelly, Joshua Damien	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	54398 - Altinawi, Steven F	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	54399 - Cicogna, Michael Nicholas	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	54427 - Bonds, John S.	CCM2 - Distribution
Ops	T&D - TS&O - Grid Ops	54455 - Anderson, Bryce Charles	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	54456 - Swigart, Stephen Kurtis	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	54471 - Smith, Daniel DeBoyd	Lineman - Transmission
Ops	T&D - DIST - CFS	54484 - Monteilh, Vincent E	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	54498 - Contreras, Jose Rodriguez	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	54522 - Martin, Jonathan Michael	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	54527 - King, Ronnie D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	54531 - Cervantez, John Edward	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	54545 - Doll Jr, Edward	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	54547 - Doll, Michael Peter	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	54550 - Roth, Gregory Jay	Troubleman - Distribution
Ops	T&D - DIST - Distribution	54559 - Chrismen, Eric S	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	54560 - Frasso, Christopher David	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	54561 - De La Cerda, Adam Vargas	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	54583 - Frank, Eric Christopher	Troubleman - Distribution
Ops	T&D - DIST - Distribution	54595 - Ming, Steven Scott	CCM2 - Distribution
Ops	T&D - DIST - CFS	54605 - Gracia, Martin A.	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	54610 - Fochesato, Samantha Jo	CMA - CFS - FAO
Ops	T&D - DIST - CFS	54612 - Foreman, Matthew B	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	54615 - Sonoqui Jr, Phillip C	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	54616 - James, Brandon Joseph	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - Trans	54634 - Smith Jr, Donald Edward	Lineman - Transmission
Ops	T&D - DIST - Distribution	54638 - Williams, Perry C	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	54643 - Mower, Brandon William	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	54645 - Ramirez, Javier	Const/Maint Support Specialist - Distribution - Operations

Ops	T&D - DIST - Distribution	54661 - Villa, Benjamin E	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	54667 - Tapia, Ernie Herrera	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	54673 - Turrubiartes, Manuel	Lineman - Transmission
Ops	T&D - TS&O - SC&M	54674 - Judkins, Steven Thomas	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	54682 - Jimenez, Addison Brice	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	54684 - Isabelo, Russell Flores	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	54688 - Montemayor, Corwin M.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	54704 - Burnett, Matthew C	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	54705 - Johnson, Eric M	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	54709 - Zimmerman, Kristofer M	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	54723 - Morse, Robert J.	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	54724 - Owens Lambkin, Christopher Bryan	Transformer Specialist 1 - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - SC&M	54728 - Marshall Jr, Thomas W.	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	54765 - Bradley, Marcus Eugene	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	54775 - Morales, Chad Anthony	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	54776 - Morales, Ryan W	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	54784 - Spampinato, Damian A	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	54786 - Jimenez, Jason A	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	54788 - Spampinato, Nicholas	Street Light Repairman - Distribution
Ops	T&D - DIST - CFS	54806 - Valdez, Daniel Christopher	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	54810 - Wallace, Robert J	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	54815 - Russell Jr, Lawrence K	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	54820 - Aguilar, Juan Enrique	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	54824 - Ahumada Jr, Luis Jorge	Mech Structural - SC&M - Construction
Ops	T&D - TS&O - SC&M	54832 - Miller, Jeffrey Allen	Mech Structural - SC&M - Construction
Ops	T&D - DIST - Distribution	54836 - Chevez, Ricardo Armando	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	54837 - Ngo, Thoi Quang	Techn Lab - SC&M - Construction
Ops	T&D - TS&O - SC&M	54846 - Dickerson, Dustin Cole	Mech Structural - SC&M - Construction
Ops	T&D - TS&O - SC&M	54848 - Hutchinson, Robert D	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - SC&M	54849 - Voegtle, Sean J	Mech Structural - SC&M - Construction
Ops	T&D - TS&O - SC&M	54850 - Nguyen, Vincent Le	Techn Lab A (Sel) - SC&M - Construction
Ops	T&D - DIST - Distribution	54859 - Baker, Ronald L	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	54882 - Reyes, Edwin Steve	Technician, Test - SC&M
Ops	T&D - DIST - CFS	54883 - Cano, Albert A.	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	54903 - Van, Jeremiah Alan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	54911 - Blokzyl, Jeffrey A	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	54913 - Morales, Steven A	Electn Constrn - SC&M
Ops	T&D - TS&O - Grid Ops	54916 - Christensen, Braden D	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	54921 - Williams, Jonathan	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	54922 - Busby, Jeffrey S	Mech Structural - SC&M - Construction
Ops	T&D - DIST - CFS	54925 - Reyes, Antonio Salvador Mendez	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	54933 - Plavsic, Bojan	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	54945 - Felix, Ashley R	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - CFS	54946 - Hernandez, Michael R	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	54953 - Machado, Jesse Joaquin	Lineman (Rubber Glove Trained) - Distribution - Catalina
Ops	T&D - TS&O - SC&M	54961 - Miranda, Gerald Anastacio	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	54963 - Bennett, Charles Anthony	Opr System - Grid Ops - Substation Ops

Ops	T&D - TS&O - Grid Ops	54988 - Wilson, Keyon Dontae	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - DIST - Distribution	54994 - Barona, Daniel Marty	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	55016 - Salgado, Gabriel	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	55035 - Thrasher, Evan Scott	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	55041 - Fauria, Beau Z	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	55044 - Vasquez Jr, Benito William	CCM3 - Distribution - RPS
Ops	T&D - TS&O - SC&M	55045 - Coffelt, Dezmond Donnald	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	55050 - Ireland, Scott A	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	55053 - Rodriguez, Louie	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	55062 - Cota, Brian J	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	55065 - Davaloz, Juan	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	55078 - Lopez, Enrique C	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	55082 - Covarrubias, Santiago	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	55091 - Barela, Steven Paul	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	55111 - Castorena, Derek Michael	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	55118 - Carnes, Ian Allen	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	55125 - Perez Ramirez, Victor Hugo	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	55137 - Meza, J Michael	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	55173 - Duque, Manuel Alejandro	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	55175 - Case, Chad L	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	55178 - Case, Clint James	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	55193 - Lopez, Alberto O	SPLICER CABLE - Transmission
Ops	T&D - TS&O - Grid Ops	55207 - Guzman, Robert A	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	55208 - Valenzuela, Joseph S	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	55213 - Obando, Alejandro	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	55224 - Sack, Thomas T	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	55231 - Ashby, Brian Micheal	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	55232 - Dade Jr., Khayyam Dean	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	55237 - Turk, Michael Patrick	Troubleman - Distribution
Ops	T&D - TS&O - Trans	55255 - De La Lama, Anthony M	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	55260 - Arellano, Bryce Allan	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	55261 - Ray, Wayne Lynn	Electn Constrn - SC&M
Ops	T&D - TS&O - Grid Ops	55262 - Jaramillo, Ruben Santos	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	55267 - Terry, Jason Michael	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	55332 - Nemback, Brandon Anthony	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	55334 - Gutierrez, Federico	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	55339 - Szalai, Jason B	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	55349 - Koch, Brian T	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	55352 - Sepulveda, Marc	Transformer Helper - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	55356 - Carrillo, Alan Emanuel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	55357 - Parker, Matthew Richard	Troubleman - Distribution - Rural Region
Ops	T&D - TS&O - SC&M	55371 - Perez, Horacio Veyna	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	55376 - O'Brien, Daniel P	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	55386 - Moody, Craig Martin	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	55389 - Juodvalkis, Daniel E	Electn Battry - SC&M - Construction
Ops	T&D - DIST - CFS	55411 - Cruze, Allan Daniel	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	55415 - Kowalinski, Christopher James	Electn Constrn - SC&M

Ops	T&D - TS&O - SC&M	55428 - Tennimon II, Timothy Jeffrey	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	55429 - Gonzales, Raymond Anthony	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	55430 - Domingo, Johnmar Reyes	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	55462 - Mendoza, David M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	55473 - Plascencia, Alejandro N	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	55476 - Brown, Steven Anthony	Mech Structural - SC&M - Construction
Ops	T&D - DIST - CFS	55486 - Troutt, Corey Lee	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	55489 - Ivanovic, Nicholas Beca	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	55499 - Zurita, Robert D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	55502 - Rolow, Mark A.	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	55504 - Villareal, Damian M	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	55514 - Hallimore, Brett Jason	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	55516 - Gomez, Alvaro I	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	55524 - Sanchez, Daniel	CCM2 - Distribution
Ops	T&D - DIST - CFS	55525 - Romo, John Joseph	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	55533 - Nunez, Adrian Erasmo	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	55547 - Michelsen, Nathan A	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	55548 - Tovar Jr, Ruben P	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	55562 - Hughes, Michael A.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	55566 - Hamilton, Jacob Aaron	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	55586 - Labrador, Andreu	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	55590 - McKinney, Anthony Dean	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	55604 - Arausa, Daniel David	Working Foreman - CFF - SC&M - Construction
Ops	T&D - DIST - Distribution	55622 - Martinez, Roberto Castillo	Splcr Sr Cble - Distribution
Ops	T&D - DIST - Distribution	55623 - Schafer, Chris Andrew	Troubleman - Distribution
Ops	T&D - DIST - CFS	55626 - Sonner II, Earl B	CMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	55629 - Sadler, John T	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	55631 - Brandt, Christopher D	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - Distribution	55640 - Valencia, Paul M	Splcr Sr Cble - Distribution
Ops	T&D - DIST - Distribution	55642 - Andrade, Jorge	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	55643 - Serrano, Luis I	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	55650 - Howington, Edward William	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	55652 - Peterson, Justin J	Troubleman - Distribution
Ops	T&D - DIST - CFS	55655 - McFall, Justin	CMA - CFS - FAO
Ops	T&D - TS&O - Trans	55664 - Delgado, Laurence R.	Form Cable - Transmission
Ops	T&D - DIST - CFS	55667 - Harnanto, Paul Muliadi	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	55716 - Calderon, Julian Richard	Const/Maint Support Clerk - Distribution - Operations
Ops	T&D - DIST - Distribution	55720 - Corona, Lorenzo A	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	55733 - Gozalo, Jorge I	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	55738 - Bowman, Joshua Ryan	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	55750 - Reynolds, Casey Edward	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	55768 - Romero, Jaime Escobero	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	55779 - Adan Jr., Gustavo A	Apprentice Cable Splicer - Transmission
Ops	T&D - DIST - Distribution	55781 - Padilla, Gregory M	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	55794 - Magcasi, Alvin F.	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	55797 - Meraz III, Miguel Angel	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	55799 - Lindley, Erick	Meter Tech 4 - CFS - Metering Field Ops

Ops	T&D - TS&O - SC&M	55802 - Plant, Ryan A	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - Trans	55812 - Fenstermaker, Gregory Bruce	Form Cable - Transmission
Ops	T&D - TS&O - Grid Ops	55837 - Lopez, Ted A	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	55844 - Ngo, Khai Q.	Transformer Specialist 2 - SC&M - Construction
Ops	T&D - DIST - CFS	55864 - Maguina, Luis G	CMA - CFS - FAO
Ops	T&D - TS&O - Trans	55870 - Garcia, Jaime	Lineman - Transmission
Ops	T&D - DIST - Distribution	55880 - Constantinou, Savvas Costa	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	55884 - Carlton, Jack A	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	55906 - Hilario, Noe Padilla	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	55908 - Ramirez, David G	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	55914 - Rangel, Silvia Maria	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	55923 - Johnson, Jeremy L	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	55926 - Aguilar, Edgar	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	55931 - Taladay, Jeffrey A.	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	55932 - VanDenBerg, Timothy R.	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	55933 - Van Den Berg, Daryl W.	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	55943 - Giandalia, Eric Scott	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	55950 - Rolow, Shaun W	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	55954 - Gonzalez, Christopher	Electn Constrn - SC&M - Construction - BOM Maintainer Supp
Ops	T&D - DIST - Distribution	55967 - Johnson, Robert J	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	55970 - Bungard, Steven	Splcr Sr Cble - Distribution
Ops	T&D - TS&O - Grid Ops	55987 - Arns, Christopher C.	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	55995 - Gonzales, Andrew L.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	55998 - Lambrecht, Dennis Richard	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56006 - Hicks Jr, Bobby Ray	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	56036 - Martin, Ian Scott	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	56057 - Duma, Jason Adam	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56063 - Finch, Kevin Lavoe	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	56074 - Nguyen, Vu	Techn Lab - SC&M - Construction
Ops	T&D - DIST - Distribution	56084 - Minoza, Manuel	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	56085 - Tice, James P	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	56088 - Hutsell, Andrew S.	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	56111 - Goud, Jeff W	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	56116 - Yup, Robert Toshio	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	56118 - Flores, Marcos A	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	56127 - Frenes, Robert	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - SC&M	56149 - Ortiz Jr, Glenn	Technician, Test - SC&M
Ops	T&D - DIST - CFS	56150 - Bosch, Ashley Lynn	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	56155 - Schroeder, Chad P	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	56163 - Harrington, Rodney Eugene	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	56186 - Fitzgerald, Matthew John	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	56192 - Marquez Jr, Robert A	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	56213 - Prutsman, Andrew M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56218 - Pinta, Michael Scott	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56224 - Estrada, Mario Salvador	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	56242 - Miller, Scott A	CMA - CFS - FAO
Ops	T&D - DIST - CFS	56249 - Winterly Jr, Leonard W	SCMA - CFS - FAO

Ops	T&D - DIST - CFS	56252 - Petty, Michael P	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	56268 - Sendejaz, Michael Danny	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56271 - Killackey, Dean Joseph	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	56280 - O'dell, Cody Remington	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56284 - Carter, Jason Alvin	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56289 - Stroud, Joseph Marcus	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	56291 - Schmidt, Brandon Gerard	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	56296 - Lilley, Steven Craig	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	56297 - Delaney, Douglas Wesley	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56303 - Douglass, Corey Adam	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	56325 - Cordova, Roberto	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	56330 - Palacio, Eric	Repr Supvg Fld Srvce - Distribution - Region
Ops	T&D - DIST - CFS	56331 - Romero, Steve R	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	56332 - Lopez, Andrew	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	56335 - Barnes, Michael S	Substation Electrician - SC&M
Ops	T&D - TS&O - Trans	56344 - Stephens, Austin Randall	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	56346 - Travis, Thomas C	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	56347 - Whelchel, Matthew Ray	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - Trans	56348 - Wise, Jason E	Lineman - Transmission
Ops	T&D - DIST - Distribution	56349 - Aberle, Weston B	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	56350 - Escamilla, Steven J	Lineman - Transmission
Ops	T&D - DIST - Distribution	56351 - Douglas, Daniel R.	Troubleman - Distribution
Ops	T&D - DIST - Distribution	56353 - Alvarez, Emilio	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	56354 - Pattynama, Hansel Thad	Technician, Test - SC&M
Ops	T&D - TS&O - Trans	56358 - Klettenberg, Erik Matthew	Lineman - Transmission
Ops	T&D - TS&O - Trans	56362 - Perez, Juan J	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	56377 - Perez Jr, Salvador S	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	56380 - Mediano, Levi	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56382 - Mediano Jr, Larry	Troubleman - Distribution
Ops	T&D - DIST - CFS	56392 - Angel, Mark Angelo	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	56393 - Angel, Matthew E	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	56405 - Moore, Michael J	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	56436 - Cope, Luke Edward	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	5644 - Hauducoeur, Tim	Form Troubleman Training - Distribution
Ops	T&D - DIST - Distribution	56443 - Acosta, Santiago	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	56455 - Springer, Jeremiah J	Troubleman - Distribution
Ops	T&D - DIST - Distribution	56501 - Delgado, Raymond S	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	56505 - Rodriguez, Jessica	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	56507 - Smith, Liam P	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	56509 - Schmidt, Colton D	Supr Road R/W - Transmission - Construction & Technical Sup
Ops	T&D - DIST - Distribution	56518 - Salan, Roberto F.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56520 - Kross, Erik James	Troubleman - Distribution
Ops	T&D - DIST - Distribution	56525 - Litchko, Jared A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56530 - Miller, Jason D	Troubleman - Distribution
Ops	T&D - DIST - Distribution	56538 - Gauslin, Mark A	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	56540 - Beltran, David George	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	56566 - Perez, Erika Leigh	CMA - CFS - FAO

Ops	T&D - TS&O - SC&M	56575 - Perez, Timothy R	Electn Constrn - SC&M
Ops	T&D - DIST - Distribution	56582 - Girch, Daniel Brian	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	56596 - Vizcocho, Aimee Victoria	CMA - CFS - FAO
Ops	T&D - DIST - CFS	56597 - Valencia, Riza Victoria	CMA - CFS - FAO
Ops	T&D - DIST - CFS	56603 - Alderfer, Daniel Austin	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Grid Ops	56638 - Cheney, Bryan S	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	56640 - Ester, Jerry C	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	56641 - Clark, Terry E	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	56652 - Gillett, Dustin A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56653 - Frutos, Ryan F.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56657 - Morrison, Michael Todd	CCM3 - Distribution - RPS
Ops	T&D - DIST - CFS	56659 - Espinosa, Richard A	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	56661 - Shaw, Crystal Renee	Template Needed
Ops	T&D - TS&O - Grid Ops	56669 - Mckelvy, Beau J.	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	56671 - Keast, Brian J	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	56674 - Esparza, Jennette Marie	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	56683 - James, Drake D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56694 - Sanchez, Vincent Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56706 - Mariscal, Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56738 - Morales, Rene	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	56752 - Ngo, Andy	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	56760 - Alcaras, Pedro	Lineman - Transmission
Ops	T&D - DIST - Distribution	56792 - Kennedy, Ryan Christopher	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	56795 - Gregory, Chad R	Troubleman - Distribution
Ops	T&D - DIST - CFS	56815 - Vega, Julio Cesar	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	56837 - Valenzuela, Elios	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	56839 - Mejia, Roberto A	Splcr Appr Subs Cable - SC&M - Construction
Ops	T&D - TS&O - Grid Ops	56843 - Barnes, Brian Edward	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	56858 - Martinez, Catherine	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	56863 - Chambers, Scott P	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	56865 - Holloway, Clinton T	Troubleman - Distribution - SUP2 FGS Upgrd
Ops	T&D - TS&O - SC&M	56883 - Compton, Jacob Wayne	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	56885 - Stjepanovic, Denis	Meter Support Specialist - CFS - Metering Field Ops
Ops	T&D - TS&O - Trans	56913 - Lamar, Bradley Lathan	Patrolman Sr - Transmission
Ops	T&D - DIST - CD&Eng	56915 - Ibarra, Jason G.	CCM2 - CD&Eng - NDP - IMS
Ops	T&D - DIST - Distribution	56916 - Curtin, Quinn Clancy	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56923 - Alvarado, Todd Allen	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	56937 - Cook, Brian William	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	56943 - Barnes, Rachel J.	Repr Fld Srvce 2 - Distribution - Rural Region
Ops	T&D - DIST - Distribution	56949 - Satterfield, Scott E	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	56956 - Salas, Paul C.	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	56961 - Deleon, Jason Michael	Substation Electrician - SC&M
Ops	T&D - TS&O - Grid Ops	56966 - Culbertson, Bradley Philip	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	56976 - Mabon, Daniel	SCMA - CFS - FAO
Ops	T&D - TS&O - SC&M	56996 - Burch, Matthew Allen	Welder Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	57003 - Wallencheck, Nicholas Justin	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57008 - DeJaynes, Justin Alan	Lineman - Distribution - Field

Ops	T&D - TS&O - SC&M	57013 - Coronado, Jonathan Michael	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	57020 - Reyes, Ramon T	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	57047 - Ward, Jason Clark	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	57052 - Duenas, Luis	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	57060 - Stelly, Bryan A	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	57062 - Fry, David M	Const/Maint Support Clerk - Distribution - Operations
Ops	T&D - TS&O - SC&M	57068 - Lopez, Johnny R.	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	57070 - Martinez, Nicholas G	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	57072 - Mueller, Christopher Stewart	Technician, Test - SC&M
Ops	T&D - C&OS - GL&IM	57081 - Deno, James Andrew	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - Distribution	57088 - Swan, Sean Michael	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	57091 - Menasco, Sean Paul	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	57092 - Ellis, Nicole Denise	SUP - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	57101 - Flores, Melissa	SCMA - CFS - FAO
Ops	T&D - DIST - CFS	57114 - Cardenas, Probo G	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	57119 - Allgood, David Silva	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	57124 - Anderson, John R.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	57129 - Tafoya Jr, Leroy Anthony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	57147 - Givens, Anselm	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57148 - Schmidt, Cody John	Troubleman - Distribution - Rural Region
Ops	T&D - DIST - Distribution	57173 - Locklin, David James	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	57193 - Sanchez, Manuel	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - TS&O - SC&M	57213 - Dominguez, Carlos Moreno	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	57219 - Royster, Jesse	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	57229 - Morales, Ronnie G	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - CFS	57253 - Sandoval, Enrique Quintero	Meter Tech 4 - CFS - Metering Field Ops
Ops	T&D - DIST - CFS	57255 - Aguilera, Jose	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	57258 - Espinoza, Sergio	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	57268 - Atkinson, Jeremy Marshal	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	57289 - Zamora, Joshua Michael	Troubleman - Distribution
Ops	T&D - DIST - Distribution	57298 - Valenzuela, Jose Antonio	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	57313 - Zhang, Qian Yu	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	57316 - Jung, Michael I	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	57350 - Grammer, Stephen Matthew	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	57352 - Plasencia, Gerardo	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	57354 - Sotelo, Reginald F.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	57355 - McKeen, Michael S.	Lineman - Transmission
Ops	T&D - DIST - Distribution	57356 - Smylie, Nicholas J	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	57357 - Keysers, Michael C	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	57394 - Walden, Justin John	Troubleman - Distribution
Ops	T&D - DIST - CFS	57408 - Pedone, Michael J	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	57415 - Bizoso, Anthony Bradley	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	57421 - Mataiumu, Okenaisa	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	57439 - Davis, Nathan Eric	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	57440 - Hall, Erik Jordan	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	57441 - Shadwick, Douglas Bren	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	57451 - Hack, Brendan Paul	Patrolman Sr - Transmission

Ops	T&D - DIST - CFS	57460 - Waddell, Aurelia Anna	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	57470 - Lantrip Jr, Randall Dean	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	57488 - Carroll, Kasey Edward	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	57501 - Maechler, Christopher L	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	57505 - Barroso, Nicholas Andres	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	57508 - Mendez, Alexander	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	57512 - Pacheco, Larry J	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	57551 - Tovar, Marcus J	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	57559 - Swanson, Stephen Charles	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - TS&O - Grid Ops	57562 - Teves, Roy Shelby	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	57575 - Elkin, Andrew Michael	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	57576 - Wiggan, Jennifer Maria	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - CFS	57601 - Armijo, Eric Daniel	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	57619 - Wheatley, Michael Eloy	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57627 - Wright, Bradley S	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	57628 - Zasadny, Andrew M	Working Foreman - CFF - SC&M - Construction
Ops	T&D - TS&O - Grid Ops	57630 - Stewart, Matthew	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	57632 - Candelaria, Ryan P.	Electn Constrn - SC&M
Ops	T&D - TS&O - Trans	57641 - Norman, Daniel J.	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	57645 - Cosman, Michael T	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	57646 - Guerrero, Manuel F.	Hlpr Electl Constr - SC&M - Construction
Ops	T&D - DIST - Distribution	57648 - Cosman, Gregory A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57653 - Cayot, Brandon Harrison	Lineman - Distribution - Field
Ops	T&D - C&OS - GL&IM	57655 - Spates, Matthew Walter	Mapping Tech - GL&IM - Geomatics & Property Services
Ops	T&D - DIST - Distribution	57658 - Reyes, John R	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57659 - Adame Jr, Samuel Andreis	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57667 - Perez, Edward Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57668 - Polanco, John A	Street Light Repairman - Distribution
Ops	T&D - TS&O - Trans	57671 - Rodela, Matthew R	Patrolman Sr - Transmission
Ops	T&D - TS&O - SC&M	57676 - Lozano, Elliott J	Mech Structural - SC&M - Construction
Ops	T&D - DIST - Distribution	57677 - Tovar, Samuel E.	Lineman - Distribution - Field
Ops	T&D - C&OS - GL&IM	57711 - Ruiz, Jonathan Alfredo	Asst Surveyor - GL&IM - Land & Forest Mgmt
Ops	T&D - TS&O - SC&M	57712 - Hernandez, Robert Jose	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	57717 - Wilcox, Landon Paul	Troubleman - Distribution
Ops	T&D - DIST - Distribution	57718 - Smith III, Gerald Joseph	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	57719 - McDonald, Joel Ryan	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	57723 - Gomez, Joshua Goevanny	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	57725 - Roberts, Kevin Scott	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	57735 - Jackson, Robert Ryan	Troubleman - Distribution
Ops	T&D - DIST - Distribution	57741 - Mannion, Jeremie Joseph	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	57745 - Mata, Michael Jonathan	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	57777 - Pasco, Manuelito G	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	5778 - Gilbert, Marco A.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57780 - Marquez, Andrew G.	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	57781 - Bowen II, Stephen Lynn	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	57783 - Cortez, Michael J.	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - Grid Ops	57785 - Sanderson, Albert R.	Opr System - Grid Ops - Substation Ops

Ops	T&D - DIST - Distribution	57788 - Delgado, Robert R.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57790 - Weimer, William A	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	57793 - Trujillo Jr, Michael George	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	57798 - Westover, Jesse K	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	57799 - Batterman, Bryan Ross	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	57802 - Jones, David D	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	57810 - Rowe, Adam C	Troubleman - Distribution
Ops	T&D - DIST - Distribution	57825 - Montiel, Daniel Garcia	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	57835 - Lopez, Cristian E	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	57848 - Rivera, Miguel A.	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	57849 - Morones, Ricardo	Repairer Tool & Equip - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - CFS	57851 - Rivera, Gabriel	CMA - CFS - FAO
Ops	T&D - TS&O - SC&M	57854 - Ybarra, Robert J	Technician, Test Supervising - SC&M
Ops	T&D - DIST - CFS	57856 - Acompanado, Willie Putiz	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	57857 - Luna, Stephen J	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	57866 - Holtz, Joshua Walter	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	57867 - Alvarado, Bradley A	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	57869 - Savala IV, Nicholas	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - CFS	57877 - Preciado, Jose Elias	Meter Tech 5 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	57892 - Gorospe, Troy Philip	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	57895 - Searcy, Shawn M.	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	57906 - Prieto, Michael Chua	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	57915 - Espanta Torres, Oscar	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	57977 - Do, Hung	Techn Lab - SC&M - Construction
Ops	T&D - TS&O - Grid Ops	57982 - Wright Jr, Richie D	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	58191 - Silva, Erick Edward	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	58214 - Bienias, Jonathan A.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	58219 - Lara, Oscar O	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	58332 - McMichael, Robert Allen	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	58385 - Zischke, Shea B	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	58520 - McNulty, Michael Neal	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	58653 - Leon, Christopher	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	58656 - Villalvazo, Ramon	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	58719 - Yoakum, Jimmy Jay Brian	Repairer Tool & Equip - SC&M - Construction
Ops	T&D - DIST - Distribution	58729 - Garavito, Felix David	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	58730 - Robertson, Brent Evan	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	58731 - Gil, Ruben M.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	58732 - Barron, Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	58734 - Cessna, Cody William	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	5877 - Peck, Christopher J	Form Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - SC&M	58786 - Kim, Tommy M	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	58788 - Sarmiento Jr, Roman	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	58791 - Jones, Jason D	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	58793 - Gaskins II, Jack N.	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	58832 - Marchese, Bryant J	Troubleman - Distribution
Ops	T&D - AMS&E - DE&WM	58911 - Ewins, Elke Linn	CCM3 - DE&WM - Eng Support & Bus Strategy
Ops	T&D - TS&O - Grid Ops	59016 - Cash Jr, David Thomas	Opr System - Grid Ops - Substation Ops

