

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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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-Test Year 1996 General Rate
Case.

(U 39 M)

A.94-12-005
(Filed December 9, 1994)

Commission Order Instituting Investigation Into
the rates, Charges, Service, and Practices of
Pacific Gas and Electric Company

I.95-02-015
(File December 9, 1994)

Commission Order Instituting Rulemaking, to
Develop Standards for Electric System Reliability
and Safety Pursuant to D.96-09-073.

R.96-11-004
(Filed November 6, 1996)

**SAN DIEGO GAS & ELECTRIC COMPANY'S
ANNUAL REPORT IN COMPLIANCE WITH GENERAL ORDER 166**

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October 31, 2016



GENERAL ORDER 166 EMERGENCY PLAN COMPLIANCE REPORT

October 31, 2016
IN COMPLIANCE WITH GENERAL ORDER 166



A  Sempra Energy™ company

General Order 166 Emergency
Plan Compliance Report

October 31, 2016
In Compliance with
General Order 166



**GENERAL ORDER 166 EMERGENCY
PLAN COMPLIANCE REPORT**

GENERAL ORDER 166 2016 COMPLIANCE REPORT

Purpose: This Plan is to ensure that San Diego Gas & Electric's process and procedures are established for emergencies and disasters in order to minimize response times, and provide for service restoration and communications for the public during those emergencies and disasters. This report has been developed, updated, and maintained in compliance with CPUC General Order 166 by Decisions D.98-07-097, D.00-05-022 and D.12-01-032. The period for this report is the previous twelve months ending June 30, 2016.

This report has been updated and also incorporates the requirements of the November 1, 2012 Memorandum of Emergency Reporting Guidelines from the Deputy Director of SED (which revoked the previously applicable October 28, 2009 CPUC ED Memorandum of Emergency Reporting Guidelines).

The attached "Report" is provided in compliance with Standard 11 of General Order 166 and page 7 of CPUC Decision 98-07-097, which states:

"We have adopted rules that require the utilities to provide us with general plans for responding to emergencies but do not implicitly require the utilities to present us with detailed procedural manuals."

**GENERAL ORDER 166
STANDARDS 1-13**

STANDARD 1

PREPARE AN EMERGENCY RESPONSE PLAN

AND

UPDATE THE PLAN ANNUALLY

Standard 1. Emergency Response Plan

SDG&E's Compliance to Standard 1

SDG&E's Emergency Response Plan is now provided as a separate document from the Annual GO 166 Compliance Report, as required by the November 1, 2012 Memorandum from the CPUC's Energy Division.

In compliance with Standard 1, SDG&E's Emergency Response Plan has been annually updated; changes from the prior year's Emergency Response Plan include updating contact information, phone numbers, incorporating social media into SDG&E's Media Coordination plan. In addition, SDG&E signed a new Mutual Assistance Agreement with EEI.

A. Internal Coordination:

Declaration of different levels of emergency, Event Levels I through V notifies key departments that a major event is forecast or in progress that may significantly affect the electric distribution system. At every Event Level, each department has specific responsibilities that will allow the Company to prepare for such an event in an organized fashion.

When an Event Level III is declared, the Electric Distribution Emergency Operations Desk will be opened. This position is staffed by the Director, Electric Distribution Operations. Its purpose is to help coordinate the movement of crews, equipment and material between districts, and to provide system-wide information to various groups.

The Customer Contact Center ensures adequate staffing to handle increased call volumes and coordinates with the Electric Distribution Emergency Operations Desk Customer Contact Center Coordinator to update outage information.

B. ISO/TO Coordination:

SDG&E deals directly with the ISO. This procedure is under the overall jurisdiction of the California Independent System Operator (CAISO). Proper and timely communication with the CAISO is required. See ISO Operating Procedure 4610.

C. Media Coordination:

The Media Relations department is responsible for providing timely and accurate information to the news media and employees. Information is disseminated through news outlets and internal channels.