Ops	T&D - TS&O - Grid Ops	59055 - Quinonez, Bryan Robert	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	59061 - Maciujec, Jeremiah Dumitru	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	59072 - Swanson, Jonathan Andrew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	59078 - Sanchez, Gerardo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	59126 - Washington, Ronald Joseph	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	59167 - Barajas, Michael K	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	59183 - Schafer, Jarrett Taylor	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - SC&M	59242 - Watts, Alexander G	Techn Lab - SC&M - Construction
Ops	T&D - DIST - Distribution	59355 - Stephens, Nathan Barrett	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	59357 - Cotton, James Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	59723 - Wurz, Jeremy Michael	Troubleman - Distribution
Ops	T&D - TS&O - Trans	59785 - Kimbrel, Kyle Wayne	Patrolman Sr - Transmission
Ops	T&D - TS&O - Grid Ops	59806 - Jamieson, Jon R.	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	59819 - Flores, Carlos	Groundman - CFS - Constr Supt
Ops	T&D - TS&O - Trans	59840 - Moya, Joseph	Lineman - Transmission
Ops	T&D - TS&O - Trans	60083 - Berling, Collyn Keith	Lineman - Transmission
Ops	T&D - TS&O - Trans	60229 - Selters, Danny Gene	SPLICER CABLE - Transmission
Ops	T&D - DIST - CFS	60479 - Abell, Shelly Marie	CMA - CFS - FAO
Ops	T&D - DIST - CFS	60697 - Schroeder, Debra Jean	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	6104 - Bibbs, Terry L	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	61113 - Pockress, Mark Ian	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	62165 - Lopez, Antonio Jr	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	62262 - Bautista, Victor Manuel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	62415 - Cooksey, Brian Joseph	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	62446 - Daly, Denno	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	62571 - Meraz, Miguel Angel	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	62644 - Hummel, Steven Chet	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	62668 - Prak, Putheany	Substation Electrician - SC&M
Ops	T&D - DIST - CFS	62800 - Nelson, Colleen Joan	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	62845 - Ogg, Jason D	Troubleman - Distribution
Ops	T&D - TS&O - Trans	62846 - Cuevas, Henry	Lineman - Transmission
Ops	T&D - DIST - Distribution	62859 - Mendoza, Danny	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	62900 - Castro, Jonathan Alexander	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	62903 - Anderson, Robert J.	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	62918 - Redheffer, Mark Alan	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - SC&M	62944 - Hamilton, Ty W.	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - Trans	62979 - Pope, Dennis A	CCM2 - Transmission - Division
Ops	T&D - DIST - Distribution	62987 - Korb, Thomas William	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	62989 - Jacobsen, Joseph Gregory	Lineman - Transmission
Ops	T&D - DIST - Distribution	63007 - Arellano, Nestor D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	6358 - Volchko, Randy S.	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	63995 - Steveson, Timothy Clayton	Welder Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	64005 - Del Valle, Carlos Alejandro	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	64165 - Logan, DeGina Charryon	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	64206 - Obregon, Darryl Mathew	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	64467 - Nguyen, Doug Van	Techn Electl Aprats Tst A - SC&M - Construction
Ops	T&D - TS&O - SC&M	64692 - Shimamoto, Bryan K	Substation Electrician - SC&M

Ops	T&D - TS&O - Grid Ops	64729 - Greene, Andrew John	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	64957 - Garcia, Matthew James	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	6506 - Rusokoff, Fredrick V	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	65094 - Haynes, Robert Earl	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	65142 - Schneider, Robert J	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	65149 - Thomas, Austen Mark	Lineman - Transmission
Ops	T&D - DIST - Distribution	65183 - Ibarra, Andrew Richard	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	6547 - Urquidez, Daniel J	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - TS&O - SC&M	65501 - Garton, David M.	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - CFS	65506 - Favela, Jaime	SCMA - CFS - FAO
Ops	T&D - TS&O - Grid Ops	65644 - Boyd, Sharita N.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	65686 - Ward, Robert M.	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - TS&O - Grid Ops	65944 - Ramirez, Amanda Jessica	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	6614 - Smith, Richard Terry	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	66387 - Calvo, Armando	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	66421 - Hunter, Ian Carl	Troubleman - Distribution
Ops	T&D - DIST - Distribution	66450 - Saldivar, Eddie John	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	66453 - Cram, Michael Allen	Troubleman - Distribution
Ops	T&D - DIST - Distribution	66553 - Baker, Nathaniel Aaron	Troubleman - Distribution
Ops	T&D - DIST - Distribution	66564 - Burbidge, Mark	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	66750 - Reece, Daniel Walker	Troubleman - Distribution
Ops	T&D - TS&O - SC&M	67596 - Ashdown, Robert G	Mech Structural - SC&M - Construction
Ops	T&D - AMS&E - DE&WM	6764 - Wade, John Robert	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	68310 - Sosa Zuniga, Miguel Angel	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	68742 - Davis, Christopher Michael	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	68779 - Davis, Jonathan Edward	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	68944 - Co, Emil Lim	Techn Electl Aprats Test - SC&M - Construction
Ops	T&D - DIST - Distribution	6913 - Dalton, Gordon L	Splcr Sr Cble - Distribution
Ops	T&D - TS&O - Grid Ops	6937 - Jaggers, Brian Christopher	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	69461 - Morgan, Christopher Kelly	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	69475 - Kritsch, Ryan Lee	Technician, Test - SC&M
Ops	T&D - TS&O - Trans	69840 - Trujillo, Isaac	Lineman - Transmission
Ops	T&D - TS&O - SC&M	69896 - Adams Jr, Gregory Lynn	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	70455 - Carey, Christopher Ryan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	71528 - Podergois, Christopher Michael	Form Electl Crew - Distribution - Field
Ops	T&D - AMS&E - DE&WM	71652 - Cho, Kevin Chun-Kai	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - TS&O - Grid Ops	72158 - Sears, Davena L.	Dstrbtn Oprtns Cntr Dispatch Specialist - Grid Ops
Ops	T&D - TS&O - Grid Ops	72196 - Tellez, David J.	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	72259 - Wells II, Jerold A	Technician, Test - SC&M
Ops	T&D - TS&O - Grid Ops	72695 - Villagrana Jr, Jose Manuel	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	72773 - Cervantes, Ivan	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - TS&O - Trans	72845 - Lopez, Martin E.	CCM3 - Transmission - Construction & Technical Support
Ops	T&D - TS&O - Grid Ops	72914 - Fournaris, George	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	73092 - Olmos, Alberto	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	73184 - Reimers, Bradley Wayne	Lineman - Transmission
Ops	T&D - DIST - Distribution	73666 - Crosby, Aaron David	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	73669 - Chidester, Jason Eric	Opr System - Grid Ops - Substation Ops

Ops	T&D - AMS&E - DE&WM	73715 - Umana, Henry Alberto	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	73733 - Costa, Shane Andrew	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	74235 - Torres, Roxanne C.	Pgrm Wrtr 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	74780 - Gore, Christa	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	74798 - Sanchez, Ryan Scott	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	74832 - Arriaza, Stefanie Marie	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - CFS	7493 - Wall, Andre Jerrod	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	75176 - Drew Jr, Bruce M.	CCM3 - Distribution - RPS
Ops	T&D - DIST - Distribution	75500 - Merino, William	CCM2 - Distribution
Ops	T&D - DIST - CFS	75762 - Perez, Christopher Johnathan	Meter Support Specialist - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	76138 - Rogers, Dylan Andrew	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	76146 - Lupercio, Sergio	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	76204 - Pivovaroff, Kevin George	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	76205 - Soria, Samuel Lawrence	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	76266 - Pedersen, Timothy George	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	76505 - Harris, Michelle M	Joint Pole Specialist - CFS - JPO
Ops	T&D - DIST - Distribution	76566 - Bylow Jr, James Paul	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	76584 - Anzaldo, Jorge	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	76741 - Carbajal, Tony Ochoa	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Trans	76783 - Lord, Chad Michael	Lineman - Transmission
Ops	T&D - DIST - Distribution	76796 - Arnold, Jay William	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	76797 - Lopez, Vicente	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	76798 - Floyd, Steven	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	76807 - Sudds, Gordie Joseph	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	76808 - Jones, Andrew Jonathon	Lineman - Transmission
Ops	T&D - TS&O - Trans	76836 - Durand, David Michael	Lineman - Transmission
Ops	T&D - TS&O - Trans	76839 - Garcia, Arthur Abe	Lineman - Transmission
Ops	T&D - DIST - Distribution	76846 - Hutchison, Brent Alan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	76850 - Baker, Steve E	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	76866 - Coffman, Cody Robert	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	76888 - Gonzales, Aaron	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - C&OS - GL&IM	76892 - Hooten, Thomas	FOR3 - GL&IM - Land & Forest Mgmt
Ops	T&D - TS&O - Trans	77081 - Oseguera, Randy B.	Supr Road R/W - Transmission - Construction & Technical Sup
Ops	T&D - TS&O - Trans	77085 - Costa, Tom E.	Right of Way Equipment Operator 3 - Transmission - Construc
Ops	T&D - TS&O - Trans	77086 - Frith-Smith, Jaclyn	Supr Road R/W - Transmission - Construction & Technical Sup
Ops	T&D - DIST - Distribution	77090 - Garcia, Frederick	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	77117 - McAllister, Christopher	Supr Road R/W - Transmission - Construction & Technical Sup
Ops	T&D - TS&O - SC&M	77118 - Willys, Adolfo	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	77122 - De La O, Alexander	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	77402 - Hite, David	Repr Fld Srvce 2 - Distribution - Rural Region
Ops	T&D - DIST - Distribution	77595 - Kavathan, Scott William	Troubleman - Distribution
Ops	T&D - DIST - Distribution	77596 - Due, Brian Robert	Troubleman - Distribution
Ops	T&D - DIST - Distribution	77652 - Waters, Christopher Kelly	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	77653 - Valencia, Miguel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	77668 - Castillo, Edgar Rodrigo	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	77670 - Bunton, Justin Earl	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	77676 - Rubio, Gabriela	SUP - Grid Ops - Substation Ops

Ops	T&D - TS&O - Grid Ops	77689 - Capra, Giancarlo Antonio	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	77714 - Sahagun, Claudia G	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	77715 - Mountan, Steven Charles	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	77825 - Moya, Jimmy	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	77898 - Peterson, Lance Curtis	Lineman - Transmission
Ops	T&D - DIST - Distribution	77985 - Cano, Ivan Eduardo	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Trans	77987 - Imel, Jeremy Darrell	Lineman - Transmission
Ops	T&D - TS&O - Trans	78110 - Spurlock, Matthew Martin	Patrolman Sr - Transmission
Ops	T&D - DIST - Distribution	78113 - Watson, Michael James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78114 - Allen, Marshall Lincoln	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	78115 - Gallegos, Alejandro	Lineman - Transmission
Ops	T&D - DIST - Distribution	78117 - Elmore, Aaron David	Troubleman - Distribution - Rural Region
Ops	T&D - TS&O - Trans	78134 - Dickey, Bradley Allen	Lineman - Transmission
Ops	T&D - TS&O - Trans	78137 - Sjoberg, Justin Robert	Lineman - Transmission
Ops	T&D - TS&O - Trans	78138 - White, Darrell Glenn	Lineman - Transmission
Ops	T&D - DIST - CFS	78143 - Rodriguez, Jesus Gerardo	Lineman - CFS - Constr Supt
Ops	T&D - TS&O - Trans	78163 - Patterson, Robert Daniel	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	78221 - Angel, Anthony	SPLICER CABLE - Transmission
Ops	T&D - TS&O - Trans	78245 - Jackson, Michael Alan	Lineman - Transmission
Ops	T&D - DIST - Distribution	78251 - Ferguson, Darren Glen	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	78257 - Espinoza, Paul James	SPLICER CABLE - Transmission
Ops	T&D - TS&O - Trans	78298 - Baker, Brad Hanson	Lineman - Transmission
Ops	T&D - DIST - Distribution	78319 - Valenzuela, Anthony Mark	Troubleman - Distribution
Ops	T&D - DIST - Distribution	78333 - Owens, Jared M.	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	78344 - Bahmer, Derek Frost	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	78363 - Victoria, Vladimir Marcos	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	78364 - Glascow, Felicia Lee	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	78371 - Ayala, Nicholaus David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78373 - Ganino, Mitchell Christopher	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78391 - Newman, Samuel Raymond	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	78395 - Noji, Deanna Ann	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	78421 - Zigler, Daniel Robert	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78425 - Taylor, Matthew David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78426 - Kelly, Ryan Patrick	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78427 - Goodwin, Christopher Brian	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78453 - Espin, Alexis	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78454 - Espitia, Joseph Augustin	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	78455 - Schill, Kyle	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	78456 - Lefebvre, Garrik Jean-Paul	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	78457 - Cartwright, Zachary Ryan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	78467 - Stoops, Zachary David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78468 - Murillo, Gilberto	Lineman - Distribution - FieldLine
Ops	T&D - DIST - Distribution	78470 - Gener, Justin	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78471 - Flamand, Joseph T	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78473 - Bryant, Justin Scott	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78474 - Mahkorn, Jeffrey Alan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78490 - Wittmeier, Joseph Albert	Lineman - Distribution - Field

Ops	T&D - DIST - Distribution	78492 - Powell, Vincent Ron	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78493 - Reed, Derrick	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	78498 - Campbell, Bryan Andrew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78500 - Ballesteros, Christian Rocky	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78504 - Aguilera Jr., Mario Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78509 - Bernhardt, Matthew Scott	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78511 - Heyman, David Anthony	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	78531 - Salinas, John Raymond	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78542 - Mack, William Robert	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78564 - Romo, Jose Luis	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78566 - Turney, Patrick Allan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78621 - Hall, Joseph D	Lineman (Rubber Glove Trained) - Distribution - Catalina
Ops	T&D - DIST - Distribution	78664 - Niedenthal, Phillip	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78691 - Torres, Robert Joe	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	78695 - Koning, Wesley Dean	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78696 - Otwell, Bryant Malcom	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78715 - Cortez, Alex Robert Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78778 - Ascencio, Jonathan Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78798 - Smith, Alec Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78801 - Navarrete, Jesus Francisco	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78802 - Davis, Anthony John Jackson	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	78804 - Martuicc, Jordan Michael	Apprentice Cable Splicer - Transmission
Ops	T&D - DIST - Distribution	78850 - Scholl, Colin Andrew	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	78857 - Aranda, Eric	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	78881 - Cross, Jeffrey Ray	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78913 - Campbell, Sean Levi	Troubleman - Distribution
Ops	T&D - DIST - Distribution	78916 - Devens, Timothy Terrance	Troubleman - Distribution
Ops	T&D - DIST - Distribution	78924 - Sanchez, Victor Hugo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78928 - Dahms, Jason Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78969 - Higbee, Taylor William	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78970 - True, Cameron David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	78972 - Ramsdell, Jeffrey Allen	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	78975 - Taylor, Jacob Charles	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79072 - Dawson, Jeffrey Craig	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79219 - FlyingCloud, Alphonzo Hamilton	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79225 - Crowell, Tyler Ryan	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	79285 - Bustamante, Anthony Michael	Lineman - Transmission
Ops	T&D - DIST - Distribution	79286 - Kolbach, Jeremy Eugene	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	79324 - Vanderlinden, Loren D.	Mech Structural - SC&M - Construction
Ops	T&D - DIST - Distribution	79352 - Lozano, Carlos	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79353 - Harrison, Nicholas Allan	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	79363 - Starr, Phillip Michael	Lineman - Transmission
Ops	T&D - DIST - Distribution	79386 - Herzig, Lance Russell	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	79427 - Foster, Jerald Jason	Lineman - Transmission
Ops	T&D - TS&O - Trans	79428 - Camacho, Alex Matthew	Lineman - Transmission
Ops	T&D - DIST - Distribution	79429 - Portesi, Taylor Louis	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79431 - Najera, Eric Orlando	Lineman - Distribution - Field

Ops	T&D - DIST - Distribution	79432 - Aguilar, Troy Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79433 - Richards, Wesley Jay	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79434 - Cosenza, Scott Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79441 - Grana, Joseph Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79443 - Reid, Ryan Douglas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79453 - Drost, Christopher Allen	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	79462 - Gomez, Eric	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	79478 - Gagich, Robert Steven	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	79479 - Favela, Pedro Javier	Lineman - Transmission
Ops	T&D - TS&O - Trans	79487 - Duran, Jose	Lineman - Transmission
Ops	T&D - DIST - Distribution	79504 - Calero - Garay, Henry Javier	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	79508 - Porter, Jeremy Scott	Troubleman - Distribution
Ops	T&D - TS&O - Trans	79510 - Olesen, Shane Matthew	Lineman - Transmission
Ops	T&D - TS&O - Trans	79511 - Frank, Bryan Marcus	Lineman - Transmission
Ops	T&D - DIST - Distribution	79555 - Mendez, Robert Andrew	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	79562 - Williams, Craig Thomas	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - TS&O - Grid Ops	79564 - Villacorta, Alfredo	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	79654 - Aguirre, Arnoldo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79661 - Beals, Ryan Mitchell	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	79668 - Kiely, Shane Edward	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79669 - Clary, Jonathan Patrick	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79672 - Montes, Ruben	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79673 - Wood, Myles Gene	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79674 - Bravo, Michael Robert	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79675 - Dimarzio Jr, Terrence Richard	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	79676 - Vander Feer, Daniel Alexander	Lineman - Transmission
Ops	T&D - DIST - Distribution	7973 - Smith, Kevin Wayne	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Trans	79856 - Alvarado, Juan Antonio	SPLICER CABLE - Transmission
Ops	T&D - DIST - Distribution	79872 - Clinton, Travis	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79908 - Mendez, Robert	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79912 - Augustine, Kenneth Ellsworth	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	79917 - Bell, Michael David	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	79926 - Stroud, Tucker Lee	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	80098 - Clary, Ryan Scott	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80152 - Harlan, Cody Monroe	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	80157 - Brixy, Wyatt Lawrence	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80162 - Zamora, Francisco Antonio	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80170 - Arita, Brock Keanahou Tatsuo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80171 - Stickle, Anthony James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80177 - Caratachea, George	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	80178 - Lusby, Daniel Alan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80180 - Coria, Victor Modesto	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	80229 - Williams, Traveon Demonte	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	80233 - Lawrence, Brett Tyler	Lineman, Apprentice - Transmission
Ops	T&D - DIST - CFS	80255 - Petty, Teresa Nelle	SCMA - CFS - FAO
Ops	T&D - DIST - Distribution	80297 - Blackshire, Bryan Glen	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80298 - Sarr, Joshua Adam	Lineman - Distribution - Field

Ops	T&D - DIST - Distribution	80348 - Scearce, Joshua	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80393 - Trejo, Steven Paul	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80394 - Spinowitz, Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80398 - Holmquist, Matthew Adam	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	80399 - Guirado, Rafael Armando	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80400 - Petruescu, Abel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80401 - O'Bannon, Ian Lawrance	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80412 - Quezada, Efrain	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80415 - Catterson, Leslie N	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80434 - Gleeson, Jeremy Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80441 - Owen JR, Craig Dennis	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80457 - Bernard, Gilbert Arthur	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	80520 - Brito, Julian Rudy	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	80521 - Givens, Richard Patrick	Welder Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	80530 - Acosta, David Merchain	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	80540 - Dorrell, Wesley Jay	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	80618 - Messner, Nickolas Vincent	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80696 - Davidge, Jonathon Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	80740 - Welling, Jared Michael	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	80827 - Flexen, Jonathan Christopher	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	80893 - Lascano, Cynthia Deniece	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	80895 - Herebia, Joel Anthony	Substation Electrician - SC&M
Ops	T&D - TS&O - SC&M	80904 - Mould, Jackson	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	80919 - Wilson, Troy Jonathan	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	81197 - Bertschi, Torin Nicholas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	81198 - Vercelli, Kyle John	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	81318 - Alamillo, Jonathan Briceno	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	81325 - Cook, Josh E.	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	81337 - Ruiz, Julio Cesar	Lineman - Transmission
Ops	T&D - DIST - Distribution	81338 - Ginchereau, Garrett Cole	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	81339 - Gomez, Hector Miguel	Lineman - Transmission
Ops	T&D - TS&O - Trans	81340 - Michaelson, Erik Allen	Lineman - Transmission
Ops	T&D - TS&O - Trans	81343 - Hartman, Clinton Clark	Lineman - Transmission
Ops	T&D - TS&O - Trans	81344 - Hipolito, Oscar francisco	Lineman - Transmission
Ops	T&D - TS&O - Trans	81345 - Mirzadeh, Michael	Lineman - Transmission
Ops	T&D - DIST - Distribution	81346 - Herrera, Jose ANGEL	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	81347 - Connelly, Nathan Andrew	Lineman - Transmission
Ops	T&D - TS&O - Trans	81382 - Berg, Dustin Louis	Lineman - Transmission
Ops	T&D - TS&O - Trans	81512 - Harvey, Christopher Glen	Lineman - Transmission
Ops	T&D - TS&O - Trans	81565 - White, Christopher	Lineman - Transmission
Ops	T&D - DIST - Distribution	81902 - Payne, Brian Eric	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	81944 - Atkinson, Randy W	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - CFS	81947 - Abadilla, Andrew Flores	Techn Electl Aprats Test - CFS - Constr Supt - Apparatus Shop
Ops	T&D - TS&O - Grid Ops	81949 - Hurst, Eric	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	81951 - Sierra, Morris Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	81954 - Thuan, Eric A.	Techn Electl Aprats Test - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - CFS	81955 - Fernandez, Annamarie S.	CMC - CFS - FAO

Ops	T&D - DIST - Distribution	81970 - Delaplane, Austin Glenn	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	81974 - Valles, Alex Ruben	Form Electl Crew - Distribution - Field
Ops	T&D - AMS&E - DE&WM	82001 - Ungab, Allan Polloso	Techn Lab - DE&WM - Meter Engineering
Ops	T&D - TS&O - Grid Ops	82003 - Olmedo, Aldo	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	82045 - Tarnowski, Anthony Joseph	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	82053 - Irwin, David James	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	82105 - Wood, Kevin	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	82256 - Volinski, James Scott	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	82514 - White, David Lamor	Lineman - Distribution - Field
Ops	T&D - C&OS - GL&IM	82631 - Ramos, Ragina	LSA2 - GL&IM - Land & Forest Mgmt
Ops	T&D - DIST - Distribution	82910 - Hardisty, Eric Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	82913 - Chacon, Fernando Tito	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	82915 - Jimenez Guzman, Alvaro	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	82917 - Barrell, Nicholas D.	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	82922 - Silva, Daniel S.	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	82939 - Paris, Chase Matthew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	82978 - Hayman, Wyatt J.	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	83041 - Hernandez, Joel Olmedo	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	83061 - Guzman, Omar	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	83246 - Darr, Brian Jay	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	83293 - Salter, Merrit Lamar	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	83524 - Santos, Rommel Andres	Electn Constrn - SC&M
Ops	T&D - TS&O - SC&M	83526 - Bolin, Ben	Electn Constrn - SC&M
Ops	T&D - DIST - CFS	83535 - Macias, Alan Leopoldo	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	83536 - Magoffin, Joshua Adam	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	83549 - Edelmaier, Cameron Eugene	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	83669 - Betran, David Wayne	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	83670 - Lam, Jonathan	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	83672 - Antillon, Justen Kevin	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	83681 - Hickerson, Alexander Buckminster	Electn Constrn - SC&M
Ops	T&D - TS&O - Trans	83713 - Kamakani Jr, Kevin Eugene	Lineman - Transmission
Ops	T&D - TS&O - Trans	83716 - Meyer, Jacob Russell	Lineman - Transmission
Ops	T&D - TS&O - Trans	83723 - Higbee, Harrison Graham	Lineman - Transmission
Ops	T&D - TS&O - SC&M	83733 - Wires, Adam James	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	83747 - Smith, Sean Davis	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	83763 - Eckhart, Brandon A	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	83841 - Miller, Brian Christopher	Opr System - Grid Ops - Substation Ops
Ops	T&D - TS&O - Trans	83847 - Decordova, Chad Thomas	Lineman - Transmission
Ops	T&D - TS&O - Grid Ops	83864 - Barker, Zachary James	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	83867 - Yokono, Royce Kalauipo Yoshito	Troubleman - Distribution
Ops	T&D - TS&O - Grid Ops	83901 - Mallorca, Joe Montemayor	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	83903 - Martinez, Joseph Charles	Technician, Test Supervising - SC&M
Ops	T&D - TS&O - Grid Ops	83928 - Hemenway II, Craig Eugene	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	83959 - Rohrenback, Kalvin Josef	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84002 - Marques, Brian michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84091 - Gossett, Michael Anthony	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	84129 - Robertson, Jody	Lineman - Transmission

Ops	T&D - TS&O - Trans	84131 - Connett, Cody Jay	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - SC&M	84142 - Liu, Boyi	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	84518 - Alvarez, David Ivan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84522 - Clause, Jason James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84540 - Dreyer, Taylor Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84589 - Fore, Justin Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84592 - Lopez, Pablo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84593 - Fitzgerald, Brandon John	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	84596 - Gurule, Cody Joseph	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84602 - Manzo, Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84647 - Kurz, Dylan J.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84676 - Huie, Kyle	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84684 - Erbele, Jason	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	84729 - Landry, Varr Alan	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	84747 - Riniker, Christopher	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84764 - Flores, Jorge A.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84765 - Garcia, Jose Jesus	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	84766 - Baliton, Kristopher John	Techn Dstrbn Aprts - SC&M - Apparatus
Ops	T&D - DIST - Distribution	84798 - Gade, Matthew Joseph	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84804 - Tovar, Jonathan	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	84805 - Bruno, Agustin	Right of Way Equipment Operator 3 - Transmission - Construc
Ops	T&D - DIST - Distribution	84807 - Gibson, Cody John	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84809 - Thompson, Aaron	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84858 - Gloria, Brandon Garrison	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	84970 - Zimmer, Charles Patrick	Troubleman - Distribution
Ops	T&D - DIST - Distribution	85032 - Vigier, Colin	Form Electl Crew - Distribution - Field
Ops	T&D - TS&O - Grid Ops	85104 - Miller, Jeremy M.	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	85168 - Merrill, Kyle Ramon	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85198 - Moeller, Michael James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	8524 - Mercer, Jay Carlton	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	85256 - Tillen, Ian M.	CCM3 - Distribution - RPS
Ops	T&D - DIST - Distribution	85421 - Barragan, Blake Ryan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85442 - Caldwell, Joshua Beamer	CCM2 - Distribution
Ops	T&D - DIST - Distribution	85465 - Chavez, Aaron Anthony Keyes	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85483 - Huckaby, Everett Creston	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85489 - Figueroa, Miguel Angel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85491 - Murray, Michael Keith	Troubleman - Distribution
Ops	T&D - DIST - Distribution	85496 - Cowan, Ryan Kristopher	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85508 - Murphy, Sam Patrick	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85517 - Espinoza, Christopher A	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85520 - Reyes, Kevin Daniel	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	85609 - Chen, Peter David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85640 - lopez, Nelson l	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85643 - Danna, Eric Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85655 - Stone, Jason Larry	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85656 - Lindaman, Jeff	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85658 - Jimenez, Javier	Lineman - Distribution - Field

Ops	T&D - DIST - Distribution	85673 - Garcia, Victor H.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85683 - Little, Jarred Eric	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85700 - Rios, Edgar Arsenio	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	85701 - Taylor, Eldridge H	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	85702 - Leon, Jose Emanuel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	85703 - Lippincott, Thomas Duran	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	85800 - Salge, Marcus Alexander	CCM3 - Transmission - Construction & Technical Support
Ops	T&D - DIST - Distribution	85851 - Ellis, Connor Robert	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	8596 - Amijhe, Bahram	Splcr Sr Cble - Distribution
Ops	T&D - TS&O - Grid Ops	86059 - Avery, Ryan Thomas	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - AMS&E - DE&WM	86067 - Chow, Sammy W.	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	86097 - Lorz, Dale Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	86098 - Purdie, Bradley	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	86103 - Mota, Justin Gerardo	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	86105 - Ramirez, Jose Felix	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	86122 - Zul, Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	86166 - Deleon, Anthony A	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	86167 - Casas, Bryan	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	86304 - Diaz, Gustavo Antonio	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	86311 - Hull, Jared G	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	86413 - Venezia, Victor M	Template Needed
Ops	T&D - DIST - Distribution	86414 - Samaniego, William	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	86415 - Soto, Naty Jr	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	86416 - Birtle, Anthony Trevor	Lineman - Transmission
Ops	T&D - TS&O - Trans	86432 - Minor, Brandon	Lineman - Transmission
Ops	T&D - DIST - Distribution	86445 - Gillig, Tye Axton	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	8645 - Slye, Michael D	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	86514 - Lowe, Justin	Lineman - Transmission
Ops	T&D - TS&O - Trans	86548 - Hernandez, Anthony Ray	Lineman - Transmission
Ops	T&D - TS&O - Trans	86595 - Gomez, Joey R.	Lineman - Transmission
Ops	T&D - DIST - Distribution	86622 - Bayes, Chance WD	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	86623 - Muzio, Andrew David	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	86624 - Morrison, Jamie Scott	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	86649 - Serrano, Daniel Alfredo	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	86661 - Potter, Cody Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	86662 - Myers, Morgan Cassius	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	86693 - Hacker, Matthew Douglas	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	86728 - Asaduryan, Armen	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	86766 - Barcelo, Carlos Reed	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	86797 - Kelley, Cody Ross	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	86843 - Henry, Patrick Price	Groundman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	86845 - Zamora, Mauricio	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - TS&O - Grid Ops	86860 - Molina, Melissa	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	86868 - Vilander, Peter Adam	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	86869 - McLain, Matthew Alan	Troubleman - Distribution
Ops	T&D - DIST - Distribution	86871 - Aldaco, Isidro	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	8688 - Morris, Mark C	Lineman - Transmission

Ops	T&D - TS&O - Grid Ops	86987 - Quijada, Karrina Marie	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - TS&O - Grid Ops	87035 - Gonzales, Christopher Lawrence	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - TS&O - Grid Ops	87044 - Pinel, Christopher Julio Alberto	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	87053 - Johannsen, Cory Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87054 - Miller, Erik Raymond	Form Electl Crew - Distribution - Field
Ops	T&D - DIST - Distribution	87253 - Ballesteros, Justin Arthur	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87264 - Herrin, Daniel Ian	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87270 - Monroe, David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87278 - Flores, Cameron Sebastian	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	87371 - Montero, Anthony Brian	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87374 - Nevarez, Paul Andres	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87377 - Davidge, Dennis Warren	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87419 - Shields, David William	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87420 - Zillner, Devon Joseph	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87421 - Powell, Steven C	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87422 - Ascencion, Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87431 - Olea, Omar Orlando	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87483 - Firpo, Dillon Carl	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	87484 - Alexander, James Glenn	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87491 - Crumlish, Casey James	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	87548 - Kinnane, James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87606 - Lindeman, Luke Alan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87611 - McClain, Shawn	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87616 - Roberts, Christopher Alan	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	87624 - Winton, Benjamin David	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Grid Ops	87798 - Uche, Okey Allen	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	87816 - Edwards, Tyler Dayne	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87837 - Housinger, Joshua A.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	87838 - Medina, Richard	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	87969 - Faunce, Travis Ryan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88040 - Cherrie, Ryan Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88041 - Garland, James Steven	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88042 - Summers, Dustin Scott	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	88043 - Espinoza, Guillermo	Utility Terrtrl - SC&M - Facility Maintenance
Ops	T&D - DIST - Distribution	88211 - Flores, Matthew David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88252 - Wilke, Nicholas Andrew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88255 - Koury, Trenton M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88256 - Rios, Adrian Alexander	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88336 - Eldridge, Ryan Daniel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88347 - Jones, Jason Lee	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88348 - Johnson, Zachary Paul	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88402 - Buckingham, Brad Steven	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88430 - Griffin, Gary Ross	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	88435 - Wehman, David Paul	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	88458 - Ortiz, Ricardo Alonso	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88477 - Udell, Morgan John	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88478 - Gomes, Stephen John	Lineman - Distribution - Field

Ops	T&D - DIST - Distribution	88479 - Ybarra, Brent Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88480 - Robles, Alexander Randall	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	88498 - Coffee, John	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	88525 - Becker, Jake Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88527 - Gonzales, Israel Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88528 - Garcia, David Adrian	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88530 - Harrison, Cole Garrett	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88603 - Cardoza, Patricio jr	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88628 - Orsak, Travis Owen	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	88631 - Bissuett, David Anthony	Groundman - CFS - Constr Supt
Ops	T&D - TS&O - SC&M	88672 - Walker, Michael William	Technician, Test Supervising - SC&M
Ops	T&D - DIST - Distribution	88685 - Fleming, Jared Paul	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88692 - Scabuzzo, Javier T	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88703 - Watson II, Gary Richard	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	88740 - Winter, Now Roy	Troubleman - Distribution
Ops	T&D - DIST - Distribution	88741 - Martinez, Alejandro	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88742 - Baker, Craig Alan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88761 - Russell, Ryan Matthew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88789 - Smith, Jesse Jay	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88882 - Friend, Nicholas David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88883 - Hunter, Joshua Edward	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88915 - Lara, Xavier	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	88983 - Jacome, Salvador	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89017 - Turnboo, Wesley Glenn	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	89087 - Kirksey, Jacob Matthew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89108 - Fowler, Brittany Rae	CCM3 - Distribution - Project
Ops	T&D - DIST - Distribution	89110 - Gross, Daniel Brian	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89111 - Dupuy, Nicholas Joseph	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89116 - Diaz, Kenneth William	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89224 - Houston, Kyle Matthew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89269 - Palmeno, Felix Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89279 - Toporcer, Steven James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89659 - Salazar Jr, Gabriel G.	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	8966 - Schwing, William Bryan	Opr System - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	89694 - Paulsen, Kevin Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89696 - Machtolff, Garrett Hart	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89704 - Schimpf, Steven Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89728 - Enriquez, Aaron Elijah	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89731 - Zermeno, Ryan Ernest	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	89734 - Kelley, Detrick Dwayne	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89736 - McLain, Lance Alan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	89737 - Rodriguez, John Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89738 - Skala, Clayton Gene	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89785 - Meagher, Ryan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89801 - Mancilla, Christopher Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89803 - Ruvalcaba, Erick	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89804 - Camacho, Angel Roger	Lineman - Distribution - Field

Ops	T&D - DIST - Distribution	89805 - Seol, Brian Allen	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	89807 - Pihlmann, Christian Brix	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89821 - Taylor, Conor Brennan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89828 - Perez, Javier	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89833 - Kurowski, Kristopher	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89838 - Larry, Victor James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89840 - McKnight, Cody Mathew	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	89842 - Martinez, Adrian Eduardo	Groundman - CFS - Constr Supt
Ops	T&D - DIST - Distribution	89846 - Gallegos Jr, David	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	89847 - Burke, Patrick Nicholas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89852 - Taylor, Kelsey Patrick	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89853 - Pivovaroff, Kyle Phillip	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89855 - Williams, Matthew J.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89865 - Vaivao, Joseph Thomas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89923 - Schafer, Tyler Jonathan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	89924 - Mitchell, Jerry Dale	Troubleman - Distribution
Ops	T&D - DIST - Distribution	89946 - Castillo, Neilson Richard	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	89985 - La Barge, Kaitlynn Faye	Joint Pole Clerk - CFS - JPO
Ops	T&D - DIST - Distribution	90085 - Trejo, David Robert	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	90087 - Nesbitt, Zachary Joseph	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	90096 - Cuellar, William	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	90103 - Rodriguez, Jonathan Miguel	Techn Lab - SC&M - Construction
Ops	T&D - TS&O - SC&M	90104 - Ancheta, Manjason	Techn Lab - SC&M - Construction
Ops	T&D - DIST - Distribution	90137 - Juarez, Daniel David	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	9038 - Allison, John	Substation Electrician - SC&M
Ops	T&D - DIST - Distribution	90493 - Hernandez, Marcos Antonio	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90515 - Escobar, Carlos Alfonso	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90532 - Sheldon, Gregory Scott	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90534 - Dinh, Henry	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90535 - Hernandez, Oscar	Lineman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	90540 - Bonillas, Brianna Marie	Dstrbtn Oprtns Cntr Dispatch Clerk - Grid Ops
Ops	T&D - DIST - Distribution	90612 - Fausett, Blake Aaron	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90625 - Bugarin III, Efren	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	9065 - Williams, Renee Melissa	CMA - CFS - FAO
Ops	T&D - DIST - Distribution	90674 - Henshaw, Daniel Mikah	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	90675 - Lemus III, Edward	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90676 - Williams, Garrett Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90683 - Vitalie, Vincent Les	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	90685 - Tran, Kyle Trung	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	90753 - Cantrall, Mark	Lineman - Distribution - Field
Ops	T&D - DIST - CFS	90787 - Valdez, Roberto	Joint Pole Clerk - CFS - JPO
Ops	T&D - TS&O - Trans	90934 - Needham, Cody Shorb	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	90938 - Carter, Danny	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90939 - Olivares, Eric M.	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90940 - Gutierrez, Jonathan Jesus	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	90941 - Reed, Jonathan Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	90942 - Sanchez, Michael	Groundman - Distribution - Field

Ops	T&D - TS&O - SC&M	90943 - Tjosaas, Richard Allen	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	90944 - Ortiz, Ruben Luis	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	91210 - Benson, Justin Ryan	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	91211 - Keehmer, Patrick Joseph	Technician, Test - SC&M
Ops	T&D - TS&O - SC&M	91360 - Gustin, Lueray III	Technician, Test - SC&M
Ops	T&D - TS&O - Trans	91361 - Lough, Cory Michael	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	91364 - Jackson, Daniel J	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	91365 - Allen, Eric Jackson	Lineman, Apprentice - Transmission
Ops	T&D - AMS&E - DE&WM	91373 - Wedlock, Lance Ellery	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - TS&O - Trans	91374 - Williams, Zachary Kyle	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	91375 - Baumann, Dakotah Garrett	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	91377 - Barcena, Oscar	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	91388 - Wilcox, Stephen Andrew	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	91762 - Little, Kameron Christopher	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	91800 - Santana, Samuel James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	92387 - Pruitt, Darryll Dwayne	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	92578 - Barnhart, Josh	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	92581 - Juarez, Doroteo Manuel	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	92583 - Cheun, Jon Boun Viet	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	92584 - Davis, Kenneth Earl	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	92585 - Nesbitt, Nicholas Ryan	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	92588 - Fannan, Jason Robert	Lineman - Distribution - Field
Ops	T&D - C&OS - GL&IM	92607 - Torres, Andrew	LSA2 - GL&IM - Land & Forest Mgmt
Ops	T&D - TS&O - SC&M	92910 - Curiel, Eric	Techn Lab - SC&M - Construction
Ops	T&D - DIST - Distribution	92938 - Nevaril, Nicholas Scott	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	93026 - Koyro, Christopher Micheal	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93056 - Bryan, Kyle Lee	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93269 - Eligio, Anthony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	93270 - Lamadrid, Eric M	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93271 - Martinez, Horacio	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93272 - Hendrickson, Jeremy Matthew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93274 - Buenting, Justin Alan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	93281 - BALLARD, BEAU	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93282 - Nevarez, Trey Jacob	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93283 - Savchenko, Anton	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93286 - Hawse, Todd Allen	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	93977 - Friedrichsen, Andre' Cole	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93978 - Simeri, Bryan Mac Arthur	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93979 - Hotwagner, Connor Richard	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	93980 - Colleary, Cory Martin	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93981 - Casteel, Ethan Lewis	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93982 - Gonzalez, Guillermo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93985 - Frederick, Kevin	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	93987 - Thompson, Matthew Joseph	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93990 - Alvarado, Raul	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	93992 - Delgado, Richard Anthony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	93993 - Koenig, Stephen Robert	Form Electl Crew - Distribution - Field

Ops	T&D - DIST - Distribution	94017 - Smith, Kenneth James	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94018 - Guzman, Gary Fred	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94019 - Guizar, James Moses	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94029 - Cagnolatti, Curtis Charles	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94030 - Gonzales, Nicholas	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94032 - Jauregui, Eduardo	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94281 - Baker, Bradford Juan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94291 - Regalado, Andrew Ryan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94308 - Landeros, Daniel	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94309 - Arreola, Fernando Adrian	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94310 - Rubio, Jesus	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94312 - Lyng, Jonathan Parker	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	94313 - Cucuzza, Robert	Apprentice Substn Elctrcn - SC&M - Maintenance
Ops	T&D - DIST - Distribution	94314 - Diaz, Roman G	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94315 - Paul, Russell Anthony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94316 - Armstrong, Ryan Carl	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94320 - Giroux, Shane Michael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94344 - Shriver, Brett Michael	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94345 - Taylor, Cody James	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94346 - Hollinger, Dustin Wade	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94372 - Hyatt, Bryce Elden	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94484 - Connors, Andrew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94485 - Llamas-Sandoval, Bryan Pilar	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94489 - Scurto, Christian Michael	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94490 - Stone, Daniel Joseph	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94491 - Welker, Daniel Glen	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94492 - Phillips, Daniel James	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94495 - Wing, Frederick Christopher	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94500 - Montano, Jonathan Andrew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94502 - Nichols, Lucas Anthony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94516 - Chavarin, Christian Manuel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94518 - Eelkema, Erik Paul	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94519 - Kopydlowski, Steven Andrew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94524 - Holdahl, Galen Andrew	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94526 - Gonzalez Jr., George Antonio	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94527 - Brewster, Joshua Terrence	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94528 - Dimon, Trevor Austin	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	94529 - Alvarez, Emanuel David	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	94530 - Jacobo, Armando	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	94547 - Latreille, Jerry Roger	CCM2 - Distribution
Ops	T&D - DIST - Distribution	94549 - Miranda, Max Alexander	Lineman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	94786 - Torres, Anthony	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - AMS&E - DE&WM	94870 - Escamilla, Andrew Casey	Meter Tech 2 - DE&WM - Meter Engineering
Ops	T&D - AMS&E - DE&WM	94872 - Le, Dang	Techn Lab - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	94895 - Dunn, Brady Allen	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	94897 - Denton, Garrett Robert	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	94898 - Hernandez, Brandon	Lineman, Apprentice - Transmission

Ops	T&D - DIST - Distribution	94900 - Acosta, Raul Anthony	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	94901 - Harper, Gregory James	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	94902 - Rodriguez, Richard	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	94903 - Salcido, Henry	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	94905 - Albitz, Colin Ashton	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	94906 - Klein, Jimmy Dale	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	94907 - Cureton, Craig Richard Matthew	Lineman, Apprentice - Transmission
Ops	T&D - DIST - CFS	9491 - Egan, John J	Lineman - CFS - Constr Supt
Ops	T&D - TS&O - Trans	94910 - Wood, Kyle T.	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	94912 - Alvarez, Timothy A	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	94914 - Thoss, Brandon Michael	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	94915 - Brown, Dillion	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	94917 - Ginez Medellin, Miguel Antonio	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - SC&M	94941 - Morway, Matthew Jacob	Technician, Test - SC&M
Ops	T&D - DIST - Distribution	94956 - Goodwin, Matthew T	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	94972 - Stewart, James Robert	Lineman - Distribution - Field
Ops	T&D - AMS&E - DE&WM	94976 - Vu, Chinh Ba	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - DIST - Distribution	94977 - Olguin, Albert Joel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95025 - Simmons, O D	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95050 - Blyth, Brandon mckinley	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95051 - Luna-Garcia, Octavio D	Splcr Sr Cble - Distribution
Ops	T&D - DIST - Distribution	95052 - McMurtry, John David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95132 - Vasquez, Alexander Pete	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95137 - Kim, Crisho	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95138 - Ceja, Eduardo Ismael	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95157 - Crum, Jacob Nelson	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95161 - Banuelos, Manuel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95162 - Nunez, Mark Alan	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95163 - Rodriguez Jr, Miguel	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95164 - Mendoza, Nathan Ryan	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	95165 - Hurtado, Ramon	Groundman - Transmission
Ops	T&D - DIST - Distribution	95166 - Gravina, Sean T	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95179 - Cervantes, Bartolo	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95180 - Torres, Rodolfo	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	95312 - Peters, John Anthony	Right of Way Equipment Operator 3 - Transmission - Construc
Ops	T&D - TS&O - SC&M	95323 - Lettman, Benjamin Forrest	Electn Appr Battry - SC&M - Construction
Ops	T&D - TS&O - Trans	95336 - Carver, Jason Allen	Right of Way Equipment Operator 3 - Transmission - Construc
Ops	T&D - DIST - Distribution	95338 - Gutierrez, Fabian	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95349 - Adams, Ryan Patrick	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	95364 - Santana, Brandon Jose	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	95384 - Barsi, Christopher P.	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	95385 - Terberg, Christopher Conrad	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	95396 - Miranda, Mario	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95397 - Meyers, Mark Douglas	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	95412 - Manos, Andrew J	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - TS&O - SC&M	95431 - Cabral, Jason Do Monte	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - TS&O - Trans	95536 - Stalcup, Christopher Blair	Lineman, Apprentice - Transmission

Ops	T&D - DIST - Distribution	95544 - Soria, Daniel Edward	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	95545 - Horan, Dillon	Groundman - CFS - Constr Supt
Ops	T&D - TS&O - Trans	95552 - Porraz, Jacob Michael	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	95555 - Lares, Jacob Robert	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95558 - Heldoorn, Jared Lee	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	95562 - Weiss, Joseph Don	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95575 - Rausch, Joseph Lee	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95576 - Neal, Timothy Rae	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95586 - Mungon, Connor Vincent	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95598 - Ryan, Dylan T	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95614 - Del Villar Jr., Juan Antonio	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	95638 - Raitz, Nicholas Lynn	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - TS&O - SC&M	95639 - Capaci, Nicholas	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - TS&O - SC&M	95640 - Valdez, Nathan Oscar	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	95643 - Kirklin, Keneth Thomas	Groundman - Distribution - Field
Ops	T&D - TS&O - SC&M	95651 - Hardesty, Kyle	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - TS&O - SC&M	95688 - Ranes-Mueller, Justin Keith	Electn Appr Cnstrn - SC&M - Construction
Ops	T&D - DIST - Distribution	95696 - Padilla, Patrick Mark	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	95882 - Soto, Javier	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	96007 - Ruquet, Rhonda Sharlene	CMC - CFS - FAO
Ops	T&D - TS&O - Trans	96075 - Gomez, Karlo	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	96076 - Montes, Jesus	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	96171 - Barsi, Alex Jeffrey	Troubleman - Distribution
Ops	T&D - TS&O - Trans	96172 - Doyle, Kurt Patrick	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	96173 - Torres, Ramon Alberto	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	96237 - Heard, Brandon Michael	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	96240 - Escovedo, Dustin Anthony	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	96241 - Games, Vincent	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	96293 - Whiteley, Kyle Douglas	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	96300 - Dominguez, Jesse	Lineman, Apprentice - Transmission
Ops	T&D - AMS&E - DE&WM	96324 - Ortiz, Jose Jesus	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - AMS&E - DE&WM	96325 - Luna, Lauren Nicole	Meter Tech 1 - DE&WM - Meter Engineering
Ops	T&D - TS&O - Trans	96326 - Turley, Trevor Brian	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	96334 - Lizarraga, Raul R	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	96339 - Stavang, Samuel Johnson	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	96340 - Bonanno, Andrew David	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	96341 - Savoy, Patrick Wayne	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96342 - Acossano, Brian Matthew	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96343 - Gere, Justin Robert	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	96345 - Karren, William Robert	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96346 - Young, Tanner Kevin	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96365 - Perez-Arellano, Edward Gerald	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	96366 - Gilmer, Jacob Anthony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96367 - Lomeli, Jose Dario	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	96368 - Dooling, Kenneth James	Groundman - Transmission
Ops	T&D - DIST - Distribution	96369 - Parmer, Ryan Michael	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	9640 - Coyne, Ron	CMA - CFS - FAO

Ops	T&D - DIST - Distribution	96412 - Patterson, Timothy	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	96431 - Denney, Scott Alan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96432 - Garbell, Jared	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96447 - Ramos, Christian Alexander	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96519 - Garcia Jr, Gerardo	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	96680 - Gonzalez, Adam Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	96684 - Miles, Nathan Andrew	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	96749 - Arredondo, Alberto	Groundman - Transmission
Ops	T&D - DIST - Distribution	96817 - Hartel, Eoin Patrick	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	96818 - Abrams, Matthew Richard	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	96927 - Luiz, Evan Michael	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	96936 - Gonzalez, Rene Robert	Techn Lab - SC&M - Construction
Ops	T&D - DIST - Distribution	96977 - Sanchez, Mario	Lineman - Distribution - Field
Ops	T&D - TS&O - SC&M	96978 - Herbst, Jimmy Ray	Splcr Appr Subs Cable - SC&M - Construction
Ops	T&D - DIST - Distribution	96985 - Naranjo, Bobby A	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97055 - Higgason, Adam Stephen	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97056 - Bejarano, David	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97057 - Santos, Jake Austin	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97058 - Heard, Justin Charles	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97059 - Katz, Matthew Gray Soloman	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	9711 - Blaue, Daniel Edward	Troubleman - Distribution
Ops	T&D - DIST - Distribution	97118 - Richards, Brian James	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97298 - Cortez, Enrique	CCM2 - Distribution
Ops	T&D - TS&O - Grid Ops	9733 - Park, Michael Changnam	Opr Substation - Grid Ops - Substation Ops
Ops	T&D - TS&O - Grid Ops	97404 - Donckels, Austin James	Opr Trainee - Grid Ops - Substation Ops
Ops	T&D - TS&O - SC&M	97407 - Roberts, Allen Everett	Technician, Test - SC&M
Ops	T&D - DIST - CD&Eng	97454 - Marshall, Hugh	CCM2 - CD&Eng - NDP - IMS
Ops	T&D - DIST - CFS	9755 - Turner, John	Repr Fld Srvce 2 - CFS - Metering Field Ops
Ops	T&D - DIST - Distribution	97660 - Stromgren, Erick R.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97714 - Landeros, Emilio	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97752 - Lopez-Bonilla, Rene	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97837 - Claxton, Trevor Daniel	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	97959 - Stirzel, Brett Cameron	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	9811 - Esparza, Jason V	Transformer Helper - CFS - Constr Supt - Apparatus Shop
Ops	T&D - DIST - Distribution	98218 - Haro, Michael Allen	Groundman - Distribution - Field
Ops	T&D - TS&O - Grid Ops	98222 - James, Amy Elizabeth	Outg Coord 2 - Grid Ops - Substation Ops
Ops	T&D - DIST - Distribution	98246 - Davidson, Ryan Jay Anthony	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98248 - Gooch, Dakota G	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98249 - Coburn, Nickolas J	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98319 - Reaume, Garrett Patrick	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	98322 - Gonzalez, Vincent Gabrial	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	98367 - Corcoran, Stephen Edward	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	98369 - Passick, Lucas M	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	98401 - Barrientes, Marco I	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	98422 - Bierbower, Zachary Ray	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	98480 - Rosales, Bryan	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98482 - Sanchez, Joel A	Groundman - Distribution - Field

Ops	T&D - TS&O - Trans	98486 - Serna, James Andrew	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	98491 - Cochenour, J Andrew	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	98504 - Moreno, Solomon Isaac	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	98513 - Doyle, Ryan Edward	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	98598 - Janclaes, James A.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98619 - Flores, Victor Fernando	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98630 - Behnke, Kyle T	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98649 - Hersam, Broc Jacob	Lineman - Distribution - Field
Ops	T&D - TS&O - Trans	98695 - Messerschmitt, Lawrence I	Lineman, Apprentice - Transmission
Ops	T&D - TS&O - Trans	98727 - Hudson, Kyle D	Lineman, Apprentice - Transmission
Ops	T&D - DIST - Distribution	98739 - Aldana, Carlos Ernesto	Troubleman - Distribution
Ops	T&D - DIST - Distribution	98857 - Hargis, Danny Nicholas	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98858 - Courtney, Echo Page Matisse	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	98859 - Jimenez Calderon, Jose Neftali	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98948 - Sadro, Garrett Michael	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98952 - Rivera, Timothy Scott	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	98955 - Orta, Dallas Eulalio	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	99020 - Levesque, Alex	Groundman - Transmission
Ops	T&D - DIST - PM	99318 - Clark Jr, William B	CCM2 - Prgm Mgmt - DPM - SOLO
Ops	T&D - DIST - CFS	99321 - Alvarez Jr, Anthony Vincent	Joint Pole Clerk - CFS - JPO
Ops	T&D - DIST - CFS	9936 - Pham, Joseph T	Inspector, Electrical System - CFS - Constr Supt - ODI
Ops	T&D - DIST - Distribution	99377 - Cordova, Christian Laurent	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	99378 - Avila, Javier Anthony	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	99423 - Leal, Daniel Rene	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99427 - Holt III, JC	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99459 - Green, Joseph dane	Lineman - Distribution - Field
Ops	T&D - DIST - Distribution	99460 - Newton, Matthew R	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99462 - Buenting, Jared Ray	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99463 - Jones, Adam Tyler	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99538 - Covarrubias, Miguel	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99560 - Munoz, Joseph H.	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	9957 - Van Vleet, Jolyn	Const/Maint Support Specialist - Distribution - Operations
Ops	T&D - DIST - Distribution	99592 - Mathiesen, Kevin M	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99593 - Beck, Michael D	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99667 - Cortez, Chase Robert	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99689 - Rozak, Kevin P	Groundman - Distribution - Field
Ops	T&D - DIST - CFS	99690 - Muralles, Julio Cesar	CMC - CFS - FAO
Ops	T&D - DIST - Distribution	99709 - Barrett, Nicholas Edward	Groundman - Distribution - Field
Ops	T&D - DIST - Distribution	99740 - Segovia, Aaron Matthew	Groundman - Distribution - Field
Ops	T&D - TS&O - Trans	99964 - Valdivia, Raul	CCM2 - Transmission - Division

MUTUAL ASSISTANCE AGREEMENT
(Electric and Natural Gas)

AMONG

MEMBERS OF THE
CALIFORNIA UTILITIES EMERGENCY
ASSOCIATION

TABLE OF CONTENTS

0. DEFINITIONS

As used herein, unless otherwise indicated, the following terms are defined as set forth below.