D. External and Government Coordination:

Guidelines for Emergency Services (ES) Department for reporting major electric and gas outage information for purposes of regulatory compliance and supporting proactive communication links. Local and State Agencies may initiate the California Standardized Emergency Management System (SEMS) during an emergency which will coordinate the agencies' activities. Public Safety agencies are updated on storm situations and progress of restoration through Emergency Services.

REPORTING PROCEDURES

During Normal Business Hours:

Notification to ES could come from an Officer-in-charge, Distribution Operations, a District Director or his designee or Corporate Communications.

The on-duty ES employee is responsible for obtaining accurate internal information and then contacting each of the organizational emergency contacts on the agency listing. An ES employee is responsible for providing follow up information at a reasonable frequency throughout the event to those agencies on the agency listing. Developing a record from the initial contact and each subsequent contact is necessary.

During Non-Business Hours:

ES has a rotational employee that stands one-week on duty shifts. An 800 text paging service and e-mail provides the notification mechanism for alerting ES emergency team. The on-duty ES employee has 10 minutes to contact the notifying party, obtain information and call the Manager of ES, who will instruct the ES on-call on what notifications and/or actions to take.

The on-duty ES employee is responsible for obtaining accurate internal information and then contacting the organizational emergency contacts on the agency listing as appropriate. The exception is the California Public Utilities Commission (CPUC) who is contacted by SDG&E's Claims Department when reporting criteria is met. An ES employee is responsible for providing follow up information at a reasonable frequency throughout the event to the appropriate agencies on the agency listing. Developing a record from the initial contact and each subsequent contact is necessary.

Agency Listing

- *California Energy Commission (CEC)
(916) 654-4287*
- *California Public Utilities Commission (CPUC)
(415) 703-2782*

- *State Office of Emergency Services (OES) Warning Center (916) 845-8911*
- *California Utilities Emergency Association (CUEA) Executive Director (916) 845-8518*
- *Orange County Office of Disaster Preparedness (714) 628-7054*
- *San Diego County Office of Disaster Preparedness (858) 565-3490*
- *San Diego City Emergency Management Coordinators (858) 974-9891*
- *Other utilities in the state*

E. Fire Prevention Plan:

“Those electric utilities identified below shall have a Fire Prevention Plan that describes the measures the electric utility intends to implement, both in the short run and in the long run, to mitigate the threat of power-line fire ignitions in situations that meet all of the following criteria: (i) The force of 3-second wind gusts exceeds the maximum working stress specified in General Order 95, Section IV, for installed overhead electric facilities; (ii) the installed overhead electric facilities affected by these 3-second wind gusts are located in geographic areas designated as the first or second highest fire threat area on a fire-threat map adopted by the Commission in Rulemaking (R.) 08-11-005; and (iii) the 3-second wind gusts occur at the time and place of a Red Flag Warning issued by United States National Weather Service. The requirement to prepare a fire-prevention plan applies to: (1) Electric utilities in Imperial, Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura counties; and (2) electric utilities in all other counties with overhead electric facilities located in areas of high fire risk as determined by such utilities in accordance with Decision 12-01-032 issued in Phase 2 of R.08-11-005.” General Order 166, Standard 1.E. See also D.12-01-032, pg. B-25.

Standard 1.E was added to GO 166 in January 2012 and was modified by Decision 14-05-020 (May 15, 2014). Standard 1.E requires SDG&E to prepare and submit plans to prevent power-line fires during extreme fire-weather events. As ordered by D.12-01-032, SDG&E submitted its first Fire Prevention Plan (FPP) by Advice Letter 2429-E on 12/31/2012. Resolution E-4576 (issued May 23, 2013) required SDG&E to make minor modifications to its FPP; these modifications were incorporated by SDG&E’s supplemental Advice Letter filing 2429-E-A. The supplemental AL 2429-E-A was approved by a disposition letter from the Director of the CPUC’s Energy Division on June 18, 2013, with an effective date of May 23, 2013. Consistent with General Order 166, D.12-01-032, and D.14-05-020, SDG&E’s updated 2016 FPP is attached to this report as Appendix 1.