0.1 Activation: The initiation of the Assistance and administrative process of this Agreement including: request for Assistance, assessing and communicating the scope of assistance request, assessing and communicating the resources available for Assistance, activation procedures, mutual assistance coordination, and other processes and procedures supporting the Mobilization of Assistance resources.

0.2 Assistance: Includes all arrangements and preparation for and the actual mobilization of personnel, material, equipment, supplies and/or tools or any other form of aid or assistance, including all related costs and expenses as set forth in this Agreement, provided by an Assisting Party to a Requesting Party, from the time of the official authorization by the Requesting Party and including the return and demobilization by an Assisting Party of its personnel and equipment, also as set forth in this Agreement.

0.3 Deactivation: The termination of the Assistance and administrative process including: notification of Deactivation, Demobilization planning, identification of applicable costs, processes and procedures supporting Demobilization of resources, provide for invoicing, audit, critique information, and closure of the Assistance.

0.4 Demobilization: The actual returning of all Assistance resources to the Assisting Party's normal base.

0.5 Emergency: Any unplanned event that, in the reasonable opinion of the Party to this Agreement, could result, or has resulted, in (a) a hazard to the public, to employees of any Party, or to the environment; (b) material loss to property; or (c) a detrimental effect on the reliability of any Party's electric or natural gas system. The Emergency may be confined to the utility infrastructure or may include community-wide damage and emergency response. An Emergency may be a natural or human caused event.

0.6 Mobilization: The actual collecting, assigning, preparing and transporting of all Assistance resources.

0.7 Mutual Assistance Liaison: The person(s) designated by the Requesting Party, and Assisting Party, to coordinate all administrative requirements of the Agreement.

0.8 Natural Gas or Gas: The term "natural gas" as used in this Agreement shall include all commercially available forms of natural gas including Synthetic Natural Gas.

0.9 Operations Liaison: As described in Section 3.18, the person or persons designated by the Requesting Party to provide direct contact, communications and coordination at the operations level for Assisting Party's crews and resources at the location of the assistance. This may include but is not limited to: contact and communications for assisting crews, safety information processes and procedures, ensuring coordination of lodging and meals, addressing issues of Equipment requirements, materials requirements, and other logistical issues necessary to ensure safe effective working conditions.

0.10 Qualified: The training, education and experience of employees completing an apprenticeship or other industry / trade training requirements consistent with Federal Bureau of Apprenticeships and Training, Department of Transportation Pipeline Safety Regulations, or other recognized training authority or regulation. Training and qualification standards and are the responsibility of the Requesting Party to evaluate, in advance, the acceptable level of qualification for trade employees (i.e. lineman, electrician, fitter, etc.).

0.11 Work Stoppages: Any labor disputes, labor union disagreements, strikes, or any circumstance creating a shortage of qualified labor for a company during a non-emergency situation.

MUTUAL ASSISTANCE AGREEMENT
(Electric and Natural Gas)

1. PARTIES

This Mutual Assistance Agreement (hereinafter referred to as "Agreement") is made and entered into effective September 15, 2005. Each Party is, and at all times it remains a Party, shall be a member in good standing of the California Utilities Emergency Association. Each of the parties that has executed this Agreement may hereinafter be referred to individually as "Party" and collectively as "Parties." The Parties to this Agreement are listed in Attachment "A" hereto.

2. RECITALS

This Agreement is made with reference to the following facts, among others:

2.1 Certain of the Parties to this Agreement entered into a prior agreement ("Prior Agreement") dated December 16, 1994 to provide one another with mutual assistance. This Prior Agreement set forth procedures governing the requesting and providing of assistance in the restoration of electric and/or natural gas service. It is the intention of the Parties that this new Agreement, when signed by the Parties shall be effective for requesting or providing Assistance for the restoration of electric service following natural or man-made Emergencies which may occur on or after the date on which each of the Parties involved in the requesting or providing of Assistance signed this Agreement. Upon execution of this Agreement the Prior Agreement shall terminate, except that any rights or obligations which arose under the Prior Agreement shall remain unaffected by this new Agreement. Upon satisfaction of any such rights or obligations, the Prior Agreement shall be of no further validity or effect.

2.2 Being a Party to this Agreement does not by itself assure any Party that Assistance will be provided if, when or as requested. Each Party reserves the sole right to respond or not to respond to requests for Assistance on a case-by-case basis. By signing this Agreement, each Party thereby agrees that any Assistance which is received or given upon the request of a Party to this Agreement shall be subject to each and every one of the terms and conditions of this Agreement.

2.3 The Parties own, operate and maintain electric and/or natural gas utility facilities and are engaged in the production, acquisition, transmission, and / or distribution of electricity or natural gas.

2.4 Each of the Parties operates and maintains their respective facilities within accepted industry practices and employs skilled and Qualified personnel to operate, repair and maintain such facilities according to such industry practices.

2.5 It is in the mutual interest of the Parties to be prepared to provide for Emergency repair and restoration to such services, systems and facilities on a reciprocal basis. The purpose of this new Agreement is to provide the procedures under which one Party may request and receive assistance from another Party. This new Agreement is also designed to allow a new Party to join in the Agreement by signing a copy of this Agreement following the giving of notice to the existing Parties pursuant to Section 6.3 of this Agreement.

2.6 Assistance for labor shortages due to Work Stoppages are beyond the scope of this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the Parties have mutually agreed effective on the date set forth on the signature page hereof and agree further as follows:

3. SCOPE OF ASSISTANCE

3.1 In the event of an Emergency affecting the electrical generation, electrical or natural gas transmission, distribution, and/or related facilities owned or controlled by a Party, such Party ("Requesting Party") may request another Party ("Assisting Party") to provide Assistance. The Assisting Party shall, in its sole discretion, determine if it shall provide such Assistance. If the Assisting Party determines to provide Assistance, such Assistance shall be provided in accordance with the terms and conditions of this Agreement.

3.2 Requests for Assistance may be made either verbally or in writing by the Authorized Representative of the Requesting Party and shall be directed to the Authorized Representative of the Assisting Party. Authorized Representatives of the Parties are identified in Attachment “B” hereto and shall be updated upon any change in such Authorized Representative. Upon acceptance of a request for Assistance either verbally or in writing, the Assisting Party shall respond with reasonable dispatch to the request in accordance with information and instructions supplied by the Requesting Party. All requests for Assistance shall follow the procedures described in Attachment "D". The Requesting Party shall also follow the procedures set forth in Attachment “E” for Deactivation of Assistance.

3.3 The Requesting Party shall provide the Assisting Party with a description of the work needed to address the Emergency, with the most urgent needs for Assistance addressed first. If the request is not based on a lack of resources, such information must be stated in the request. The Assisting Party shall use its reasonable efforts to schedule the Assistance in accordance with the Requesting Party's request. However, the Assisting Party reserves the right to recall any and all personnel, material, Equipment, supplies, and/or tools at any time that the Assisting Party determines necessary for its own operations. Any Requesting Party for whom an Operator Qualification (OQ) Program and/or Drug and Alcohol Program under 49 CFR Parts 192 and 199 respectively, is required should pre-screen the other Parties to this Agreement to determine which Parties have compatible regulatory agency accepted programs and may therefore be contacted for assistance. Parties to this agreement agree to make their programs and related records available for review to assist in the pre-screening.

3.4 The Requesting Party will provide the name and contact information for the person(s) designated as the Mutual Assistance Liaison(s), the Operations Liaison(s) described in Section 3.18, and person(s) to be designated as supervisory personnel to accompany the crews and Equipment. The Assisting Party will provide the name(s) and contact information for the person(s) designated to be the Mutual Assistance Liaison and the Operations Liaison(s).

3.5 All Reasonable Costs and Expenses associated with the furnishing of Assistance shall be the responsibility of the Requesting Party and deemed to have commenced when the Requesting Party officially authorizes the Assisting Party to proceed with Mobilization of the personnel and Equipment necessary to furnish Assistance, and shall be deemed to have terminated after Demobilization when the transportation of Assisting Party personnel and Equipment returns to the work headquarters, individual district office, or home (to which such personnel are assigned for personnel returning at other than regular working hours) is completed.

For the purposes of this Agreement, a Requesting Party shall be deemed to have authorized the Assisting Party to proceed with Mobilization when the Requesting Party signs and submits a formal request to the Assisting Party, in a form substantially similar to that included as Attachment “F”. If written information cannot be furnished, a verbal confirmation will be acceptable, with a written confirmation to follow within 24 hours.

The Parties hereto agree that costs arising out of inquiries as to the availability of personnel, material, Equipment, supplies and/or tools or any other matter made by one party to another prior to the Requesting Party authorizing the Assisting Party to proceed with Mobilization, as set forth in this Section 3.5, will not be charged to the potentially Requesting Party.

3.6 For purposes of this Agreement, the term "Reasonable Costs or Expenses" shall be defined to mean those costs, expenses, charges, or outlays paid or incurred by an Assisting Party in any approved phase of rendering Assistance to a Requesting Party pursuant to the provisions of this Agreement. Reasonable Costs or Expenses shall be deemed to include those costs and/or expenses that are appropriate and not excessive; under the circumstances prevailing at the time the cost or expense is paid or incurred. Reasonable Costs or Expenses may include, but are not limited to, direct operating expenses such as wages, materials and supplies, transportation, fuel, utilities, housing or shelter, food, communications, and reasonable incidental expenses, as well as indirect expenses and overhead costs such as payroll additives, taxes, insurance, depreciation, and administrative and general expenses. Notwithstanding the above, any such Reasonable Costs or Expenses shall continue to be subject to the provisions of Section 5 of this Agreement regarding Audit and Arbitration.

3.7 The Assisting Party and Requesting Party shall mutually agree upon and make all arrangements for the preparation and actual Mobilization of personnel, material, Equipment, supplies and/or tools to the Requesting Party's work area and the return (i.e. Demobilization) of such personnel, material, Equipment, supplies and/or tools to the Assisting Party's work area. The Requesting Party shall be responsible for all Reasonable Costs or Expenses incurred by the Assisting Party for Mobilization and/or Demobilization, notwithstanding any early termination of such assistance by the Requesting Party.

3.8 Unless otherwise agreed upon in writing, the Requesting Party shall be responsible for providing food and lodging for the personnel of the Assisting Party from the time of their arrival at the designated location to the time of their departure. The food and housing provided shall be subject to the approval of the supervisory personnel of the Assisting Party.

3.9 If requested by the Assisting Party, the Requesting Party, at its own cost, shall make or cause to be made all reasonable repairs to the Assisting Party's Equipment, necessary to maintain such Equipment safe and operational, while the Equipment is in transit or being used in providing Assistance. However, the Requesting Party shall not be liable for cost of repair required by the gross negligence, bad faith or willful acts or misconduct of the Assisting Party.

3.10 Unless otherwise agreed the Requesting Party shall provide fuels and other supplies needed for operation of the Assisting Party's vehicles and Equipment being used in providing Assistance.

3.11 Unless otherwise agreed to by the Parties, the Requesting Party shall provide field communications Equipment and instructions for the Assisting Party's use. The Assisting Party shall exercise due care in use of the Equipment and return the Equipment to the Requesting Party at the time of departure in like condition; provided, however, if repairs are necessary the Requesting Party will be financially responsible unless such repairs are necessitated by the gross negligence, bad faith or willful acts or misconduct of the Assisting Party.

3.12 Employees of the Assisting Party shall at all times continue to be employees of the Assisting Party, and such employees shall at no time and for no purpose be deemed to be employees of the Requesting Party.

3.13 Wages, hours and other terms and conditions of employment applicable to personnel provided by the Assisting Party, shall continue to be those of the Assisting Party.

3.14 If the Assisting Party provides a crew or crews, it shall assign supervisory personnel as deemed necessary by the Assisting Party, who shall be directly in charge of the crew or crews providing Assistance.

3.15 All time sheets, Equipment and work records pertaining to personnel, material, vehicles, Equipment, supplies and/or tools provided by the Assisting Party shall be kept by the Assisting Party for invoicing and auditing purposes as provided in this Agreement.

3.16 No Party shall be deemed the employee, agent, representative, partner or the co-venturer of another Party or the other Parties in the performance of activities undertaken pursuant to this Agreement.

3.17 The Parties shall, in good faith, attempt to resolve any differences in work rules and other requirements affecting the performance of the Parties' obligations pursuant to this Agreement.

3.18 The Requesting Party and Assisting Party shall each provide an Operations Liaison to assist with operations, personnel and crew safety. These individuals shall be the link between the Parties and keep the crews apprised of safety, operational, and communication issues.

3.19 All work performed by the Parties under this Agreement shall conform to all applicable Laws and Good Utility Practices.

3.20 All workers performing work under this Agreement shall follow their own employer's established safety and other operation rules. Each Party will use its best reasonable effort to respect the safety and work practices of the other Party, and will at all times cooperate in the interest of the safety of both Parties. Where it is not possible for both Parties to safely and independently follow their own safety and work practices, field personnel will discuss and mutually agree upon the safety and work practices for both Parties for the particular work at issue

4. PAYMENT

4.1 The Requesting Party shall reimburse the Assisting Party for all Reasonable Costs and Expenses that are appropriate and not excessive, under the circumstances prevailing at the time the cost or expense is paid or incurred by the Assisting Party as a result of furnishing Assistance. Such costs and expenses shall include, but not be limited to, the following:

(a) Employees' wages and salaries for paid time spent in Requesting Party's service area and paid time during travel to and from such service area, plus the Assisting Party's standard payroll additives to cover all employee benefits and allowances for vacation, sick leave, holiday pay, retirement benefits, all payroll taxes, workers' compensation, employer's liability insurance, administrative and general expenses, and other benefits imposed by applicable law or regulation.

(b) Employee travel and living expenses (meals, lodging, and reasonable incidentals).

(c) Cost of Equipment, materials, supplies and tools at daily or hourly rate, including their normally applied overhead costs inclusive of taxes, insurance, depreciation, and administrative expenses. Cost to replace or repair Equipment, materials, supplies, and tools (hereinafter collectively referred to as the "Equipment", which are expended, used, damaged, or stolen while the Equipment is being used in providing Assistance; provided, however, the Requesting Party's financial obligation under this Section 4.1 (c): (i) shall not apply to any damage or loss resulting from the gross negligence, bad faith or willful misconduct of the Assisting Party, and (ii) shall only apply in excess of, and not contribute with, any valid and collectible property insurance which applies to such damage or loss.

(d) Cost of vehicles provided by Assisting Party for performing Assistance at daily or hourly rate, including normally applied overhead costs inclusive of taxes, insurance, depreciation, and administrative expenses. Cost to repair or replace vehicles which are damaged or stolen while the vehicles are used in providing Assistance; provided, however, that Requesting Party's financial obligation under this Section 4.1 (d): (i) shall not apply to any damage or loss resulting from the gross negligence, bad faith or willful misconduct of the Assisting Party, and (ii) shall only apply in excess of, and not contribute with, any valid and collectible first-party physical damage insurance which applies to such loss.

(e) Administrative and general costs which are properly allocable to the Assistance to the extent such costs are not chargeable pursuant to the foregoing subsections.

(f) Overtime costs incurred by the Assisting Party in their service territory as a result of Assistance provided to the Requesting Party.

4.2 Unless otherwise mutually agreed to, the Assisting Party shall invoice the Requesting Party at the address designated on Attachment "B" for all Reasonable Costs and Expenses of the Assisting Party in one invoice. If the Assistance extends beyond a thirty (30) day period, invoicing can occur monthly unless otherwise agreed upon in writing. The Assisting Party shall provide the invoice in substantially the form set forth in Attachment "G".

4.3 The Requesting Party shall pay such invoice in full within sixty (60) days of receipt of the invoice, and shall send payment to the Assisting Party at the address listed in Attachment "B" unless otherwise agreed to in writing.

4.4 Delinquent payment of invoices shall accrue interest at a rate of twelve percent (12%) per year prorated by days until such invoices are paid in full.

5. AUDIT AND ARBITRATION

5.1 A Requesting Party has the right to designate its own qualified employee representative(s) or its contracted representative(s) with a management/accounting firm who shall have the right to audit and to examine any cost, payment, settlement, or supporting documentation relating to any invoice submitted to the Requesting Party pursuant to this Agreement.

5.2 A request for audit shall not affect the obligation of the Requesting Party to pay amounts due as required herein. Any such audit(s) shall be undertaken by the Requesting Party or its representative(s) upon notice to the Assisting Party at reasonable times in conformance with generally accepted auditing standards. The Assisting Party agrees to reasonably cooperate with any such audit(s).

5.3 This right to audit shall extend for a period of two (2) years following the receipt by Requesting Party invoices for all Reasonable Costs and Expenses. The Assisting Party agrees to retain all necessary records/documentation for the said two-year period, and the entire length of this audit, in accordance with its normal business procedures.

5.4 The Assisting Party shall be notified by the Requesting Party, in writing, of any exception taken as a result of the audit. In the event of a disagreement between the Requesting Party and the Assisting Party over audit exceptions, the Parties agree to use good faith efforts to resolve their differences through negotiation.

5.5 If ninety (90) days or more have passed since the notice of audit exception was received by the Assisting Party, and the Parties have failed to resolve their differences, the Parties agree to submit any unresolved dispute to binding arbitration before an impartial member of an unaffiliated management/accounting firm. Arbitration shall be governed by the laws of the State of California. Each Party to an arbitration will bear its own costs, and the expenses of the arbitrator shall be shared equally by the Parties to the dispute.

6. TERM AND TERMINATION

6.1 This Agreement shall be effective on the date of execution by at least two Parties hereto and shall continue in effect indefinitely, except as otherwise provided herein. Any Party may withdraw its participation at any time after the effective date with thirty (30) days prior written notice to all other Parties.

6.2 As of the effective date of any withdrawal, the withdrawing Party shall have no further rights or obligations under this Agreement except the right to collect money owed to such Party, the obligation to pay amounts due to other Parties, and the rights and obligations pursuant to Section 5 and Section 7 of this Agreement.

6.3 Notwithstanding Section 12, additional parties may be added to the Agreement, without amendment, provided that thirty 30 days notice is given to all Parties and that any new Party agrees to be bound by the terms and conditions of this Agreement by executing a copy of the same which shall be deemed an original and constitute the same agreement executed by the Parties. The addition or withdrawal of any Party to this Agreement shall not change the status of the Agreement among the remaining Parties.

7. LIABILITY

7.1 Except as otherwise specifically provided by Section 4.1 and Section 7.2 herein, to the extent permitted by law and without restricting the immunities of any Party, the Requesting Party shall defend, indemnify and hold harmless the Assisting Party, its directors, officers, agents, employees, successors and assigns from and against any and all liability, damages, losses, claims, demands actions, causes of action, and costs including reasonable attorneys' fees and expenses, resulting from the death or injury to any person or damage to any property, which results from the furnishing of Assistance by the Assisting Party, unless such death or injury to person, or damage to property, is caused by the gross negligence or willful misconduct of the Assisting Party.

7.2 Each Party shall bear the total cost of discharging all liability arising during the performance of Assistance by one Party to the other (including costs and expenses for reasonable attorneys' fees and other costs of defending, settling, or otherwise administering claims) which results from workers' compensation claims or employers' liability claims brought by its own employees. Each Party agrees to waive, on it own behalf, and on behalf of its insurers, any subrogation rights for benefits or compensation paid to such Party's employees for such claims.

7.3 In the event any claim or demand is made, or suit or action is filed, against the Assisting Party, alleging liability for which the Requesting Party shall indemnify and hold harmless the Assisting Party, Assisting Party shall notify the Requesting Party thereof, and the Requesting Party, at its sole cost and expense, shall settle, compromise or defend the same in such manner as it, in its sole discretion, deems necessary or prudent. However, Requesting Party shall consult with Assisting Party during the pendency of all such claims or demands, and shall advise Assisting Party of Requesting Party's intent to settle any such claim or demand. The Party requesting indemnification should notify the other Party in writing of that request.

7.4 The Equipment which the Assisting Party shall provide to the Requesting Party pursuant to Section 3 above, is accepted by the Requesting Party in an "as is" condition, and the Assisting Party makes no representations or warranties as to the condition, suitability for use, freedom from defect or otherwise of such Equipment. Requesting Party shall utilize the Equipment at its own risk. Requesting Party shall, at its sole cost and expense, defend, indemnify and hold harmless Assisting Party, its directors, officers, agents, employees, successors and assigns, from and against any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorneys' fees and expenses, resulting from the death or injury to any person or damage to any property, arising out of the utilization of the Equipment by or for the Requesting Party, or its employees, agents, or representatives, unless such death, injury, or damage is caused by the gross negligence, bad faith or willful misconduct of the Assisting Party.

7.5 No Party shall be liable to another Party for any incidental, indirect, or consequential damages, including, but not limited to, under-utilization of labor and facilities, loss of revenue or anticipated profits, or claims of customers arising out of supplying electric or natural gas service, resulting from performance or nonperformance of the obligations under this Agreement.

7.6 Nothing in Section 7, Liability, or elsewhere in this Agreement, shall be construed to make the Requesting Party liable to the Assisting Party for any liability for death, injury, or property damage arising out of the ownership, use, or maintenance of any watercraft (over 17 feet in length) or aircraft which is supplied by or provided by the Assisting Party. It shall be the responsibility of the Assisting Party to carry liability and hull insurance on such aircraft and watercraft as it sees fit. Also, during periods of operation of watercraft (over 17 feet in length) or aircraft in a situation covered by this Agreement, the Party which is the owner/lessee of such aircraft or watercraft shall use its best efforts to have the other Parties to this Agreement named as additional insures on such liability coverage.

8. GOVERNING LAW

This Agreement shall be interpreted, governed and construed by and under the laws of the State of California as if executed and to be performed wholly within the State of California.

9. AUTHORIZED REPRESENTATIVE

The Parties shall, within thirty 30 days following execution of this Agreement, appoint Authorized Representatives and Alternate Authorized Representatives, and exchange all such information as provided in Attachment “B”. Such information shall be updated by each Party prior to January 1st of each year that this Agreement remains in effect, or within 30 days of any change in Authorized Representative or Alternate Representative. The Authorized Representatives or the Alternate Authorized Representatives shall have the authority to request and provide Assistance.

10. ASSIGNMENT OF AGREEMENT

No Party may assign this Agreement, or any interest herein, to a third party, without the written consent of the other Parties.

11. WAIVERS OF AGREEMENT

Failure of a Party to enforce any provision of this Agreement, or to require performance by the other Parties of any of the provisions hereof, shall not be construed to waive such provision, nor to affect the validity of this Agreement or any part thereof, or the right of such Parties to thereafter enforce each and every provision. This Agreement may not be altered or amended, except by a written document signed by all Parties.

12. ENTIRE AGREEMENT

This Agreement and the Exhibits referenced in or attached to this Agreement constitute the entire agreement between the Parties concerning the subject matter of the Agreement. It supersedes and takes the place of all conversations the Parties may have had, or documents the Parties may have exchanged, with regard to the subject matter, including the Prior Agreement.

13. AMENDMENT

No changes to this Agreement other than the addition of new Parties shall be effective unless such changes are made by an amendment in writing, signed by each of the Parties hereto. A new Party may be added to this Agreement upon the giving of 30 days notice to the existing Parties and upon the new Party's signing a copy of this Agreement as in effect upon the date the new Party agrees to be bound by each and every one of the Agreement's terms and conditions.

14. NOTICES

All communications between the Parties relating to the provisions of this Agreement shall be addressed to the Authorized Representatives of the Parties, or in their absence, to the Alternate Authorized Representative as identified in Attachment "B". Communications shall be in writing, and shall be deemed given if made or sent by e-mail with confirmation of receipt by reply email, confirmed fax, personal delivery, or registered or certified mail postage prepaid. Each Party reserves the right to change the names of those individuals identified in Attachment "B" applicable to that Party, and shall notify each of the other Parties of such change in writing. All Parties shall keep the California Utilities Emergency Association informed of the information contained in Attachment "B" and reply to all reasonable requests of such association for information regarding the administration of this Agreement.

15. GENERAL AUTHORITY

Each Party hereby represents and warrants to the other Parties that as of the date this Agreement is executed by the Parties: (i) the execution, delivery and performance of this Agreement have been duly authorized by all necessary action on its part and it has duly and validly executed and delivered this Agreement; (ii) the execution, delivery and performance of this Agreement does not violate its charter, by-laws or any law or regulation by which it is bound or governed, and (iii) this Agreement constitutes a legal, valid and binding obligation of such Party enforceable against it in accordance with the terms hereof, except to the extent such enforceability may be limited by bankruptcy, insolvency, reorganization of creditors' rights generally and by general equitable principles.

16. ATTACHMENTS

The following attachments to this Agreement are incorporated herein by this reference:

Attachment A Parties to the Agreement;

Attachment B Names and Address of Authorized Representative(s)/Invoicing;

Attachment C Custodianship of Agreement;

Attachment D Procedures for Requesting and Providing Assistance;

Attachment E Procedures for Deactivation of Assistance;

Attachment F Request for Assistance Letter;

Attachment G Invoice.

16. SIGNATURE CLAUSE

This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one and the same agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized officers as of the dates set forth below.

Company Name: ____

Signature of Officer: ____

Title of Officer: ____

Date Executed: ____

ATTACHMENT A
February 2013

Parties to the Mutual Assistance Agreement
(Electric and Natural Gas)
Among Members of the California Utilities Emergency Association

- **Alameda Municipal Power – Dept of City of Alameda (2011)**
  Girish Balachandran girish@alamedamp.com
  Cellular Phone: 510-715-8929

- **Anza Electric Cooperative, Inc (2011)**
  Eli Higgins elih@anzaelectric.org
  Cellular Phone: 951-662-9347

- **Azusa Light & Water (2009)**
  David M. Ramirez dramirez@ci.azusa.ca.us
  Cellular Phone: 909-255-3105

- **Bear Valley Electric Service (2012)**
  Harry Scarborough harry.scarborough@bves.com
  Cellular Phone:

- **Burbank Water and Power (2010)**
  Jorge Somoano jsomoano@ci.burbank.ca.us
  Cellular Phone: 818-399-5171

- **Colton Public Utilities (2011)**
  Tim Lunt tlunt@ci.colton.ca.us
  Cellular Phone: 909-772-7877

- **Glendale Water and Power (2011)**
  Ramon Abueg rabueg@ci.glendale.ca.us
  Cellular Phone: 818-262-7496

- **City of Healdsburg Electric Department (2011)**
  Todd Woolman twoolman@ci.healdsburg.ca.us
  Cellular Phone: 707-480-6485

- **Hercules Municipal Utility (2012)**
  Bob Streich: bstreich@ci.hercules.ca.us
  Cellular Phone: 415-722-4768

- **Imperial Irrigation District (2012)**
  Gary Hatfield gdhatfield@iid.com
  Cellular Phone: 760-427-0744

- **Lassen Municipal Utility District (2011)**
  David Folce dfolce@lmud.org
  Cellular Phone: 530-310-2704

- **Liberty Energy (2011)**
  Phillip Carrillo phil.carrillo@liberty-energy.com
  Cellular Phone: 530-412-2968

- **City of Lompoc (2010)**
  Ronald Stassi r_stassi@ci.lompoc.ca.
  Cellular Phone: 805-588-3163

- **Los Angeles Department of Water and Power (2011)**
  Jay Puklavetz jay.puklavetz@ladwp.com
  Cellular Phone: 310-261-8014

- **Modesto Irrigation District (2011)**
  Thomas Kimball tomk@mid.org
  Cellular Phone: 209-652-0283

- **City of Moreno Valley Electric Utility (2013)**
  Jeannette Olko: jeannetteo@moval.org
  Cellular Phone: 909-709-8676

- **Pacific Gas & Electric Company (2012)**
  Angie Gibson AMG2@PGE.COM
  Cellular Phone: 707-272-3169

- **Pacific Power, a division of PacifiCorp (2010)**
  William Eaquinto Bill.eaquinto@pacificorp.com
  Cellular Phone: 503-819-5449

- **City of Palo Alto (2010)**
  Dean Batchelor dean.batchelor@cityofpaloalto.org
  Cellular Phone: 650-444-6204

- **Pasadena Water and Power: Power Delivery (2009)**
  Joe Awad jawad@cityofpasadena.net
  Cellular Phone: 626-399-6569

- **Pittsburg Power Company dba Island Energy (2012)**
  Peter Guadagni pguadagni@ci.pittsburg.ca.us
  Cellular Phone: 925-726-9277

- **Plumas-Sierra Rural Electric Cooperative (2011)**
  Jason Harston jharston@psrec.coop
  Cellular Phone: 530-249-4605

- **City of Redding – Redding Electric Utility (2009)**
  Brian King bking@ci.redding.ca.us
  Cellular Phone: 530-356-2458

- **City of Riverside (2012)**
  Ron Cox rcox@riversideca.gov
  Cellular Phone: (951) 850-4546

- **City of Roseville – Roseville Electric (2010)**
  David Brown djbrown@roseville.ca.us
  Cellular Phone: 916-847-5640

- **Sacramento Municipal Utility District (2011)**
  Selby Mohr smohr@smud.org
  Cellular Phone: 916-798-6647

- **San Diego Gas & Electric Company (2011)**
  Ken Fussell kfussell@semprautilties.com
  Cellular Phone: 619-851-4598

- **City of Shasta Lake (2011)**
  Kevin Estabrook Kevin.estabrook@ci.shasta-lake.ca.us
  Cellular Phone: 530-227-8775

- **Silicon Valley Power, Electric Utility of City of Santa Clara (2011)**
  Paul Foster pfoster@svpower.com
  Cellular Phone: 408-640-6980

- **Southern California Edison Company (2011)**
  Nancy Sacre sacrenm@sce.com
  Cellular Phone: 626-602-0680

- **Southern California Gas Company (2011)**
  Ken Fussell kfussell@semprautilties.com
  Cellular Phone: 619-851-4598

- **Southwest Gas Company (2011)**
  Jerome T. Schmitz Jerry.Schmitz@swgas.com
  Cellular Phone: 702-876-7112

- **Truckee-Donner Public Utility District (2011)**
  Jim Wilson jimwilson@tdpud.org
  Cellular Phone: 530-448-3016

- **City of Ukiah (2011)**
  Colin Murphey cmurphey@cityofukiah.com
  Cellular Phone: 707-272-0880

ATTACHMENT B

Names and Address of Authorized Representative(s)/Invoicing

Date ______________________________
Name of Utility ______________________________
Mailing Address ______________________________
City, State, Zip ______________________________

Individuals to Call for Emergency Assistance:

AUTHORIZED REPRESENTATIVE

Name ______________________________
Title ______________________ Address ______________________
E-Mail ______________________ Pager No. ______________________
Day Phone ______________________ Night Phone ______________________
FAX ______________________ Cellular Phone ______________________

ALTERNATE AUTHORIZED REPRESENTATIVE

Name ______________________________
Title ______________________ Address ______________________
E-Mail ______________________ Pager No. ______________________
Day Phone ______________________ Night Phone ______________________
FAX ______________________ Cellular Phone ______________________

DISPATCH CENTER WITH 24-HOUR TELEPHONE ANSWERING

Name ______________________________
Title ______________________________
Address ______________________________
Phone ______________________ Radio Frequency ______________________
FAX ______________________________

INVOICING/PAYMENT ADDRESS

Name of Utility ______________________________
Department of Utility ______________________________
Invoicing/Payment Address ______________________________
City, State, Zip ______________________________
Telephone No. ______________________________
FAX ______________________________

ATTACHMENT C

Custodianship of Agreement

Responsibilities of the California Utilities Emergency Association's Mutual Assistance Agreement (Electric) Custodian are:

A. Request all Parties provide an annual update of the Authorized Representative and Alternate Authorized Representative, as identified in Attachment "B", no later than December 15 of each year.

B. Distribute annual update of Attachment "B" no later than January 15 of each year.

C. Coordinate and facilitate meetings of the parties to the Agreement, as necessary, to include an after action review of recent mutual assistance activations and document changes requested by any party to the Agreement. An annual meeting will also be held to review general mutual assistance issues.

D. Assist and guide utilities interested in becoming a party to the Agreement by providing a copy of the existing Agreement for their review and signature.

E. Facilitate any necessary reviews of the Agreement.

ATTACHMENT D

Procedures for Requesting and Providing Assistance

A. The Requesting Party shall include the following information, as available in its request for Assistance:

A.1 A brief description of the Emergency creating the need for the Assistance;
A.2 A general description of the damage sustained by the Requesting Party, including the part of the electrical or natural gas system, e.g., generation, transmission, substation, or distribution, affected by the Emergency;
A.3 The number and type of personnel, Equipment, materials and supplies needed;
A.4 A reasonable estimate of the length of time that the Assistance will be needed;
A.5 The name of individuals employed by the Requesting Party who will coordinate the Assistance;
A.6 A specific time and place for the designated representative of the Requesting Party to meet the personnel and Equipment being provided by the Assisting Party;
A.7 Type of fuel available (gasoline, propane or diesel) to operate Equipment;
A.8 Availability of food and lodging for personnel provided by the Assisting Party; and
A.9 Current weather conditions and weather forecast for the following twenty-four hours or longer.

B. The Assisting Party, in response to a request for Assistance, shall provide the following information, as available, to the Requesting Party:

B.1 The name(s) of designated representative(s) to be available to coordinate Assistance;
B.2 The number and type of crews and Equipment available to be furnished;
B.3 Materials available to be furnished;
B.4 An estimate of the length of time that personnel and Equipment will be available;
B.5 The name of the person(s) to be designated as supervisory personnel to accompany the crews and Equipment; and
B.6 When and where Assistance will be provided, giving consideration to the request set forth in section A.6. above.

ATTACHMENT E

Procedures for Deactivation of Assistance

A. The Requesting Party shall, as appropriate, include the following in their Deactivation:

- A.1 Number of crews returning and, if not all crews are returning, expected return date of remaining crews.
- A.2 Notification to the Assisting Party of the time crews will be departing.
- A.3 Information on whether crews have been rested prior to their release or status of crew rest periods.
- A.4 Current weather and travel conditions along with suggested routing for the Assisting Party's return.

B. The Assisting Party shall, as appropriate, include the following in their Deactivation:

- B.1 Return of any Equipment, material, or supplies, provided by the Requesting Party.
- B.2 Provide any information that may be of value to the Requesting Party in their critique of response efforts.
- B.3 Estimation as to when invoice will be available.
- B.4 Invoice to include detail under headings such as labor charges (including hours) by normal time and overtime, payroll taxes, overheads, material, vehicle costs, fuel costs, Equipment rental, telephone charges, administrative costs, employee expenses, and any other significant costs incurred.
- B.5 Retention of documentation as specified in Section 5.3 of the Mutual Assistance Agreement.
- B.6 Confirmation that all information pertaining to the building, modification, or other corrective actions taken by the Assisting Party have been appropriately communicated to the Requesting Party.

ATTACHMENT F

Letter Requesting Assistance

Date

Assisting Party Name

Assisting Party Address

In recognition of the personnel, material, Equipment, supplies and/or tools being sent to us by [name of Assisting Party] in response to a request for mutual assistance made by [Requesting Party] on [date of request], we agree to be bound by the principles noted in the California Utilities Emergency Association Mutual Assistance Agreement (Electric and Natural Gas).

(Brief Statement of Assistance Required)

[Requesting Party Name]

[Authorized Representative of Requesting Party].

<u>[Signature of Authorized Representative of Requesting Party]</u>

ATTACHMENT G

SUPPLEMENTAL INVOICE INFORMATION

Sections 4 and 5 of this Mutual Assistance Agreement provide for the accumulation of costs incurred by the Assisting Party to be billed to the Requesting Party for Assistance provided. Each utility company has their own accounts receivable or other business enterprise system that generates their billing invoices. Generally these invoices do not provide for a breakdown of costs that delineate labor hours, transportation costs, or other expenses incurred in travel to and from the Assistance, or the subsequent repair of equipment that may be necessary.

This attachment provides guidelines, format and explanations of the types of cost breakdown, and supportive information and documentation that are important to accompany the invoice for providing of mutual assistance. It is intended to provide sufficient information to the Requesting Party at the time of invoice to minimize an exchange of detail information requests that may delay the payment of the invoice.

This information in no way eliminates the requesting Party's ability to audit the information or request additional cost detail or documentation.

Supplemental Invoice Information is a recommendation and not a requirement.

The form is available electronically from the Agreement Custodian.

CUEA MUTUAL ASSISTANCE AGREEMENT
(ELECTRIC – NATURAL GAS)
SUPPLEMENTAL INVOICE INFORMATION

This supplemental invoice information detail is submitted pursuant to Sections 4.0 and 5.0 of the CUEA, Mutual Assistance Agreement for Electric and Natural Gas, for assistance provided. *(RP = Requesting Party, AP = Assisting Party)*

AP Invoice Date: ______ RP Purchase Order # *1* ______

AP Invoice #: ______ RP Reference or W/O# *2* ______

Bill To: *3* (Requesting Party) ______ Remit To: *4* (Assisting Party) ______

Address: ______ Address: ______

Phone: ______ Phone: ______

Attention: *5* ______ Attention: *6* ______

Name or Description of Event: ______

Location of Assistance or Event: ______

Assistance / Billing Period: From: *7* ______ (Date Assistance Accepted:) To: *8* ______ (Date Demobilization Complete:)

LABOR 1: *Employee Wages and Salary while at RP Service Area 9*

Labor: Straight Time, Overtime and Premiums:	*Hours*	Wages	*Additives*	***LABOR 1 Subtotal:***

LABOR 2: *Employee Wages and Salary while traveling to and from RP Service Area 10*

Labor: Straight Time, Overtime and Premiums:	*Hours*	Wages	*Additives*	***LABOR 2 Subtotal:***

LABOR 3: *Employee Wages and Salary of service and support personnel not traveling to RP Service Area 11*

Labor: Straight Time, Overtime and Premiums:	*Hours*	Wages	*Additives*	***LABOR 3 Subtotal:***

LABOR 4: *Overtime Wages and Salary Incurred in AP Service Area as a Result of Assistance 12*

Labor: Overtime and Premiums:	*Hours*	Wages	*Additives*	***LABOR 4 Subtotal:***

LABOR TOTAL ***TOTAL Wages, Salaries and Payroll Additives:*** ______

MATERIALS: *Cost of materials, supplies, tools, and repair or replacement of non-fleet equipment used in assistance 13*

MATERIALS TOTAL ***TOTAL Materials, Equipment, etc. and Additives:*** ______

TRANSPORTATION: *Cost of vehicles and equipment including parts and repairs and Additives (No Wages)*

Fleet Costs: *(Hourly or Use Charge for vehicles and equipment and Additives) 14* ______

Repair Costs: *(Cost of repair or replacement of vehicles and equipment, excluding labor) 15* ______

TRANSPORTATION TOTAL ***TOTAL Vehicles, Equipment, etc. and Additives:*** ______

EXPENSE: *Cost of transporting employees and equipment, to and from RP's Service area, and living expenses not provided by RP.*

Transportation Expense: *Cost to transport vehicles and equipment (fleet) to and from RP Service Area 16* ______

Travel Expense: *Cost to transport personnel, airfare etc., (non-fleet equip/tools) to and from RP Service Area 17* ______

Living Expense: *Cost of meals, lodging and incidentals not provided by RP or incurred during travel 18*

Meals: ______ *Lodging:* ______ *Incidentals:* ______ ______

EXPENSE TOTAL ***TOTAL Transportation, Travel and Living and Additives:*** ______

ADMINISTRATIVE & GENERAL COSTS: *Cost properly allocable to the Assistance and not charged in above sections 19*

ADMINISTRATIVE & GENERAL TOTAL

TOTAL Administrative & General: ____________

All costs and expenses of Assisting Company are summarized in this Invoice.

Pay This Amount: ____________

(A Form W-9, Request for Taxpayer Identification Number and Certification, has been included with this invoice.) *20*

Instructions and Explanations

This information provides a breakdown of costs incurred in the providing of assistance, and is intended to provide sufficient details to allow Requesting Party to expedite payment by minimizing requests for detailed information. This detailed breakdown, and supportive documentation, should supplement the remittance invoice normally generated by the utility's business enterprise or accounts receivable systems.

Reference Section Explanations: (Numbers correspond to sections on preceding supplemental invoice page(s).)
(Information in parentheses and italics are references to the related section of the CUEA MAA)

1 If Requesting Company has designated a Purchase Order to be used for this remittance, provide the PO number in this space.

2 If Requesting Company has designated a Work Order or Tracking number to be used for this remittance, provide the number here.

3 This "Bill To" address is designated by the Requesting Party and may be the same as the Billing / Payment Address as it appears on the Assisting Company's "Attachment B" of the Agreement. *(Sec. 4.2)*

4 This "Remittance Address" is the address specified on the Assisting Company's Primary Invoice.

5 The person identified in Billing / Payment section of Requesting Party's "Attachment B", or Authorized Representative, or the Requesting Party's designated Mutual Assistance Coordinator.

6 The person identified in Billing / Payment section of Requesting Party's "Attachment B", or Authorized Representative, or the Assisting Party's designated Mutual Assistance Coordinator.

7 The date the assistance was agreed to commence. *(Sec. 3.2)*

8 The date the assistance demobilization is complete. *(Sec. 3.7) (Note: subsequent repair or replacement costs incurred by the AP may be realized and billed past this date, as noticed by the AP to the RP in writing.)*

9 Labor 1: This total includes all hourly wages, including straight time, overtime, premium pay and payroll additives that are the normal payroll of the Assisting Party. This is for <u>time worked in the Requesting Party's service area</u>, and does NOT include time or pay for travel to, or from, the Requesting Party's service area. Labor 1 total includes all employees, management and supervision, that physically traveled to the Requesting Party's service area. (The numbers are reported as totals for Hours, Wages, and Additives (premiums and additives reported in same total). Supportive information such as time sheets, or spreadsheets, that break down the totals reported, is strongly recommended.) *(Sec. 4.1(a))*

10 Labor 2: This total includes all hourly wages, including straight time, overtime, premium pay and payroll additives that are the normal payroll of the Assisting Party. This is for <u>time or pay for travel to, or from, the Requesting Party's service area</u>, and does NOT include time worked in RP's service area. Labor 2 total includes all employees, management and supervision, that physically traveled to the Requesting Party's service area. (The numbers are reported as totals for Hours, Wages, and

Additives (premiums and additives reported in same total). Supportive information such as time sheets, or spreadsheets, that break down the totals reported, is strongly recommended.) *(Sec. 4.1(b))*

11 Labor 3: This total includes all hourly wages, including straight time, overtime, premium pay and payroll additives that are the normal payroll of the Assisting Party. This is for time or pay for employees, management, or supervision that is directly attributed to the assistance, but did NOT travel to the Requesting Party's service area. Labor 3 total may include support services in the Assisting party's own service area such as warehouse, fleet, Assistance Liaisons, administrative and coordination personnel. (The numbers are reported as totals for Hours, Wages, and Additives (premiums and additives reported in same total). (Supportive information such as time sheets, or spreadsheets, that break down the totals reported, is strongly recommended.) *(Sec. 4.1)*

12 Labor 4: This total includes only overtime pay and additives that are incurred by the Assisting Party for emergency response in the Assisting Party's service area, that is directly attributable to the providing of assistance. This total requires detailed support information and explanation provided to the Requesting Party prior to the inclusion of costs for assistance. *(Sec. 4.1 (f))*

13 Materials: This total includes all non-fleet equipment, tools and supplies, provided by Assisting Party's warehouse or other supplier that was used, consumed, or has normally applied overhead costs or depreciation, as outlined in the agreement. *(Sec. 4.1 (c))*

14 Transportation: This total includes the hourly or use charge of vehicles and equipment, and normally applies overheads and additives, for all vehicles and equipment used in the providing of assistance. These are direct *"Fleet"* costs excluding labor, which is included in Labor totals. *(Sec. 4.1 (d))*

15 Transportation: This total includes cost of repair or replacement of vehicles or equipment used in the providing of assistance, by AP, dealer service, or contracted repairs, including all normally applies overheads and additives. These are direct *"Fleet"* costs excluding labor, which is included in Labor totals. *(Sec. 4.1 (d))*

16 Transportation Expense: This total includes only the incurred costs of transporting, by contractor or entity other than the AP or RP, the fleet vehicles and equipment to RP's service area, and return to AP's home base. (Supportive information such as contract carrier's invoice or trip tickets is recommended.)

17 Travel Expense: These include all costs incurred by AP for the transportation of personnel to and from the RP's service area. These include airfare, cab fare, rental vehicles, or any other transportation not provided by the RP. It also included the transportation or shipping costs of non-fleet tools or equipment to and from the RP's service area. *(Sec. 4.1)*

18 Living Expense: This includes all meals, lodging, and incidentals incurred during travel to and from RP's service area. It includes any of these costs incurred while working in the RP's service area that were not provided by the RP. *(Sec. 4.1(b))*

19 Administrative and General Costs: This includes all costs that are allocable to the Assistance, to the extent that they are not included in all the foregoing costs identified in this invoice. *(Sec. 4.1(e))*

20 Form W-9, Tax Identification and Certification: This standard tax form should be completed and accompany this form, unless such information has been previously transmitted to the Requesting Company.

Edison Electric Institute
Mutual Assistance Agreement

Edison Electric Institute ("EEI") member companies have established and implemented an effective system whereby member companies may receive and provide assistance in the form of personnel and equipment to aid in restoring and/or maintaining electric utility service when such service has been disrupted by acts of the elements, equipment malfunctions, accidents, sabotage, or any other occurrence for which emergency assistance is deemed to be necessary or advisable ("Emergency Assistance"). This Mutual Assistance Agreement sets forth the terms and conditions to which the undersigned EEI member company ("Participating Company") agrees to be bound on all occasions that it requests and receives ("Requesting Company") or provides ("Responding Company") Emergency Assistance from or to another Participating Company who has also signed the EEI Mutual Assistance Agreement; provided, however, that if a Requesting Company and one or more Responding Companies are parties to another mutual assistance agreement at the time of the Emergency Assistance is requested, such other mutual assistance agreement shall govern the Emergency Assistance among those Participating Companies.

In consideration of the foregoing, the Participating Company hereby agrees as follows:

(1) When providing Emergency Assistance to or receiving Emergency Assistance from another Participating Company, the Participating Company will adhere to the written principles developed by EEI members to govern Emergency Assistance arrangements among member companies ("EEI Principles"), that are in effect as of the date of a specific request for Emergency Assistance, unless otherwise agreed to in writing by each Participating Company.

(2) With respect to each Emergency Assistance event, Requesting Companies agree that they will reimburse Responding Companies for all costs and expenses incurred by Responding Companies in providing Emergency Assistance as provided under the EEI Principles, unless otherwise agreed to in writing by each Participating Company; provided, however, that Responding Companies must maintain auditable records in a manner consistent with the EEI Principles.

(3) During each Emergency Assistance event, the conduct of the Requesting Companies and the Responding Companies shall be subject to the liability and indemnification provisions set forth in the EEI Principles.

(4) A Participating Company may withdraw from this Agreement at any time. In such an event, the company should provide written notice to EEI's Director of Security of Transmission and Distribution Operations.

(5) EEI's Director of Security of Transmission and Distribution Operations shall maintain a list of each Participating Company which shall be posted on the RestorePower web site at www.restorepower.com. However, a Participating Company may request a copy of the signed Mutual Assistance Agreement of another Participating Company prior to providing or receiving Emergency Assistance.

Southern California Edison

Company Name

Signature

Officer Name: Walter J. Johnston
Title: Vice President Power Delivery
Date: October 29, 2012

EDISON ELECTRIC INSTITUTE RESTORE POWER

SUGGESTED GOVERNING PRINCIPLES COVERING EMERGENCY ASSISTANCE ARRANGEMENTS BETWEEN EDISON ELECTRIC INSTITUTE MEMBER COMPANIES

Electric companies have occasion to call upon other companies for emergency assistance in the form of personnel or equipment to aid in maintaining or restoring electric utility service when such service has been disrupted by acts of the elements, equipment malfunctions, accidents, sabotage or any other occurrences where the parties deem emergency assistance to be necessary or advisable. While it is acknowledged that a company is not under any obligation to furnish such emergency assistance, experience indicates that companies are willing to furnish such assistance when personnel or equipment are available.

In the absence of a continuing formal contract between a company requesting emergency assistance ("Requesting Company") and a company willing to furnish such assistance ("Responding Company"), the following principles are suggested as the basis for a contract governing emergency assistance to be established at the time such assistance is requested:

1. The emergency assistance period shall commence when personnel and/or equipment expenses are initially incurred by the Responding Company in response to the Requesting Company's needs. (This would include any request for the Responding Company to prepare its employees and/or equipment for transport to the Requesting Company's location but to await further instructions before departing). The emergency assistance period shall terminate when such employees and/or equipment have returned to the Responding Company, and shall include any mandated DOT rest time resulting from the assistance provided and reasonable time required to prepare the equipment for return to normal activities (e.g. cleaning off trucks, restocking minor materials, etc.).

2. To the extent possible, the companies should reach a mutual understanding and agreement in advance on the anticipated length – in general – of the emergency assistance period. For extended assistance periods, the companies should agree on the process for replacing or providing extra rest for the Responding Company's employees. It is understood and agreed that if; in the Responding Company's judgment such action becomes necessary the decision to terminate the assistance and recall employees, contractors, and equipment lies solely with the Responding Company. The Requesting Company will take the necessary action to return such employees, contractors, and equipment promptly.

3. Employees of Responding Company shall at all times during the emergency assistance period continue to be employees of Responding Company and shall not be deemed employees of Requesting Company for any purpose. Responding Company shall be an independent Contractor of Requesting Company and wages, hours and other terms and conditions of employment of Responding Company shall remain applicable to its employees during the emergency assistance period.

4. Responding Company shall make available at least one supervisor in addition to crew foremen. All instructions for work to be done by Responding Company's crews shall be given by Requesting Company to Responding Company's supervisor(s); or, when

Responding Company's crews are to work in widely separate areas, to such of Responding Company's foremen as may be designated for the purpose by Responding Company's supervisor(s).

5. Unless otherwise agreed by the companies, Requesting Company shall be responsible for supplying and/or coordinating support functions such as lodging, meals, materials, etc. As an exception to this, the Responding Company shall normally be responsible for arranging lodging and meals en route to the Receiving Company and for the return trip home. The cost for these in transit expenses will be covered by the requesting company.

6. Responding Company's safety rules shall apply to all work done by their employees. Unless mutually agreed otherwise, the Requesting Company's switching and tagging rules should be followed to ensure consistent and safe operation. Any questions or concerns arising about any safety rules and/or procedures should be brought to the proper level of management for prompt resolution between management of the Requesting and Responding Companies.

7. All time sheets and work records pertaining to Responding Company's employees furnishing emergency assistance shall be kept by Responding Company.

8. Requesting Company shall indicate to Responding Company the type and size of trucks and other equipment desired as well as the number of job function of employees requested but the extent to which Responding Company makes available such equipment and employees shall be at Responding Company's sole discretion.