F. Safety Considerations:

The Construction & Operations (C&O) Centers are responsible for the repair and restoration of service in their district, damage assessment, coordination with the Electric Distribution Emergency Operations Desk, and the management of resources and equipment necessary to restore service as quickly and safely as possible.

The C&O Director is responsible for the repair and restoration of service within in the district.

The District Assessment Coordinator is responsible:

- *Assessment of overall damage to the district;*
- *Calls out primary and secondary assessors (a.k.a. fielders);*
- *Assigns personnel to assess damage;*
- *Prioritizes emergencies;*
- *Makes sure expectations are clear to the fielders and ensures that fielders are briefed on SAFETY: Fielders are to understand that wires down or exposed conductors are to be considered energized unless identified, isolated, tested dead, and grounded. They should be informed that downed or exposed conductors could become energized without warning in storm conditions. Fielders should ensure that the public does not go near downed or exposed power lines or equipment.*

G. Damage Assessment:

System-wide damage assessment at the onset of the emergency (storm) is extremely important and the information can be difficult to collect. A network software application called Oracle Utilities Network Management System is being utilized to assist with this process, and provide estimated restoration times. The District Assessment Coordinator is responsible to immediately assign resources to the damage assessment process. Personnel may include, but not limited to; Electric Troubleshooter, Working Foremen, Linemen, Construction Supervisor, Project Coordinators, and Planners.

Once the assessment is completed, the assessment is updated on either the Oracle Utilities Network Management System or the SORT (Service Order Routing Technology) application. The updated information is passed to the Oracle Storm Management application within the Oracle Utilities Network Management System and focalPoint. The purpose of utilizing these two systems is intended to provide data on current and completed backlog to the Distribution Emergency Operations Desk so that assessment of damage system-wide can be accomplished and staffing levels can be adjusted accordingly.

H. Restoration Priority Guidelines:

Restoration guidelines include consideration of the following:

- *Emergencies (Life Threatening);*
- *Special Cases (As Defined By Distribution Shift Manager);*
- *Primary Outages - Generally, set assessment and restoration priorities so that service is restored first to critical and essential customers so that the largest number of customers receive service in the shortest amount of time;*
- *Non-Primary Outages - Emergency Agencies standing by and equipment damage not related to primary outages;*
- *Transformer Outages;*
- *Single-No-Light outages.*

I. Mutual Assistance :

The Electric Distribution Emergency Operations Desk Manager or Emergency Operations Center Officer-In-Charge will:

- *Notify Emergency Services that mutual assistance is being considered and request that informal inquiries to other utilities be made;*
- *Determine resource needs from discussions with the districts, the outage forecast data, the storm forecast and resource shortages;*
- *Hold discussions with the Vice President of Electric Distribution and the Manager of Emergency Services on the need for mutual assistance and obtain approval to request.*

Conditions triggering these discussions include, but are not limited to:

- *Nearing ten percent of SDG&E's customers being out of service at any one time;*
- *When forecasted restoration time exceeds 24 hours, discussion for mutual aid is initiated and decisions are documented;*
- *Storm intensity is forecasted to last another 48 hours;*
- *All SDG&E crew resources have been or will be committed;*
- *All local contract crews have been or will be committed.*

J. Plan Update:

This general plan has been adjusted for changes made since the last submittal and incorporates the requirements of CPUC Decisions D.98-07-097, D.00-05-022, and D.12-01-032 as well as the latest CPUC reporting guidelines of November 1, 2012 CPD Memorandum. Procedural manuals have been updated as required to conform to this general plan.

STANDARD 2

**ENTER INTO
MUTUAL ASSISTANCE AGREEMENTS
WITH OTHER UTILITIES**

Standard 2. Mutual Assistance Agreement(s)

SDG&E's Compliance to Standard 2

SDG&E has two Mutual Assistance Agreements: one within California, and one for the Western United States with access to nationwide assistance, if needed.

During the reporting period SDG&E did not activate or provide Mutual Assistance to another utility.