9. Requesting Company shall reimburse Responding Company for all costs and expenses incurred by Responding Company as a result of furnishing emergency assistance. Responding Company shall furnish documentation of expenses to Requesting Company. Such costs and expenses shall include, but not be limited to, the following:

   a. Employees' wages and salaries for paid time spent in Requesting Company's service area and paid time during travel to and from such service area, plus Responding Company's standard payable additives to cover all employee benefits and allowances for vacation, sick leave and holiday pay and social and retirement benefits, all payroll taxes, workmen's compensation, employer's liability insurance and other contingencies and benefits imposed by applicable law or regulation.

   b. Employee travel and living expenses (meals, lodging and reasonable incidentals).

   c. Replacement cost of materials and supplies expended or furnished.

   d. Repair or replacement cost of equipment damaged or lost.

   e. Charges, at rates internally used by Responding Company, for the use of transportation equipment and other equipment requested.

f. Administrative and general costs, which are properly allocable to the emergency assistance to the extent such costs, are not chargeable pursuant to the foregoing subsections.

10. Requesting Company shall pay all costs and expenses of Responding Company within sixty days after receiving an invoice therefor.

11. Requesting Company shall indemnify, hold harmless and defend the Responding Company from and against any and all liability for loss, damage, cost or expense which Responding Company may incur by reason of bodily injury, including death, to any person or persons or by reason of damage to or destruction of any property, including the loss of use thereof, which result from furnishing emergency assistance and whether or not due in whole or in part to any act, omission, or negligence of Responding Company except to the extent that such death or injury to person, or damage to property, is caused by the willful or wanton misconduct and / or gross negligence of the Responding Company. Where payments are made by the Responding Company under a workmen's compensation or disability benefits law or any similar law for bodily injury or death resulting from furnishing emergency assistance, Requesting Company shall reimburse the Responding Company for such payments, except to the extent that such bodily injury or death is caused by the willful or wanton misconduct and / or gross negligence of the Responding Company..

12. In the event any claim or demand is made or suit or action is filed against Responding Company alleging liability for which Requesting Company shall indemnify and hold harmless Responding Company under paragraph (11) above, Responding Company shall promptly notify Requesting Company thereof, and Requesting Company, at its sole cost and expense, shall settle, compromise or defend the same in such manner as it in its sole discretion deems necessary or prudent. Responding Company shall cooperate with Requesting Company's reasonable efforts to investigate, defend and settle the claim or lawsuit.

13 Non-affected companies should consider the release of contractors during restoration activities. The non-affected company shall supply the requesting companies with contact information of the contactors (this may be simply supplying the contractors name). The contractors will negotiate directly with requesting companies.

Last update September 2005

- Section 11 and 12 updated

SOUTHERN CALIFORNIA
EDISON®
An EDISON INTERNATIONAL® Company

Walter J. Johnston
Vice President
Power Delivery

Date: ______________________

____
Name of Requesting Utility

____
Address

____

Re: Mutual Assistance Agreement

Date ______________________
Name – Should be a VP or Higher

Your organization, ______________________ ("Requesting Company") has requested Emergency Assistance from Southern California Edison Company ("Responding Company") under the terms of the Edison Electric Institute Mutual Assistance Agreement and the EEI Principles defined therein (collectively, the "Mutual Assistance Agreement"), as executed by both Requesting Company and Responding Company. Responding Company is willing to provide Emergency Assistance to Requesting Company under the terms of the Mutual Assistance Agreement and this letter agreement. Defined terms used in this letter agreement, unless defined in this letter agreement, are used with the meanings ascribed to them in the Mutual Assistance Agreement.

The parties to this letter agreement therefore agree:

1. Responding Company will provide Emergency Assistance in the form of ______________________ for a period of ______________________. Notwithstanding Responding Company's agreement to provide that Emergency Assistance, Responding Company retains the sole discretion to terminate the Emergency Assistance at any time and without notice.
2. Paragraph 11 of the EEI Principles, which governs the indemnification by Requesting Party of Responding Party, is amended to add the phrase "To the maximum extent permitted by applicable law," at the beginning of the first sentence of Paragraph 11.
3. Responding Party shall not be liable to Requesting Party for any incidental, indirect, or consequential damages, including, but not limited to, under-utilization of labor and facilities, loss of revenue or anticipated profits, or claims of customers arising out of supply electric or natural gas service, resulting from performance or nonperformance of the obligations under the Mutual Assistance Agreement or this letter agreement.
4. To the extent there is any inconsistency between the terms of the Mutual Assistance Agreement and this letter agreement, the terms of the letter agreement shall control.

5. The Mutual Assistance Agreement and this letter agreement shall be interpreted, governed and construed by and under the laws of the State of California as if executed and to be performed wholly within the State of California. Any litigation related to the Mutual Assistance Agreement or this letter agreement shall be brought and enforced in, and will be under the exclusive jurisdiction of, the courts of the State of California in Los Angeles County or the federal courts of the United States for the Central District of California.

If you are in agreement with the terms for Emergency Assistance, please execute in the space provided. Thank you.

Very Truly Yours,

SOUTHERN CALIFORNIA EDISON COMPANY

By: Walter Johnston
Name: Walter J. Johnston
Title: Vice President Power Deliver

AGREED TO AND ACCEPTED BY:

____
Name of Requesting Utility

By: ______________________________
Name: ______________________________
Title: ______________________________
VP or Higher
Date: ______________________________

WESTERN REGION

MUTUAL ASSISTANCE AGREEMENT

For

ELECTRIC AND NATURAL GAS UTILITIES

Effective: 11/14/2003

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DEFINITIONS

The following are definitions of terms as used in this agreement:

Activation: The initiation of the Assistance and administrative process of the agreement including: request for Assistance, assessing and communicating the scope of assistance request, assessing and communicating the resources available for Assistance, activation procedures, mutual assistance coordination, and other processes and procedures supporting the Mobilization of Assistance resources.

Deactivation: The termination of the Assistance and administrative process including: notification of Deactivation, Demobilization planning, identification of applicable costs, processes and procedures supporting Demobilization of resources, provide for billing, audit, critique information, and closure of the Assistance.

Demobilization: The actual returning of all Assistance resources to the Assisting Party's normal base.

Emergency: A sudden unplanned disruption of essential systems and infrastructure creating a potential for public safety, severe economic loss, or other socio-economic hardships resulting from the loss of the utility service. The emergency may be confined to the utility infrastructure or may include community-wide damage and emergency response. Emergencies may be natural disasters or human caused events.

Mobilization: The actual collecting, assigning, preparing and transporting of all Assistance resources.

Mutual Assistance Coordinator: The person(s) designated by the Requesting Party, and Assisting Party, to coordinate all administrative requirements of the Agreement.

Natural Gas: Term gas or natural gas referred to in this document include all commercially available forms of natural gas including Synthetic Natural Gas.

Operations Liaison: The person or persons designated by the Requesting Party to provide direct contact, communications and coordination at the operations level for Assisting crews and resources at the location of the assistance. This may include but is not limited to: contact and communications for assisting crews, safety information processes and procedures, ensuring coordination of lodging and meals, addressing issues of equipment requirements, materials requirements, and other logistical issues necessary to ensure safe effective working conditions.

Qualified: The training, education and experience of employees completing an apprenticeship or other industry / trade training requirements consistent with Federal Bureau of Apprenticeships and Training, Department of Transportation Pipeline Safety Regulations, or other recognized training authority or regulation. Training and qualification standards vary by state or province and are the responsibility of the Requesting Party to evaluate, in advance, the acceptable level of qualification for trade employees (i.e. lineman, electrician, fitter, etc.).

Work Stoppages: Any labor disputes, labor union disagreements, strikes, or any circumstance creating a shortage of qualified labor for a company during a non-emergency situation.

<u>WESTERN REGION MUTUAL ASSISTANCE AGREEMENT (Electric and Natural Gas)</u>

1.0 <u>PARTIES</u>

1.1. This Mutual Assistance Agreement (hereinafter referred to as "Agreement") is made and entered into effective November 14, 2003. The Parties to this Agreement are listed in Attachment A of this document. Each of the parties that have executed this Agreement may hereinafter be referred to individually as "Party" and collectively as "Parties."

1.2. Being a Party to this Agreement does not by itself assure any Party that Assistance will be provided if, when, or as requested. Each Party reserves the sole right to respond or not to respond to requests for Assistance on a case-by-case basis. By signing this Agreement, each Party thereby agrees that any Assistance, which is received or given upon the request of a Party to this Agreement, shall be subject to each and every one of the terms and conditions of this Agreement.

2.0 <u>RECITALS</u>

This Agreement is made with reference to the following facts, among others:

2.1. Whereas, the Parties own operate and maintain utility facilities and are engaged in the production, acquisition, transmission, and/or distribution of electricity or natural gas, and

2.2. Whereas, each of the Parties operates and maintains their respective facilities within accepted industry practices and employs skilled and qualified personnel to operate, repair and maintain such facilities according to such industry practices, and

2.3. Whereas, it is in the mutual interest of the Parties to be prepared to provide for emergency repair and restoration to such services, systems and facilities on a reciprocal basis. The purpose of this Agreement is to provide the procedures under which one Party may request and receive assistance from another Party. This Agreement is also designed to allow a new Party to join in the Agreement by signing a copy of this Agreement and the giving of notice to the existing Parties pursuant to Section 6.3 of this Agreement, and

2.4. Whereas, assistance requests for Work Stoppages are beyond the scope of this Agreement.

2.5. Whereas, for purposes of this Agreement, "Assistance" shall be defined as: All preparation and arrangements by the Assisting Party for Activation, Mobilization, Deactivation and Demobilization, of personnel, material, vehicles, equipment, supplies and/or tools or any other requested form of aid or assistance, starting at the time of the authorization by the Requesting Party, as set forth in this Agreement.

THEREFORE THE PARTIES HEREBY AGREE AS FOLLOWS:

3.0 SCOPE OF ASSISTANCE

3.1. In the event of an Emergency affecting the generation, transmission, distribution, services, and/or related facilities owned or controlled by a Party, such Party ("Requesting Party") may request another Party or Parties ("Assisting Part"to provide Assistance. The Assisting Party shall, in its sole discretion, determine if it shall provide such Assistance, including the extent and limitations of that Assistance. If the Assisting Party determines to provide Assistance, such Assistance shall be provided in accordance with the terms and conditions of this Agreement.

3.2. Requests for Assistance may be made either verbally or in writing by the Authorized Representative, as defined in Section 9 and identified in Attachment B, of the Requesting Party and shall be directed to the Authorized Representative of the Assisting Party. Upon acceptance of a request for Assistance, either verbally or in writing, the Assisting Party shall respond with reasonable dispatch to the request in accordance with information and instructions supplied by the Requesting Party. All requests for Assistance shall follow the procedures described by Section 3.0 and in Attachment C.

3.3. The Requesting Party shall provide the Assisting Party with a description of the work needed to address the emergency, with the most urgent needs for Assistance addressed first. The Assisting Party shall use its reasonable efforts to schedule the Assistance in accordance with the Requesting Party's request. However, the Assisting Party reserves the right to recall any and all personnel, material, equipment, supplies, and/or tools at any time that the Assisting Party determines necessary for its own operations. Any Requesting Party for whom an Operator Qualification (OQ) Program is required should pre-screen the other Parties to this Agreement to determine which Parties have compatible regulatory agency accepted programs and may therefore be contacted for assistance.

3.4. The Requesting Party will provide the name and contact information for the person(s) designated as the Mutual Assistance Coordinator(s), the Operations Liaison(s), and person(s) to be designated as supervisory personnel to accompany the crews and equipment. The Assisting Party will provide the name(s) and contact information for the person(s) designated to be the Mutual Assistance Coordinator(s).

3.5. All costs associated with the furnishing of Assistance shall be the responsibility of the Requesting Party and deemed to have commenced when the Requesting Party officially authorizes the Assisting Party to proceed with Mobilization of the personnel and equipment necessary to furnish Assistance, and shall be deemed to have terminated when the transportation of Assisting Party personnel and equipment returns to the work headquarters, individual district office, or home (to which such personnel are assigned for personnel returning at other than regular working hours) and Demobilization is completed.

3.6. For the purposes of this Agreement, a Requesting Party shall be deemed to have authorized the Assisting Party to proceed with Mobilization when the Requesting Party signs and submits a formal request to the Assisting Party, in a form substantially similar to that shown in Attachment C-1. If written information cannot be furnished, a verbal confirmation will be acceptable, with a written confirmation to follow within 24 hours.

3.7. The Parties hereto agree that costs arising out of inquiries as to the availability of personnel, material, equipment, supplies and/or tools or any other matter made by one party to another prior to the Requesting Party authorizing the Assisting Party to proceed with Mobilization will not be charged to the potentially Requesting Party.

3.8. The Requesting Party agrees to repayment of "reasonable costs or expenses," as further described in Section 4.0 of this Agreement, and any such reasonable costs or expenses shall continue to be subject to the provisions of Section 5.0 of this Agreement regarding Audit and Arbitration.

3.9. The Assisting Party and Requesting Party shall mutually agree upon and make all arrangements for the preparation and actual Mobilization of personnel, material, vehicles, equipment, supplies and/or tools to the Requesting Party's work area and the return (i.e. Demobilization) of such personnel, material, vehicles, equipment, supplies and/or tools to the Assisting Party's work area (See Attachments C and D). The Requesting Party shall be responsible for all reasonable costs and expenses incurred by the Assisting Party for Mobilization and/or Demobilization, notwithstanding any early termination of such assistance by the Requesting Party.

3.10. Unless otherwise agreed upon, the Requesting Party shall be responsible for providing food and lodging for the personnel of the Assisting Party from the time of their arrival at the designated location to the time of their departure. The food and housing provided shall be subject to the approval of the supervisory personnel of the Assisting Party.

3.11. If requested by the Assisting Party, the Requesting Party, at its own cost, shall make or cause to be made all reasonable repairs to the Assisting Party's vehicles and equipment, necessary to maintain such equipment safe and operational, while the equipment is in transit or being used in providing Assistance. However, the Requesting Party shall not be liable for cost of repair required by the gross negligence or willful acts of the Assisting Party, or if the vehicles or equipment was not issued by the Assisting Party in safe and operational condition.

3.12. Unless otherwise agreed the Requesting Party shall provide fuels and other supplies needed for operation of the Assisting Party's vehicles and equipment being used in providing Assistance.

3.13. Unless otherwise agreed to by the Parties, the Requesting Party shall provide field communications equipment and instructions for the Assisting Party's use. The Assisting Party shall exercise due care in use of the equipment and return the equipment to the Requesting Party at the time of departure in like condition, provided that if repairs are necessary the Requesting Party will be financially responsible unless such repairs are necessitated by the gross negligence or willful acts of the Assisting Party.

3.14. Employees of the Assisting Party shall at all times continue to be employees of the Assisting Party, and such employees shall at no time and for no purpose be deemed to be employees of the Requesting Party.

3.15. Wages, hours and other terms and conditions of employment applicable to personnel provided by the Assisting Party, shall continue to be those of the Assisting Party.

3.16. If the Assisting Party provides a crew or crews, it shall assign supervisory personnel as deemed necessary by the Assisting Party, who shall be directly in charge of the crew or crews providing Assistance.

3.17. All time sheets, equipment and work records pertaining to personnel, material, vehicles, equipment, supplies and/or tools provided by the Assisting Party shall be kept by the Assisting Party for billing and auditing purposes as provided in this Agreement.

3.18. No Party shall be deemed the employee, agent, representative, partner or the co-venturer of another Party or the other Parties in the performance of activities undertaken pursuant to this Agreement.

3.19. The Parties shall, in good faith, attempt to resolve any differences in work rules and other requirements affecting the performance of the Parties' obligations pursuant to this Agreement.

3.20. The Requesting party shall provide the Assisting Party with an Operations Liaison (See Attachment C, A.5) to assist with operations, personnel and crew safety. This person(s) shall provide the Assisting Party's crews an operational and safety orientation, pertaining to work practices and safety requirements of the Requesting Party's system, prior to Assisting Party commencing work, and continue to be the link between the Parties and keep the crews apprised of safety, operational, and communication issues.

3.21. The Requesting party shall initiate the Deactivation of Assistance by notification to the Assisting Party within 24 hours of deactivation schedule or as soon as is reasonably practicable. Requesting and Assisting Parties will follow the Procedures for Deactivation of Assistance outlined in Attachment D.

4.0 PAYMENT

4.1. The Requesting Party shall reimburse the Assisting Party for all "reasonable costs and expenses" that are appropriate and not excessive, under the circumstances prevailing at the time the cost or expense is paid or incurred by the Assisting Party as a result of furnishing Assistance. Such "reasonable costs or expenses" shall include, but not be limited to, the following:

a) Employees' wages and salaries for paid time spent in Requesting Party's service area and paid time during travel to and from such service area, plus the Assisting Party's standard payroll additives to cover all employee benefits and allowances for vacation, sick leave, holiday pay, retirement benefits, all payroll taxes, workers' compensation, employer's liability insurance, administrative and general expenses, and other benefits imposed by applicable law, regulation, or contract pursuant to Section 3.15.

b) Employees' travel and living expenses such as transportation, fuel, utilities, housing or shelter, food, communications, and reasonable incidental expenses directly attributable to the Assistance.

c) Cost of equipment, materials, supplies and tools at daily or hourly rate including their normally applied overhead costs inclusive of taxes, insurance, depreciation, and administrative expenses. Cost to maintain, fuel, replace or repair equipment, materials, supplies, and tools (hereinafter collectively referred to as the "Equipment"), which are expended, used, damaged, or stolen while the Equipment is being used in providing Assistance; provided, however, the Requesting Party's financial obligation under this Section (4.1. c): (i) shall not apply to any damage or loss resulting from the gross negligence or willful misconduct of the Assisting Party, and (ii) shall only apply in excess of, and not contribute with, any valid and collectible property insurance which applies to such damage or loss.

d) Cost of vehicles provided by Assisting Party for performing assistance at daily or hourly rate including normally applied overhead costs inclusive of taxes, insurance, depreciation, and administrative expenses. Cost to maintain, fuel, and repair vehicles, or replace vehicles which are damaged or stolen while the vehicles are used in providing Assistance; provided, however, that Requesting Party's financial obligation under this Section (4.1.d):(i) shall not apply to any damage or loss resulting from the gross negligence or willful misconduct of the Assisting Party, and (ii) shall only apply in excess of, and not contribute with, any valid and collectible first-party physical damage insurance which applies to such loss.

e) Administrative and general costs, including the costs associated with the Assisting Party's administrative field coordination personnel, which are properly allocable to the Assistance to the extent such costs are not chargeable pursuant to the foregoing subsections.

f) Overtime costs incurred by the Assisting Party in their service territory as a direct result of assistance provided to the Requesting Party.

4.2. Unless otherwise mutually agreed to, the Assisting Party shall bill the Requesting Party at the address designated on Attachment "B" for all costs and expenses of the Assisting Party in one invoice with itemization or supporting documentation of charges. If the assistance extends beyond a 30-day period, billing can occur monthly unless otherwise agreed upon.

4.3. The Requesting Party shall pay such bill in full, not withstanding the rights of Audit and Arbitration in Section 5.0, within thirty 30 days of receipt of the bill, or a remittance period agreed to by both parties, and shall send payment to the Assisting Party at the address listed in Attachment "B".

4.4. Delinquent payment of bills shall accrue interest at a rate equal to the incremental cost of debt replacement for the Assisting Party, not to exceed the legal rate permitted by the Governing Law (Section 8.0) of Assisting Party, and as identified at the time of billing, prorated by days, until such bills are paid. This rate shall be identified on the bill submitted by the Assisting Party.

5.0 AUDIT AND ARBITRATION

5.1. A Requesting Party has the right to designate its own qualified employee representative(s) or its contracted representative(s) with a management or accounting firm who shall have the right to audit and to examine any cost, payment, settlement, or supporting documentation relating to any bill submitted to the Requesting Party pursuant to this Agreement.

5.2. A request for audit shall not affect the obligation of the Requesting Party to pay bills as required herein. The Requesting Party or its representative(s) shall undertake any such audit(s) upon notice to the Assisting Party at reasonable times and in conformance with generally accepted auditing standards (GAAS). The Assisting Party agrees to conform to generally accepted accounting principles (GAAP) and to reasonably cooperate with any such audit(s).

5.3. This right to audit shall extend for a period of two (2) years following the receipt by Requesting Party of billings for all costs and expenses. The Assisting Party agrees to retain all necessary records/documentation for the said two-year period, and the entire length of this audit, in accordance with its normal business procedures.

5.4. The Assisting Party shall be notified by the Requesting Party, in writing, of any exception taken as a result of the audit. In the event of a disagreement between the Requesting Party and the Assisting Party over audit exceptions, the Parties agree to use good faith efforts to resolve their differences through negotiation.

5.5. If ninety (90) days or more have passed since the notice of audit exception was received by the Assisting Party, and the Parties have failed to resolve their differences, the Parties agree to submit any unresolved dispute to binding arbitration before an impartial member of an unaffiliated management or accounting firm. Governing Law for arbitration is pursuant to Section 8 of this Agreement. Each Party to arbitration will bear its own costs, and the expenses of the arbitrator shall be shared equally by the Parties to the dispute.

6.0 TERM AND TERMINATION

6.1. This Agreement shall be effective on the date of execution by at least two of the Parties hereto and shall continue in effect indefinitely, except as otherwise provided herein. Any Party may withdraw its participation at any time after the effective date with 30 days prior written notice to all other Parties.

6.2. As of the effective date of any withdrawal, the withdrawing Party shall have no further rights or obligations under this Agreement except the right to collect money owed to such Party, the obligation to pay amounts due to other Parties, and the rights and obligations pursuant to Section 5.0 and Section 7.0 of this Agreement.

6.3. Notwithstanding Section 12.0, additional parties may be added to the Agreement, without amendment of the Agreement, provided that notice is given to existing signatories who may contest inclusion of new signatories within 30 days of such notice, and that any new signatories agree to be bound by the terms and conditions of this Agreement by executing a copy of the same which shall be deemed an original and constitute the same agreement executed by the existing signatories. The addition or withdrawal of any party to this Agreement shall not change the status of the Agreement among the remaining Parties.

7.0 LIABILITY

7.1. Except as otherwise specifically provided by Section 4.1 and Section 7.2 herein, to the extent permitted by law and without restricting the immunities of any Party, the Requesting Party shall defend, indemnify and hold harmless the Assisting Party, its directors, officers, agents, employees, successors and assigns from and against any and all liability, damages, losses, claims, demands actions, causes of action, and costs including reasonable attorneys' fees and expenses, resulting from the death or injury to any person or damage to any property, which results from the furnishing of Assistance by the Assisting Party, unless such death or injury to person, or damage to property, is caused by the gross negligence or willful misconduct of the Assisting Party.

7.2. Each Party shall bear the total cost of discharging all liability arising during the performance of Assistance by one Party to the other (including costs and expenses for attorneys' fees and other costs of defending, settling, or otherwise administering claims) which result from workers' compensation claims or employers' liability claims brought by its own employees. Each Party agrees to waive, on its own behalf, and on behalf of its insurers, any subrogation rights for benefits or compensation paid to such Party's employees for such claims.

7.3. In the event any claim or demand is made, or suit or action is filed, against the Assisting Party, alleging liability for which the Requesting Party shall indemnify and hold harmless the Assisting Party, Assisting Party shall promptly notify the Requesting Party thereof, and the Requesting Party, at its sole cost and expense, shall settle, compromise or defend the same in such manner as it, in its sole discretion, deems necessary or prudent. However, Requesting Party shall consult with Assisting Party during the pendency of all such claims or demands, and shall advise Assisting Party of Requesting Party's intent to settle any such claim or demand. The party requesting indemnification should notify the other party in writing of that request.

7.4. The vehicles or equipment, which the Assisting Party shall provide to the Requesting Party pursuant to Section 3 above, shall not, to the actual knowledge of Assisting Party, be provided in unsafe operating condition, as represented by manufacturer standards and industry practices. Except as provided in the immediately preceding sentence, the Assisting Party makes no representations or warranties as to the condition, suitability for use, freedom from defect or otherwise of such vehicles or equipment. Requesting Party shall utilize the vehicles or equipment at its own risk. Requesting Party shall, at its sole cost and expense, defend, indemnify and hold harmless Assisting Party, its directors, officers, agents, employees, successors and assigns, from and against any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorneys' fees and expenses, resulting from the death or injury to any person or damage to any property, arising out of the utilization of the equipment by or for the Requesting Party, or its employees, agents, or representatives, unless such death, injury, or damage is caused by the gross negligence or willful misconduct of the Assisting Party.

7.5. No Party shall be liable to another Party for any incidental, indirect, or consequential damages, including, but not limited to, under-utilization of labor and facilities, loss of revenue or anticipated profits, or claims of customers arising out of supplying electric or natural gas service, resulting from performance or nonperformance of the obligations under this Agreement.

7.6. Nothing in Section 7.0, or elsewhere in this Agreement, shall be construed to make the Requesting Party liable to the Assisting Party for any liability for death, injury, or property damage arising out of the ownership, use, or maintenance of any aircraft or watercraft (over 17 feet in length) which is supplied by or provided by the Assisting Party. It shall be the responsibility of the Assisting Party to carry liability and hull insurance on such aircraft and watercraft as it sees fit. Also, during periods of operation of aircraft or watercraft (over 17 feet in length) in a situation covered by this Agreement, the Party, which is the owner/lessee of such aircraft or watercraft, shall use its best efforts to have the other

Parties to this Agreement named as additional insured's on such liability coverage.

8.0 GOVERNING LAW

8.1. All disputes, contests or arbitration of this Agreement, for assistance provided or requested, shall be interpreted, governed and construed by the choice of law state or province as specified by the Assisting Party in Attachment B.

9.0 AUTHORIZED REPRESENTATIVE

9.1. The Parties shall, within 30 days following execution of this Agreement, appoint Authorized Representative and Alternate Authorized Representative(s), and exchange all such information as provided in Attachment "B". Such information shall be updated by each Party prior to January 1st of each year that this Agreement remains in effect. The Authorized Representatives or the Alternate Authorized Representatives shall have the authority to request and commit to the providing of Assistance.

10.0 CUSTODIANSHIP OF AGREEMENT

10.1. The custodial responsibilities of this Agreement, as outlined in Attachment E, may be assigned to one of the Parties to this Agreement, which assignment shall be subject to acceptance by such Party, or may be assigned to a third party, in either case by vote of the participating Parties starting within 30 days after the initiation of this Agreement, and then by January 31st of each year.

11.0 ASSIGNMENT OF AGREEMENT

11.1. No Party may assign this Agreement, or any interest herein, to a third party, without the written consent of the other Parties.

12.0 WAIVERS OF AGREEMENT

12.1. Failure of a Party to enforce any provision of this Agreement, or to require performance by the other Parties of any of the provisions hereof, shall not be construed to waive such provision, nor to affect the validity of this Agreement or any part thereof, or the right of such Parties to thereafter enforce each and every provision.