CUEA Mutual
Assistance Agreement



WEI Mutual
Assistance Agreement

MUTUAL ASSISTANCE AGREEMENT
(Electric and Natural Gas) AMONG MEMBERS OF
THE CALIFORNIA UTILITIES EMERGENCY
ASSOCIATION

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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 have 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 January 15, 1999 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 of 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 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 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

September 2010

Parties To The Mutual Assistance Agreement (Electric and Natural Gas) Among Members of the California Utilities Emergency Association

The Parties to this Agreement are:

- **Anza Electric Cooperative, Inc (2009)**
Gloria Britton gloriab@anzaelectric.org
Cellular Phone: 951-551-0373
- **Azusa Light & Water (2009)**
David M. Ramirez dramirez@ci.azusa.ca.us
Cellular Phone: 909-255-3105
- **Bear Valley Electric Service (2009)**
Ken Markling kmarkling@bves.com
Cellular Phone: 909-744-4730
- **Burbank Water and Power (2010)**
Jorge Somoano jsomoano@ci.burbank.ca.us
Cellular Phone: 818-399-5171
- **Colton Public Utilities (2010)**
Guadalupe Rubio grubio@ci.colton.ca.us
Cellular Phone: 909-772-7874
- **Glendale Water and Power (2010)**
Ramon Abueg rabueg@ci.glendale.ca.us
Cellular Phone: 818-262-7496
- **City of Healdsburg Electric Department (2009)**
Janval Macor gmacor@ci.healdsburg.ca.us
Cellular Phone: 707-953-1548
- **Imperial Irrigation District (2010)**
Dr. Brian Grady bjgrady@iid.com
Cellular Phone: 760-604-3471

- **Lassen Municipal Utility District (2010)**
David Folce dfolce@lmud.org
Cellular Phone: 530-310-2704
- **City of Lompoc (2010)**
Ronald Stassi r_stassi@ci.lompoc.ca
Cellular Phone: 805-588-3163
- **Los Angeles Department of Water and Power (2010)**
Jay Puklavetz jay.puklavetz@ladwp.com
Cellular Phone: 310-261-8014
- **Modesto Irrigation District (2010)**
Thomas Kimball tomk@mid.org
Cellular Phone: 209-652-0283
- **Pacific Gas & Electric Company (2010)**
Helen Fernandez hme2@pge.com
Cellular Phone: 925-642-1189
- **Pacific Power, a division of PacifiCorp (2010)**
William Equinto Bill.equinto@pacificcorp.com
Cellular Phone: 503-819-5449
- **City of Palo Alto (2009)**
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
- **Plumas-Sierra Rural Electric Cooperative (2009)**
Terry Daley tdaley@psrec.coop
Cellular Phone: 530-251-7983
- **City of Redding – Redding Electric Utility (2009)**
Brian King bking@ci.redding.ca.us
Cellular Phone: 530-356-2458
- **City of Riverside, Public Utilities Department (2009)**
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 (2010)**
Selby Mohr smohr@smud.org
Cellular Phone: 916-798-6647
- **San Diego Gas & Electric Company (2010)**
Ken Fussell kfussell@semprautilities.com
Cellular Phone: 619-851-4598
- **City of Shasta Lake (2010)**
Tom Miller tom.miller@ci.shasta-lake.ca.us
Cellular Phone: 530-917-9711
- **Sierra Pacific Power Company, dba Nevada Energy (2010)**
B. Jim Reagan jreagan@sppc.com
Cellular Phone: 775-846-4864
- **Silicon Valley Power, Electric Utility of City of Santa Clara (2010)**
Paul Foster pfoster@svpower.com
Cellular Phone: 408-640-6980
- **Southern California Edison Company (2010)**
Rachel Sherrill Rachel.sherrill@sce.com
Cellular Phone: 626-388-5754
- **Southern California Gas Company (2010)**
Ken Fussell kfussell@semprautilities.com
Cellular Phone: 619-851-4598
- **Truckee-Donner Public Utility District (N/A) (2010)**
Jim Wilson jimwilson@tdpud.org
Cellular Phone: 530-448-3016
- **City of Ukiah (2010)**
Colin Murphy 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].