13.0 ENTIRE AGREEMENT

13.1. This Agreement is the entire agreement between the Parties concerning the subject matter of the Agreement. It supercedes and takes the place of all conversations the Parties may have had, or documents the

Parties may have exchanged, with regard to the subject matter. The recitals to this agreement are hereby incorporated herein.

14.0 <u>AMENDMENT</u>

14.1. No changes to this Agreement other than the addition of new Parties shall be effective unless such changes are made by an amendment in writing, signed by each of the Parties hereto. A new Party may be added to this Agreement upon the giving of 30 days notice to the existing Parties and upon the new Party's signing a copy of this Agreement as in effect upon the date the new Party agrees to be bound by each and every one of the Agreement's terms and conditions.

15.0 <u>NOTICES</u>

15.1. All communications between the Parties relating to the provisions of this Agreement shall be addressed to the Authorized Representative of the Parties, or in their absence, to the Alternate Authorized Representative(s) as identified in Attachment "B". Communications shall be in writing, and shall be deemed given if made or sent by e-mail with electronic confirmed delivery, confirmed fax, personal delivery, or registered or certified mail postage prepaid. Each Party reserves the right to change the names of those individuals identified in Attachment "B" applicable to that Party, and shall notify each of the other Parties of such change in writing as described above. All Parties shall keep the Custodian of the Agreement informed of the information contained in Attachment "B" and reply to all reasonable requests of such association for information regarding the administration of this Agreement.

16.0 <u>ATTACHMENTS</u>

Attachment "A" (Parties to this Agreement)
Attachment "B" (Names and Addresses of Authorized Representative(s) /Billing)
Attachment "C" (Activation of Western Regional Mutual Assistance Agreement)
Attachment "C-1" (Sample Written Request for Assistance)
Attachment "D" (Deactivation Under Western Regional Mutual Assistance Agreement)
Attachment "E" (Custodianship of Western Regional Mutual Assistance Agreement)
Attachments to this Agreement are incorporated herein by this reference.

17.0 SIGNATURE CLAUSE

17.1. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one and the same agreement.

17.2. IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized officers as of the dates set forth below.

Company Name: Southern California Edison

Signature of Officer:

Title of Officer: Senior Vice President Transmission & Distribution

Date Executed: November 12, 2003

Print Officer Name: Richard M. Rosenblum

APPROVED
STEPHEN E. PICKETT
Sr. Vice President and
General Counsel
By
Attorney
November 12, 2003

SOUTHERN CALIFORNIA EDISON

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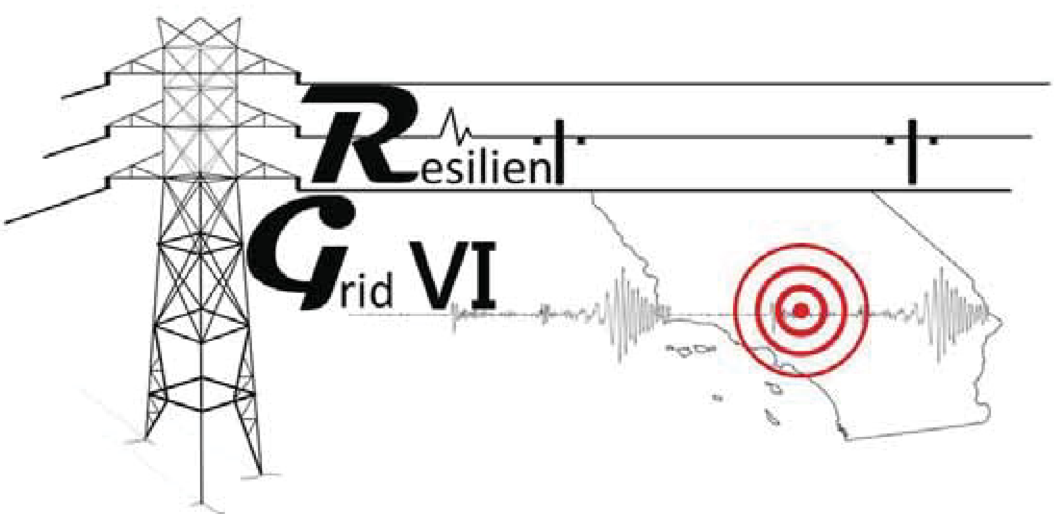

Full-Scale Exercise

After-Action Report

August 27, 2019

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HANDLING INSTRUCTIONS

1. The title of this document is Southern California Edison (SCE) Resilient Grid (RG) VI Full-Scale Exercise (FSE) After-Action Report (AAR). The analysis in this AAR reflects the performance of SCE personnel during the FSE, and examines SCE's operational coordination, cybersecurity, operational communications, and intelligence and information sharing capabilities in alignment with the SCE All-Hazards Plan and Cyber Annex.
2. This document should be safeguarded, handled, transmitted, and stored in accordance with appropriate security directives. This document is for internal use only and should be handled as sensitive information. Reproduction of this document, in whole or in part, is prohibited without prior approval from SCE.
3. At a minimum, the attached materials will be disseminated strictly on a need-to-know basis and, when unattended, will be stored in an area that offers sufficient protection against compromise, inadvertent access, and unauthorized disclosure.
4. For more information on this exercise, please consult the following points of contact:

Crystal Chambers
Business Resiliency
Southern California Edison
626-485-1160
Crystal.R.Chambers@sce.com

Cullen Armet
Business Resiliency
Southern California Edison
626-419-0834
Cullen.Armet@sce.com

OVERVIEW

Exercise Name	Resilient Grid VI Full-Scale Exercise
Exercise Dates	August 27, 2019, 8:00 AM - 5:00 PM
Scope	A seismic incident driving the implementation of the SCE Earthquake Response Plan and the Southern California Catastrophic Earthquake Plan. The exercise took place 5 days after the earthquake.
Phase of Operations	Sustained Response
Edison Core Capabilities	Operational Coordination, Situational Awareness, Operational Communications, Planning
Threat or Hazard	Earthquake
Scenario	On August 23, 2019 at approximately 2:00 AM, a fault-slip along the San Andreas Fault line generated a severe earthquake. A preliminary report from the United States Geological Survey indicated a 7.8 magnitude earthquake with its epicenter near the Salton Sea, and shaking lasted approximately 110 seconds.
Participating Teams	• Crisis Management Council (CMC) • Incident Support Team (IST) • Incident Communications Team (ICT) • Information Technology (IT) Incident Management Team (IMT) • Electrical Services (ES) IMT • Security/Facilities (S/F) IMT • Generation (Gen) IMT
Participating Organizational Units	• Watch Office • Business Customer Division (BCD) • Customer Contact Center (CCC) • Transportation Services Division (TSD) • Supply Chain/Logistics • Grid Control Center (GCC)
Point of Contact	Crystal Chambers Business Resiliency – Training and Exercises Crystal.R.Chambers@sce.com 626-485-1160 Cullen Armet Business Resiliency – Training and Exercises Cullen.Armet@sce.com 626-419-0834

INTRODUCTION

On August 27, 2019, Southern California Edison (SCE) conducted a Full-Scale Exercise (FSE) as the culminating exercise of the Resilient Grid (RG) VI Exercise Series. RG VI consisted of a series of exercises designed to test SCE's capabilities, strategies, plans, and processes associated with an enterprise-wide response to a catastrophic earthquake.

This after-action report (AAR) synthesizes key evaluation information from the RG VI FSE, analyzing SCE's ability to properly address exercise objectives and critical tasks by identifying both strengths and areas for improvement. Inputs include Exercise Evaluation Workbook (EEW) observations, virtual Exercise Evaluation Guide (EEG) responses (including performance ratings), submitted participant feedback forms, Controller/ Evaluator (C/E) Debriefing notes, and observations from external subject-matter experts.

The AAR contains three parts:

- **Exercise Overview and Evaluation:** Overview of the exercise including objectives, scenario, and participants, as well as the methodology used to evaluate SCE's performance in the exercise.
- **Enterprise Summary Analysis and Performance Analysis for Evaluated Groups:** Strategic, top-level findings and observations that reflect SCE-wide capabilities and areas for improvement, as well as an overview of specific response component performance.
- **Appendices:** Enterprise-wide improvement plan, specific findings for key incident response components, and an overview of participant feedback.

EXERCISE DESIGN

The RG VI exercise series primarily evaluated SCE's ability to maintain critical services, mitigate hazards, and respond to and recover from business disruptions resulting from a catastrophic earthquake. The objectives for the FSE were as follows:

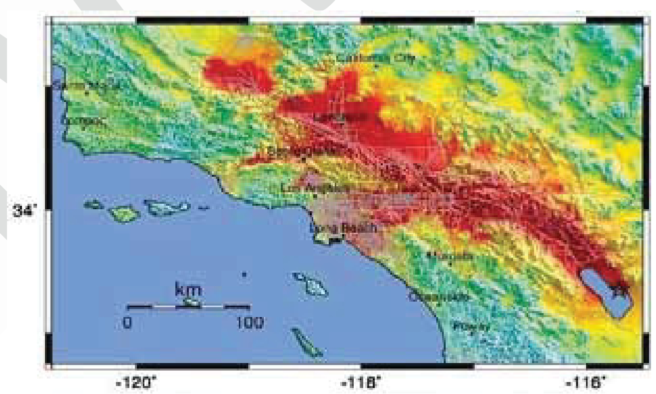
1. **Objective 1:** Maintain an incident response structure to meet company objectives, priorities, and resource needs for sustained response activities, including a comprehensive restoration strategy (Operational Coordination).
2. **Objective 2:** Provide internal and external stakeholders with actionable and necessary information to maintain situational awareness and a common operating picture (Situational Awareness).
3. **Objective 3:** Deliver appropriate and consistent communications both internally and externally according to SCE plans, processes, and guidelines (Public Information and Warning).
4. **Objective 4:** Develop and implement a thorough incident response planning process based on existing plans, policies, and procedures, specifically the Earthquake Response Plan (ERP) (Planning).

EXERCISE SCENARIO

On August 23, 2019, at approximately 2:00 AM, a fault slip along the south San Andreas Fault generated a severe earthquake. A preliminary report from the United States Geological Survey (USGS) indicated a 7.8 magnitude earthquake with shaking lasting approximately 110 seconds.

USGS determined that the earthquake was a unilateral rupture that resulted in a slip of approximately 3.5 meters, and that the epicenter was along the Eastern shore of the Salton Sea (Latitude: 33.35; Longitude: -115.71). Intense shaking was felt from Bombay Beach to Lake Hughes, northwest of the epicenter, including in communities along the Coachella Valley, the Inland Empire, and the Antelope Valley. Pockets of strong shaking were also felt in the San Gabriel Valley and East Los Angeles.

The full-scale exercise began on August 27th, 5 days after the simulated impact, and focused on sustained response efforts. As such, exercise play required greater coordination with outside agencies and government entities and included elements of long-term planning and resource management (e.g., material and personnel allocation and shortages).



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	[illegible]	[illegible]

Figure 1: USGS ShakeMap of Earthquake Impacts

SCE Exercise Play

SCE conducted the RG VI FSE from the SCE Emergency Operations Center (EOC) in Irwindale, CA, as well as from several off-site locations. The exercise occurred over an eight-hour period and involved participation from SCE's Crisis Management Council (CMC), Electrical Services (ES) Incident Management Team (IMT), Information Technology (IT) IMT, Generation (Gen) IMT, Security/Facilities (S/F) IMT, Incident Support Team (IST), and Incident Communications Team (ICT), as well as several organizational units. **Error! Reference source not found.** displays the incident command structure activated to respond to the incident.

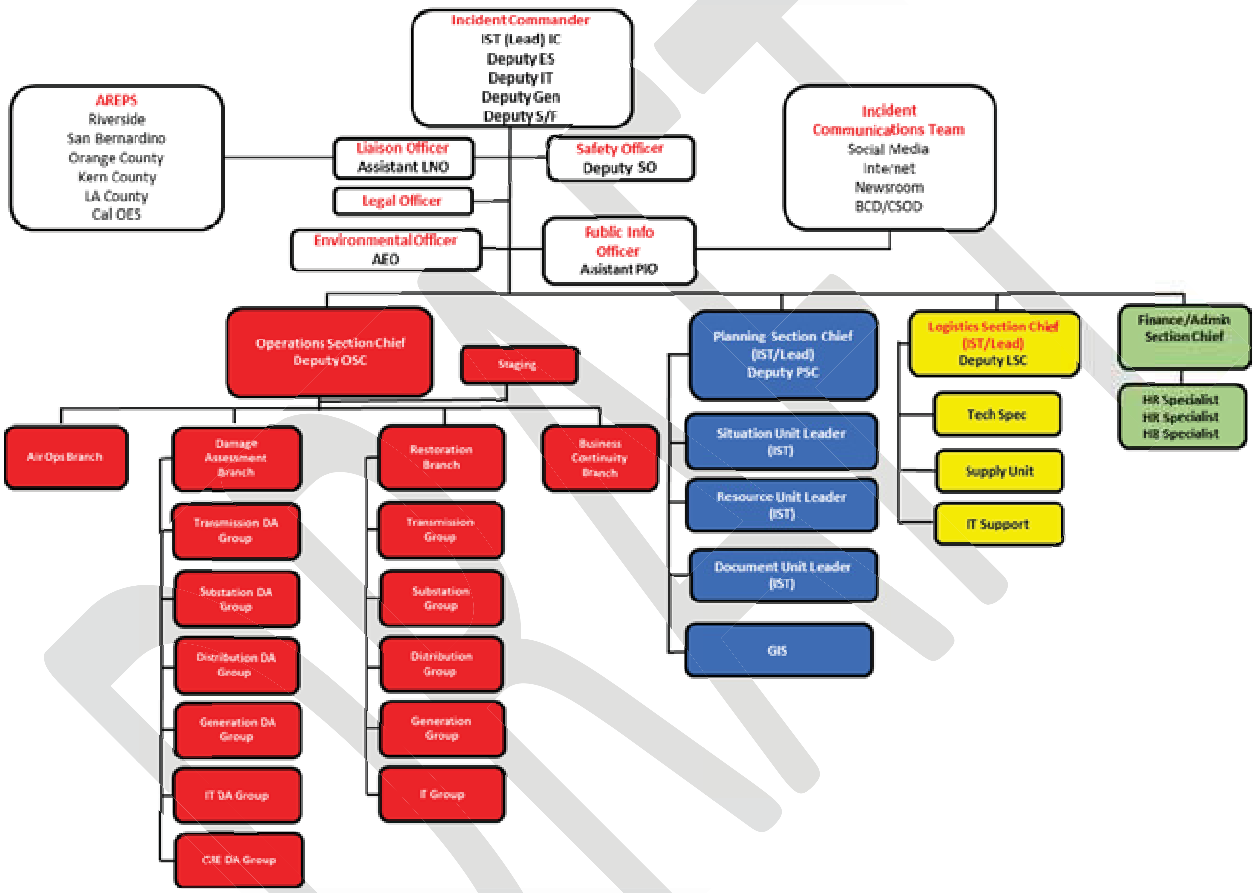


Figure 2: SCE's RG VI FSE Incident Command Structure

Additionally, the FSE featured participation from several local and regional partners to support simulation efforts. Error! Reference source not found. identifies all participants and their exercise location in the RG VI FSE.

Table 1: FSE Participants

Entity	Participation Location
SCE Team Participation	
Crisis Management Council (CMC)	Onsite – Emergency Operations Center (EOC)
Incident Support Team (IST)	Onsite – EOC
Incident Communications Team (ICT)	Onsite – EOC
Information Technology (IT) Incident Management Team (IMT)	Onsite – EOC
Electrical Services (ES) IMT	Onsite – EOC
Security/Facilities (S/F) IMT	Onsite – EOC
Generation (Gen) IMT	Onsite – EOC
SCE Organizational Unit Participation	
Watch Office	Onsite – Gateway 6090
Business Customer Division (BCD)	Onsite – EOC
Customer Contact Center (CCC)	Offsite – Rancho Cucamonga Regional Office
Transportation Services Division (TSD)	Offsite – Chino Air Ops
Supply Chain/Logistics	Offsite – Irwindale Warehouse
Grid Control Center (GCC)	Onsite – Gateway 6090
Local/Regional Partner Participation	
Southern California Gas Company	Onsite – Simulation Cell
Los Angeles Metropolitan Water District	Onsite – Simulation Cell
California Utilities Emergency Association (CUEA)	Offsite – Remote
Electricity Subsector Coordinating Council (ESCC)	Offsite – Remote

EVALUATION

Evaluators observed exercise conduct to collect relevant data, assess player performance, identify the underlying root cause of challenges, and outline strengths and areas for improvement. Evaluators referenced critical tasks and expected player actions that the evaluation team identified using the SCE All-Hazards Plan and ERP to evaluate each group's ability to successfully address the four exercise objectives.

EVALUATION METHODOLOGY

The exercise evaluation team assessed SCE's performance using a system based upon the Federal Emergency Management Agency's Homeland Security Exercise and Evaluation Program (HSEEP). Evaluators recorded observations and assigned performance ratings for each objective in EEGs.

PLAYER PERFORMANCE

Evaluators rated group performance using an outcome-oriented process to assess the degree to which SCE successfully completed each exercise objective. To assist evaluators, EEGs included the following:

Critical Tasks: For each objective, evaluators used pre-determined *critical tasks*—distinct actions that are necessary for the achievement of an objective—as the basis of each evaluated group's performance assessment.

Root Cause Analysis: Evaluators were prompted to identify, where possible, the underlying issues that contributed to evaluated groups' challenges, specifically whether they stemmed from issues around plans, policies, or procedures; organizational structure; training, drills, and experience; and/or resources.

FSE participants included all relevant SCE response personnel, including the recently added Environmental Officer. SCE evaluated players in groups according to their roles and responsibilities within the Incident Command System (ICS) structure:

- Incident Commander(s) (IC) / Environmental Officer (EOF)
- Public Information Officer (PIO) / Incident Communications Team (ICT)
- Liaison Officer (LNO)
- Operations Section (OPS)
- Logistics Section (LOGS)
- Safety Officer (SOF)
- Planning Section
- Finance Section (FIN) / Human Resources Specialist (HRSP)

PERFORMANCE RATING SYSTEM

SCE uses a modified "traffic light" rating system to evaluate exercise play using colors to denote performance: green, yellow, and red. Evaluators provided outcome-focused ratings, while the evaluation team translated after-action analysis findings into a narrative which provided context to outcomes and informs improvement planning. Additionally, the evaluation team performed a secondary level of analysis to arbitrate an overall evaluated group numerical score of 1-5 based on the combined performance and evaluation of the exercise objectives.

As **Error! Reference source not found.** illustrates, evaluated groups received a green rating, *Achieved Without Significant Challenges*, if all of the positive conditions in the criteria column were satisfied and the evaluated groups achieved their objective. Evaluated groups received a yellow rating, *Achieved With Some Challenges*, if any of the challenge conditions in the respective criteria column occurred, but they still achieved their objective. Evaluated groups received a red rating, *Did Not Accomplish,* if any of the challenge conditions in the respective criteria column occurred and they did not achieve their objective.

Table 2: Objective-Specific Performance Rating System

Evaluator Rating	Criteria
Green: *Achieved Without Significant Challenges*	Exercise objective accomplished without significant challenges. • Players demonstrated familiarity and compliance with plans, policies, and procedures; **and** • Players prioritized/addressed critical tasks in a manner that achieved the objective; **and** • Players showed sound decision making.
Yellow: *Achieved With Some Challenges*	Exercise objective accomplished with some challenges. • Players followed some, but not all, plans, policies, and procedures; **or** • Players did not prioritize/address all critical tasks correctly; **or** • Player actions impacted the team's performance and its ability to complete the objective.
Red: *Did Not Accomplish*	Exercise objective was not accomplished. • Players did not follow plans, policies, and procedures; **or** • Players did not prioritize/address all critical tasks correctly; **or** • Player actions prevented the OU from completing the objective.

As illustrated in **Error! Reference source not found.**, evaluated groups received an overall rating based on their performance towards all four exercise objectives. These ratings range from 1 (Poor) to 5 (Excellent).

Table 3: Overall Evaluated Group Performance Rating System

Overall Rating	Criteria
5: *Excellent*	Evaluated group received all green ratings across objectives.
4: *Good*	Evaluated group received mostly green and some yellow ratings across objectives.
3: *Average*	Evaluated group received a balanced mix of green and yellow ratings across objectives.
2: *Fair*	Evaluated group received all yellow ratings across objectives; **or** Evaluated group received one red rating for an objective.
1: *Poor*	Evaluated group received more than one red rating across objectives.

ENTERPRISE-WIDE SUMMARY ANALYSIS

The findings below note historical data from past SCE exercises and assessments, particularly the RG VI Functional Exercise (FE) in May 2019, the RG I series in 2014, and the RG IV series in 2017 (all of which exercised earthquake response capabilities) to provide context to SCE's performance in the RG VI FSE. While this is the third RG exercise series to test SCE earthquake response capabilities, this cycle presented the most challenging and severe impacts for SCE to date.

STRENGTHS

Implementing Mature Planning Capabilities: SCE demonstrated effective and timely planning process implementation throughout the exercise. Response personnel demonstrated thorough understanding of existing SCE plans, including the All-Hazards Plan and the ERP, leveraging these documents to achieve the incident objectives. ICs organized the incoming response team around the Incident Action Plan (IAP) from the previous (simulated) operational period (OP), which helped to provide direction and focus for the Day 5 scenario. Across the response enterprise, SCE's understanding and application of the planning process exemplifies the effectiveness of training and exercise programs that SCE has implemented since the RG I FSE—during which IMTs struggled to consistently apply ICS principles—and re-affirms the overall IMT maturity identified as a strength following both the RG IV FE and the RG VI FE. By employing effective, mature planning capabilities across the response enterprise, SCE's response operations were more cohesive and strategic than in previous RG cycles.

Optimizing Incident Management: The ICs and section chiefs proactively divided responsibility for different incident response aspects. For example, early during the exercise, the Lead IC assigned each of the Deputy ICs to different EOC sections. This delegation created a direct channel for information sharing between EOC sections and unified command while allowing section chiefs to focus on managing the incident. Similarly, the PIO demonstrated strong leadership of the ICT, ensuring each ICT member knew their roles as outlined in the response plans, and organizing the ICT to leverage the individual expertise of each member, thus streamlining the public information sharing process. Overall, the incident management approach demonstrated SCE's strong capabilities to organize a response structure to effectively respond to a catastrophic event.

Streamlining Internal Collaboration: Exercise participants successfully coordinated across sections to share essential information required for response activities. For example, the ICs leveraged the LNOs and Agency Representatives (AREP) to gain real-time information from jurisdictions and to validate and de-conflict data requests. Additionally, the lead LNO and PIO consistently collaborated to share information and develop messaging, which helped to ensure one-voice communications with external audiences. High levels of communication and coordination across the response enterprise promoted cross-sectional collaboration, which facilitated SCE's ability to quickly respond to operational requirements and requests.

Areas for Improvement

Maintaining Strategic-Level Focus: SCE personnel did not maintain a strategic-level focus during the incident, often ignoring the larger operating picture. Specifically, the EOC OPS technical experts devoted too many resources to managing response activity in the field, which distracted from their overall strategy development and execution of a prioritized plan within the EOC. Another operational delay originated within the SOFs, as players spent a significant amount of time debating form usage; consequently the SOFs did not engage OPS on risk management and mitigation during the Tactics meeting. This tactical focus at the EOC negatively impacted the restoration process and timeline of the exercise.

Formalizing Processes for Forward-Looking Operations and Proactively Anticipating Incident Needs: SCE demonstrated strong planning capabilities overall, but several EOC sections would benefit from additional guidance for long-term strategy development. Specifically, the Planning Section organized a Future Planning Cell (FPC) with the task of devising a long-term restoration strategy, including priorities and anticipated resource requirements. Planning Section staff successfully stood up the FPC and complied a staffing list, however, they lacked a common understanding of who should staff this specialized planning group, and overlooked OPS in this process. Additionally, LOGS did not consider the resources requirements of the coming days and weeks, which could have left SCE critically under-resourced. SCE could further improve operational continuity by formalizing the processes for considering requirements and activities beyond the current OP. Additionally players did not successfully integrate the Business Continuity teams into OPS, indicating that their role is still relatively unknown across the response structure. Overall, players struggled to proactively anticipate and mitigate issues, instead reacting to challenges when they arose.

Establishing Situational Awareness: SCE did not sufficiently maintain situational awareness throughout the incident response, especially regarding the OP transition. Many EOC sections lost substantial time during the early hours of the exercise trying to gather information independently, rather than leveraging each other's knowledge to develop a common operating picture. Had they more closely collaborated to understand the (simulated) activities of the previous OP and current status, EOC sections could have more quickly transitioned to planning response and restoration. Additionally, confusion around meeting times and delayed meeting cadence resulted in key personnel missing critical meetings.

SCE personnel did not sufficiently leverage the technology available to display information in the EOC. Many EOC personnel relied instead on direct engagement with other sections (either in person or by message/email) or by waiting for briefings.

PERFORMANCE ANALYSIS FOR EVALUATED GROUPS

Evaluators rated player performance using an outcome-oriented process that assessed the degree to which SCE successfully completed each exercise objective and relevant critical tasks.

Performance Ratings

Following the exercise, evaluators submitted their completed EEGs with assessments, findings, and ratings. **Table 4** depicts ratings by objective for the 10 evaluated groups, indicating team ratings, as well as the numerical overall performance score for each evaluated group. **Table 4** also shows root causes in order to identify trends that SCE can use to develop future corrective actions. **Appendix A:** summarizes the proposed corrective actions in an enterprise-wide improvement plan that identifies areas for improvement, recommended solutions, owners, and resolution dates.

Table 4: Evaluated Group Performance Ratings

	Objective 1	**Objective 2**	**Objective 3**	**Objective 4**	**Overall Score**	**Root Cause(s)**			
	Operational Coordination	Situational Awareness	Public Information and Warning	Planning		Plans	Resources	Structure	Training
Incident Commanders (IC)	Green	Yellow	Green	Green	4	✓			✓
Public Information Officer (PIO) / Incident Communications Team (ICT)	Yellow	Green	Green	Green	4	✓	✓	✓	✓
Liaison Officer (LNO)	Green	Green	Green	Green	5	✓	✓	✓	✓
Safety Officer (SOF)	Yellow	Green	Green	Yellow	3	✓			✓
Operations Section (OPS)	Yellow	Yellow	Red	Yellow	2	✓	✓	✓	✓
Planning Section	Green	Yellow	Green	Green	4	✓		✓	✓
Logistics Section (LOGS)	Yellow	Yellow	Yellow	Green	3	✓	✓	✓	✓
Finance Section (FIN)	Green	Green	Green	Green	5				✓

The findings from this evaluation demonstrate a slight decrease in overall performance of SCE's response capabilities by the participating IMTs to the FE in May of 2019. Additional details on the evaluated groups' performance are outlined in **Appendix B:**.[1]

While players performed satisfactorily overall, with 63% of evaluated groups' performance earning a Green rating, 34% earning a Yellow rating, and 3% of evaluated groups' performance scoring a Red rating, it is notable that Green ratings reduced by 8%, and yellow ratings increased by 9%. Error! Reference source not found. compares the performance ratings, by percentage, of both RG VI cycle component exercises.[2]

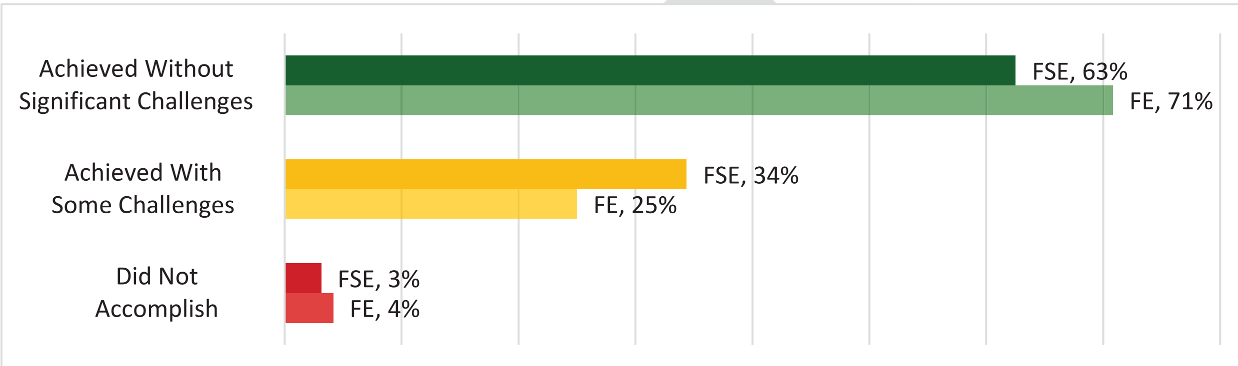


Figure 3: RG VI Performance Ratings by Percentage

CONCLUSION

This RG VI series presented the most complex earthquake scenario to date and was designed specifically to test the response and long-term restoration components of incident management. The exercise series showcased SCE's strengths and ability to manage a complex incident during initial response (RG VI FE) and sustained response (RG VI FSE). The exercise also highlighted opportunities to continue to build and refine capabilities through future training and exercising.

[1] A different IST and different IMTs participated in the RG VI FE (May 2019) than in the RG VI FSE (August 2019).

[2] The rating percentages in Figure 3 do not include the evaluated scores provided for the CMC during the RG VI FE. Additionally, during the FE, evaluators assigned one collective rating to the Command Staff, and during the FSE, evaluators assigned ratings to separate positions, as noted on page Player Performance6 of this document

Appendix A: IMPROVEMENT PLAN

#	Area for Improvement	Recommended Solution	Owner	Resolution Date
1	The All-Hazards Plan and ERP are outdated and missing information on key positions and great level of detail on roles on responsibilities (e.g., including new roles such as Legal Officer, Intelligence / Investigations Technical Specialist, and Environmental Officer).	Update the All-Hazards Plan and ERP to include positions and processes that have been added or changed since the last plan update.	Pedro Ruiz Bree Medina	May 1, 2020
2	Participants were unfamiliar with what magnitude of earthquake might present a safety or structural concern, and thus at what magnitude of aftershock inspections on buildings would need to be re-conducted.	The Post Earthquake Inspection protocols should be codified and included as an attachment in the Earthquake Response Plan.	Amber Topoleski	May 1, 2020
3	Participants started from scratch on developing out a Future Planning Cell, and the role of the group was unclear to those who were developing out its staffing and objectives.	The Future Planning Cell concept should be defined and structured. The Future Planning Cell concept and guidelines should also be codified in the All-Hazards Plan	Pedro Ruiz Bree Medina	May 1, 2020

4	Business Continuity Teams and Business Continuity Plans were not integrated into the exercise and how they would integrate in a real-world incident was not clear to players.	A process should be developed to identify what business functions are impacted by a particular incident, and how that is communicated to the IMT and IST and/or integrated into the EOC.	Joan Abbott Bree Medina	March 31, 2020
5	SCE did not sufficiently maintain situational awareness throughout the incident response.	The Situation Unit Leader, Incident Commander, Logistics Section Chief, and Planning Section Chief courses will be updated to emphasize the need for proactive situational awareness, the sharing of information across IMT sections, and the importance of a common operating picture across the entire EOC.	Daniel Drazan	June 30, 2020

Appendix B: SECTION-SPECIFIC PERFORMANCE

Following exercise conduct, evaluators completed a virtual EEG designed to capture outcome-focused assessments and strategic-level findings for each participating evaluated group. This appendix highlights these observations and analyzes each team's strengths and areas for improvement.

Incident Commanders and Environmental Officers

Table 5: ICs and EOF Performance Ratings by Objective

Objective 1 Operational Coordination	**Objective 2** Situational Awareness	**Objective 3** Public Information and Warning	**Objective 4** Planning
Green	**Yellow**	**Green**	**Green**
Overall Score	**4**		

Strengths

- The ICs coordinated effectively with sections to provide leadership, focus Command & General (C&G) staff on IAP objectives, and emphasize the company's strategic level priorities
- The ICs engaged continuously with the PIO and LNO to approve timely press releases, and ensure the communication of useful, real-time information
- The EOF coordinated with sections across the response structure to prioritize environmental protection and compliance in field operations

The ICs quickly took charge of the response following the transition briefing, focusing the incoming team's attention on the upcoming OP IAP. During the initial in-brief with the entire team, the ICs correctly emphasized safety and reiterated the company's strategic level priorities, namely, ensuring that actions were heavily focused on restoration planning. The ICs quickly coordinated with each other to delegate additional IC responsibilities and ensure effective coordination between the sections and the unified command. Throughout the response, the ICs maintained an appropriate span of control, and the lead IC assigned the deputies to each of the sections to gather and report relevant information back to unified command. The ICs leveraged LNOs and their continuous communications with AREPs to maintain real-time situational awareness of conditions in the jurisdictions, avoiding duplication of effort. The ICs worked with LNOs to deconflict requests and data from across the response structure and develop a common operating picture.

Once tasked by the OSC, the EOFs coordinated with SOF and LOGS on laydown sites and overall waste management, prioritizing environmental protection and compliance as well as ensuring employee safety. Separately, EOFs provided useful foresight by discussing vendor availability and potential competing resource requests from other impacted utilities.

Opportunities

- The ICs missed an opportunity to focus themselves on immediate tasks, overall strategy, and battle rhythm during the in-brief
- The ICs struggled to stay on schedule, delaying and extending meetings, which interrupted the battle rhythm across teams and caused delays in product development across the response structure
- The EOFs were slow to proactively participate in overall EOC response activities

Although the ICs communicated the company's strategic priorities during the initial in-brief, they were delayed in establishing and communicating a battle rhythm missing the opportunity to focus the team on immediate tasks for the current OP. While the ICs initially designated responsibilities internally, they sometimes had difficulty organizing themselves in such a way to maintain the meeting schedule set at the beginning of the OP. For example, all of the ICs (and LNOs) participated in the CUEA Utility Restoration Task Force conference call. During this time, none of the other sections could communicate with unified command nor receive approval for requests, delaying the overall response process.

While internal communication was strong, ICs sometimes struggled to coordinate and complete time-sensitive tasks with other sections. Additionally, after meeting with the CMC, the lead IC did not communicate information he gained to the command staff and section chiefs, hindering response personnel's understanding of executive leadership's priorities.

For the first several hours of the exercise, the EOFs did not proactively participate in overall EOC activities, instead waiting for players from other sections approach them with requests. Specifically, the EOFs waited for OPS to request information about environmental concerns for laydown yard setup, rather that providing this information upfront.

Public Information Officer and Incident Communications Team

Table 6: PIO and ICT Performance Ratings by Objective

Objective 1 Operational Coordination	**Objective 2** Situational Awareness	**Objective 3** Public Information and Warning	**Objective 4** Planning
Yellow	**Green**	**Green**	**Green**
Overall Score	**4**		

Strengths

- The PIO/ICT demonstrated a good understanding and appreciation of both corporate and incident objectives and collaborated well internally to respond to requests promptly and in compliance with company policy and procedures
- The PIO/ICT recognized the need to constantly update the information portals, and provided consistent messaging and communications
- The PIO/ICT supported the planning process and attended meetings, even just for situational awareness

The Lead PIO demonstrated strong leadership skills and a good understanding of both corporate and incident objectives, quickly listing critical tasks and assigning a member of the ICT to each one. The PIO and each of the team members proactively performed their duties; quickly responded to requests, and constantly updated the information portals. The lead PIO specifically stressed the importance of providing communications that follow a consistent theme—"Empathy, Facts, and Next Steps"—a best practice that helped to frame all messaging throughout the response. The team prioritized continual updates to the internal notification system and reminded the public that SCE employees and families are part of the community and were affected proportionally by the incident.

The PIO/ICT overcame every challenge raised in the exercise to keep information flowing internally and externally by ensuring that SCE leadership had the opportunity to weigh in on communications where confusion arose, even when procedure dictated that it wasn't necessary. The PIO/ICT worked well together and collaborated with other sections to provide assistance to anyone who asked, even outside the scope of their work. PIO/ICT staff had the benefit of a relatively moderate level of exercise play due to the timing of the exercise within the simulated incident, allowing them to complete tasks in a timely and accurate manor, consistent with SCE policy, plans, and procedures.

Opportunities

- The PIO/ICT may struggle to operate efficiently in the designated workspace if a real-world incident requires a larger support staff roster
- The PIO/ICT took a passive role in preparing for the press conference, leaving the PIO underprepared and placing the company in a vulnerable position
- The PIO/ICT displayed some confusion over the delegation of authority and the approval process for messaging

During the exercise, the PIO/ICT was able to satisfy the requirements of the function, but may have struggled during a real-world event due to space, infrastructure, and staffing limitations. If a larger team were staffed for an incident, the existing space and infrastructure may be insufficient to support the entire activated team. Additionally, the PIO/ICT did not appropriately prepare 24-hour staffing plans for the entire OP.

Liaison Officer

Table 7: LNO Performance Ratings by Objective

Objective 1 Operational Coordination	**Objective 2** Situational Awareness	**Objective 3** Public Information and Warning	**Objective 4** Planning
Green	**Green**	**Green**	**Green**
Overall Score		**5**	

Strengths

- LNOs were responsive and collaborative, coordinating internally and with the PIO/ICT to ensure that information and messaging was consistent across audiences
- LNOs brought knowledge of SCE policies and procedures from their day jobs into their response roles, which they leveraged as they attended to each request
- LNOs exhibited a collaborative tone that created a positive environment to share information and resolve issues

The lead LNO and PIO coordinated and communicated constantly, and often co-located, to ensure that their functions were synchronized. LNOs closely coordinating with the PIO was important because it contributed to both functions being successful in their mission areas. The lead LNO set a collaborative tone that was mirrored by the team and created a positive environment to share information and resolve issues; The knowledge that each team member brought with them from their day jobs was a significant benefit during exercise play.

Opportunities

- LNOs did not develop an organizational structure within the team, which appeared to cause some duplication of effort
- The LNO was co-located with the ICs in a small work environment with limited space—the crowded conditions slowed some response operations
- LNOs did not identify all of the potential stakeholders with whom they should have collaborated; stifling the communication of key information

While the LNOs answered all requests fielded to them, there was no clear organizational structure within the team, which caused some duplication of effort early on in the response. LNOs were collocated with the unified command in a tight space that would not have been an optimal working environment during a large response and impeded the pace at which LNOs could work. The team did not address the need to increase staff and prepare for 24-hour operations, which might leave them short-handed in a real-life incident of this magnitude. The team did not identify all of the potential stakeholders with whom they should have collaborated, which could impede the exchange of key information, causing duplications of effort, or slowing the restoration of critical functions (i.e., electricity) to the external response efforts.

Safety Officer

Table 8: SOF Performance Ratings by Objective

Objective 1 Operational Coordination	**Objective 2** Situational Awareness	**Objective 3** Public Information and Warning	**Objective 4** Planning
Yellow	**Green**	**Green**	**Yellow**
Overall Score	**3**		

Strengths

- SOFs demonstrated a strong understanding of roles and responsibilities, and coordinated well to distribute the complex workload
- SOFs communicated well internally and across the response structure, effectively sharing information, assisting the PIO and LNO with messaging, and following up on requests from the C&G staff

SOFs immediately understood the complexity of the incident and coordinated internally to delegate responsibilities among themselves. One SOF took control of communication and coordination with the Unified Command, while the other SOF handled the IMT/Tactics Meeting work. Both SOFs split the incoming requests according to their availability and worked closely with the EOF to define an operational and coordination strategy. SOFs maintained close communications with LOGS, who requested additional safety advisors to manage and report back on security and conditions at SCE sites. SOFs ensured timely reporting of all injuries and fatalities to the lead IC and sustained coordination with the HRSP in identifying and confirming them. SOFs coordinated with LOGS on laydown yard locations and access points, and asked the EOF for advice regarding hazardous materials, particularly transformer mineral oil, to ensure the appropriate level of PPE was available.

SOFs regularly referenced the ERP, and participated in planning meetings, ensuring that safety was integrated into the response. Unified Command tasked SOFs to develop an Aftershock Plan to include in the IAP. The SOFs developed the plan throughout the day, coordinating with the PIO/ICT on messaging requirements, although were not able to finalize and distribute the plan prior to the end of the exercise.

Opportunities

- SOFs struggled to decide which version of the ICS-215A form to use, and the team was unable to complete the document in time for the Tactics Meeting
- SOFs were absorbed with performing tasks, and sometimes lost track of Web EOC updates, including schedule adjustments to the Tactics Meeting
- SOFs did not include OPS in the Aftershock Plan development process, leaving them out-of-the-loop and unable to provide input on impacts to field operations

SOFs lost valuable time trying to decide which version of the ICS-215A Hazard/Risk Analysis to use as there were 3 versions available through the Edison portal. Timely completion of the ICS-215A is critical, as it is a California Division of Occupational Safety and Health (Cal-OSHA) requirement, and failure to complete the form leaves the organization vulnerable to potential litigation in the event on an injury or fatality.

At times, SOFs lost track of the displayed Web EOC updates and adjustments to the Meeting Schedule, as they were caught up with performing tasks, such as developing the Aftershock Plan at the request of the ICs. The team missed an opportunity to coordinate with OPS to develop the Aftershock Plan, which would have contributed to building a comprehensive approach to determining potential risks and mitigation strategies.

Operations Section

Table 9: OPS Performance Ratings by Objective

Objective 1 Operational Coordination	**Objective 2** Situational Awareness	**Objective 3** Public Information and Warning	**Objective 4** Planning
Yellow	**Yellow**	**Red**	**Yellow**
Overall Score	**2**		

Strengths

- OPS coordinated with the ICs during operational planning to ensure unified command endorsed the requirements and requests for personnel and materials
- OPS worked well with the BCD to develop a response strategy for critical customer support requests
- OPS demonstrated effective resource allocation, dividing resources into task forces to expeditiously achieve incident objectives

OPS displayed effective coordination with several EOC sections throughout the response, which helped to establish a common operating picture. Additionally, OPS communicated well with the BCD regarding critical customer requests. Notably, when OPS determined that they were unable to provide generators for impacted critical customer facilities, they coordinated closely with the BCD to communicate their decision to those customers and facilities and provide contact information for generator vendors.

OPS effectively allocated resources by creating task forces to support specific incident objectives to achieve the strategic-level restoration priorities of the company. For example, task forces were assigned solely to expediate the restoration of communications systems and facilities, which supported effective resources distribution and minimized duplication of effort.

Opportunities

- OPS struggled to simultaneously obtain situational awareness, and prepare for meetings and calls that required an awareness of current operations
- OPS did not effectively delegate responsibilities, and became distracted with the minutia of processes rather than focusing on the strategic system-wide restoration effort
- OPS personnel were not equally representative of the impacted electric branches, resulting in a disproportionate focus on transmission and substation over distribution

OPS struggled to balance the need to obtain situational awareness with preparation activities for the C&G and Tactics Meeting. The early push to attend meetings, calls, and fill out paperwork kept OPS from obtaining situational awareness and impacted their ability to provide internal and external stakeholders with actionable information. OPS was distracted by the tactical details of response, rather than focusing on the strategy of the broader response effort. This created gaps in the response effort that would end up being addressed ad hoc, likely resulting in inefficiently managed resources. Ultimately, OPS required guidance from exercise staff to re-orient back to a strategic-level focus. Additionally, OPS was not aware of the Planning Section's FPC, and did not coordinate with the FPC members to provide input for the long-term restoration strategy. This lack of participation resulted in the OSC arriving late to the meeting, and the Planning Section committing and allocating resources without the OSC's knowledge.

Some OPS personnel were staffed in roles or areas with which they had no prior experience, which led to an unbalanced approach to restoration. Specifically, personnel with distribution expertise were not well represented among OPS decision makers. Consequently, the broader restoration strategy was disproportionately focused on transmission and substation impacts. Additionally, while OPS completed all the necessary forms for damage assessment activities, they did not finish assessments and shift their focus toward restoration before the end of the exercise. As a result, OPS was unable to develop realistic restoration time estimates for any of the impacted areas.

While OPS representatives updated regional stakeholders on SCE's restoration priorities, OPS did not engage in the public messaging process. Specifically, OPS did not coordinate with the PIO/LNO to provide information updates for press releases and other messaging, partially due to their struggle to obtain situational awareness of current operations at the beginning of the exercise. There was no discussion as to how the communications strategy would be implemented with SCE field and contractor personnel, which could leave restoration resources stranded in a real-world event. Further, OPS failed to coordinate with certain functions across the response structure, including Business Continuity, HRSP, Watch Office, Distribution Operations Centers (DOC), Disaster Recovery Team, and the corporate real estate (CRE) services vendor; which stifled messaging for estimated restoration times.

PLANNING SECTION

Table 10: Planning Section Performance Ratings by Objective

Objective 1 Operational Coordination	**Objective 2** Situational Awareness	**Objective 3** Public Information and Warning	**Objective 4** Planning
Green	**Yellow**	**Green**	**Green**
Overall Score	**4**		

STRENGTHS

- Planning Section staff coordinated well with other sections to support resource management, documentation, and information handling
- Planning Section staff convened an FPC to guide the planning process with a focus on long-term incident objectives and resource needs

The Planning Section efficiently guided the planning process, supporting review of incident objectives, facilitating and supporting meetings, and building the IAP. Situation Unit staff effectively collected and analyzed information, and PSC shared relevant updates and high-level decisions with C&G staff during planning meetings. The section also responded to specific requests for information or validation from across the response structure, such as resource planning requests. Specifically, Resources Unit staff quickly established a cadence for communications with OPS to support the ordering, tracking, and assignment of resources and coordinate with LOGs to determine supply levels and needs.

The Planning Section convened a provisional FPC to examine and predict risks, hazards, and resource requirements beyond the current OP. While personnel would benefit from clarified expectations of FPC processes and staffing, the FPC produced a long-range outlook document that was well-received by ICs, who saw the FPC as a benefit to the overall response.

OPPORTUNITIES

- Planning Section staff lost valuable time determining roles for participants from the Organizational Units (OU) due to limited situational awareness, delaying the start of response planning activities
- Planning Section staff did not consistently share information and status updates with the entire EOC response organization

The Planning Section was slow to establish situational awareness as the exercise began, and consequently Planning Section leadership did not efficiently assign roles and delegate responsibilities. This delayed the start of planning activities, including preparations for the C&G staff meeting. Additionally, the Planning Section did not maintain or display accurate and current meeting schedules which resulted in delays to the meetings and inconsistent attendance among the sections

While Situation Unit personnel collected information and kept ICs up to date on incident information and major decisions, the Planning Section did not consistently provide status updates to other EOC sections or revise the information posted on screen displays throughout the EOC. When Planning Section staff did update these displays and the information in the WebEOC Incident Activity Log, many personnel did not regularly consult these sources for updates, favoring information received directly from other personnel or briefings Consequently, personnel did not have, nor did they reference, a reliable common source of truth. The Planning Section missed an opportunity to support unified, enterprise-wide situational awareness as they did not regularly update and de-conflict the information posted on various displays throughout the EOC.

Logistics Section

Table 11: LOGS Performance Ratings by Objective

Objective 1 Operational Coordination	**Objective 2** Situational Awareness	**Objective 3** Public Information and Warning	**Objective 4** Planning
Yellow	**Yellow**	**Yellow**	**Green**
Overall Score	**3**		

Strengths

- LOGS quickly identified the need for additional staffing and requested assistance, coordinating with other sections to bridge that gap
- LOGS provided key support at planning meetings, and important health and safety guidance at laydown yards

LOGS coordinated well with other sections to fill their staffing gaps, while the Logistics Section Chief (LSC) exhibited strong leadership assigning tasks to the other members of the EOC section. Recognizing their limitations with regard to staffing, LOGS quickly identified the resources that were most important to supporting response efforts, including food, water, and lodging, and prioritized these activities. This enabled them to maximize their support for response operations until additional support staff could be brought in that would allow them to expand the scope of their activities. The LSC relied on internally developed plans to inform LOGS' logistical support for efforts such as contracted vendors, caterers and other support.

Opportunities

- LOGS did not proactively identify long-term logistical support, and did not fully understand supply chain capabilities during a disaster declaration

- LOGS did not effectively communicate resource needs to external agencies
- LOGS struggled to handle the volume of work given their limited staffing and use of general Technical Specialists

Although LOGS was effective at prioritizing its efforts given their staffing capabilities, their lack of trained staff inhibited their ability to achieve critical tasks such as long-term resource planning. In a real-world event, this would have negatively impacted their ability to acquire resources that would be in high-demand across the impacted area, resulting in delays. In one instance, LOGS did not proactively request additional fuel, which would have likely resulted in shortages in a real-world event; thereby hampering SCE's overall response efforts.

LOGS did not place enough emphasis on identifying long-term critical needs and did not consider that municipal utilities would be competing for resources in a real-world activation. To that point, the LSC was not aware of specific supply chain capabilities during a State/Federal disaster declaration (e.g., knowledge of the state Petroleum Fuels Set-Aside Program and how to access it) and did not fully understand the overall relationship with external organizations, agencies and regional EOCs. Considering the level of the incident, Technical Specialists were not adequate to handle the volume of work; a fully staffed LOGS section would be essential during an incident of this magnitude. Finally, LOGS did not develop a process for ordering resources from off-site locations, delivering materials, of identifying mutual assistance assets—all of which would have likely delayed restoration activities.

Finance Section & Human Resources Specialist

Table 12: Fin and HRSP Performance Ratings by Objective

Objective 1 Operational Coordination	**Objective 2** Situational Awareness	**Objective 3** Public Information and Warning	**Objective 4** Planning
Green	**Green**	**Green**	**Green**
Overall Score	**5**		

Strengths

- FIN demonstrated strong technical skills and an action-oriented approach that encouraged proactive communication and coordination with internal and external partners
- FIN demonstrated a strong familiarity with SCE plans and procedures, which enabled them to quickly identify finance-related priorities and convey information across sections
- HRSP proactively collaborated with other sections to share information and ensure the safety and well-being of employees

FIN exhibited strong technical skills throughout the exercise, and their effective collaboration with internal and external partners across the response structure reflected their action-oriented mentality. Throughout the response, FIN effectively utilized the ERP and Fatality Management Plan to inform their internal response operations and interactions with other sections. The team proactively sought out and validated information from other key positions including ICs and C&G staff to increase situational awareness and drive finance-related decision making. Similarly, the HRSP coordinated with the watch office to activate the EIC to increase communication with employees and worked across sections to account for personnel living and working in impacted districts. The HRSP also worked alongside the PIO to develop talking points and a strategy for employee messaging. FIN and the HRSP both identified staffing needs and prioritized the development of strategies to accomplish critical tasks, such as ensuring appropriate financing for the response.

OPPORTUNITIES

- FIN sometimes struggled to meet deadlines to provide information for meetings and briefings
- FIN was unable to entirely fulfill their role without a Legal Officer

While the FIN staff largely succeeded in their roles, some struggled to separate the roles and responsibilities of their blue-sky jobs from those in the EOC, which may have hindered accurate cost projection In some cases, FIN had difficulty meeting deadlines to provide information for meetings and briefings as they did not have access to the appropriate resources they would leverage in a real-world activation.

A Legal Officer did not participate in the exercise, which presented some challenges for FIN, as many decisions required the review or input from legal experts. Because the position was unstaffed, ICs were forced to take on some of the responsibility of approving expenditures, though FIN did begin the development of a strategy to overcome the lack of a Legal Officer prior to EndEx. FIN also did not manage to develop the burn rate/fiscal management strategy by the end of the exercise; which could have led to poor resource management and coordination.

Appendix C: ACRONYMS

AAR	After-Action Report
AREP	Agency Representative
BCD	Business Customer Division
BR	Business Resiliency Department
C/E	Controller/Evaluator
C&G	Command & General
Cal-OSHA	California Division of Occupational Safety and Health
CCC	Customer Contact Center
CMC	Crisis Management Council
CRE	Corporate Real Estate
CUEA	California Utilities Emergency Association
DOC	Distribution Operations Center
EIC	Employee Information Center
EEG	Exercise Evaluation Guide
EEW	Exercise Evaluation Workbook
EndEx	End of Exercise
ENS	Emergency Notification System
EOC	Emergency Operations Center
EOF	Environmental Officer
ERP	Earthquake Response Plan
ES	Electrical Services
ESCC	Electricity Subsector Coordinating Council
FE	Functional Exercise
FIN	Finance Section
FPC	Future Planning Cell
FSE	Full-Scale Exercise
GAR	Green-Amber-Red
GCC	Grid Control Center
Gen	Generation
GIS	Geographic Information System
HRSP	Human Resource Specialist
HSEEP	Homeland Security Exercise Evaluation Program
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
ICT	Incident Communications Team
IMT	Incident Management Team
IT	Information Technology
IST	Incident Support Team
LNO	Liaison Officer
LOGS	Logistics Section
LSC	Logistics Section Chief

OMS	Operations Management System
OP	Operational Period
OPS	Operations Section
OSC	Operations Section Chief
OU	Organizational Unit
PIO	Public Information Officer
PPE	Personal Protective Equipment
PSC	Planning Section Chief
RG	Resilient Grid
S/F	Security/Facilities
SCE	Southern California Edison
SoCal	Southern California
SOF	Safety Officer
StartEx	Start of Exercise
TSD	Transportation Services Division
USGS	United States Geological Survey