[Signature of Authorized Representative of Requesting Party]

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 _____ To: 8 _____	
_____	_____
Date Assistance Accepted:	Date Demobilization Complete:

LABOR 1: Employee Wages and Salary while at RP Service Area **9**

Labor:	Hours	Wages	Additives	LABOR 1 Subtotal:
Straight Time, Overtime and Premiums:	_____	_____	_____	_____

LABOR 2: Employee Wages and Salary while traveling to and from RP Service Area **10**

Labor:	Hours	Wages	Additives	LABOR 2 Subtotal:
Straight Time, Overtime and Premiums:	_____	_____	_____	_____

LABOR 3: Employee Wages and Salary of service and support personnel not traveling to RP Service Area **11**

Labor:	Hours	Wages	Additives	LABOR 3 Subtotal:
Straight Time, Overtime and Premiums:	_____	_____	_____	_____

LABOR 4: Overtime Wages and Salary Incurred in AP Service Area as a Result of Assistance **12**

Labor:	Hours	Wages	Additives	LABOR 4 Subtotal:
Overtime and Premiums:	_____	_____	_____	_____

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 time worked in the Requesting Party's service area, 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 time or pay for travel to, or from, the Requesting Party's service area, 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.

**WESTERN REGION
MUTUAL ASSISTANCE AGREEMENT**

For

ELECTRIC AND NATURAL GAS UTILITIES

Effective: 11/14/2003

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WESTERN REGION MUTUAL ASSISTANCE AGREEMENT (Electric and Natural Gas)

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.

WESTERN REGION MUTUAL ASSISTANCE AGREEMENT (Electric and Natural Gas)

1.0 PARTIES

- 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 RECITALS

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 Party") 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, notwithstanding 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 AMENDMENT

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 NOTICES

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 ATTACHMENTS

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: San Diego Gas & Electric Company

Signature of Officer: 

Title of Officer: Vice President - Electric Distribution Operations

Date Executed: March 31, 2016

Print Officer Name: John Sowers

STANDARD 3

**CONDUCT ANNUAL EMERGENCY TRAINING
AND EXERCISES
USING THE UTILITIES
EMERGENCY RESPONSE PLAN**

Standard 3. Emergency Training and Exercise

The utility shall conduct an exercise annually using the procedures set forth in the utility's emergency plan. If the utility uses the plan during the twelve-month period in responding to an event or major outage, the utility is not required to conduct an exercise for that period.

SDG&E's Compliance to Standard 3.

In the 12-month reporting window, SDG&E had an actual event after SDG&E had already conducted its annual drill. Below is a synopsis of those two events that occurred:

The activation of the Electric Distribution Operations Storm desk and the Emergency Operations center on January 31, 2016, in response to an El Nino Storm, has satisfied the Storm Response requirement of GO166. Due to this activation and EDO declaring an Event Level 2 / Assessment Level 2, SDG&E did not need to conduct its 2016 annual storm drill. SDG&E would like to thank everyone for all their efforts in restoring power safely and in a very quick manner to our customers during some very difficult and adverse weather conditions.

Also, SDG&E conducted its annual emergency drill on October 17, 2015. The primary goal for the drill was to continue building on the past year's expansion of our storm role bench strength through cross training efforts while learning the processes on new systems as well as effectively using resources and contractors. SDG&E invited multiple agencies, however none attended the 2015 CPUC storm drill.

Below is a high-level synopsis of the 2015 CPUC storm drill.

Construction Services Performance Rating

SDG&E checked in 39 employees, including Forester's, Construction Services working foreman, Electric Crews and Tree Trim.22 Crews were transferred to SDG&E's Construction Districts. SDG&E also experienced issues with its internal focalPoint system. The Overall Restoration Report ran slowly, taking up to 30 seconds or more to open or not opening at all.

Distribution Operations Performance Rating

SDG&E checked in 21 employees into focalPoint. All employees were checked out at the end of the drill. Three employees were missing a Work Function.

STANDARD 4

**DEVELOP A STRATEGY
FOR INFORMING THE PUBLIC
AND
RELEVANT AGENCIES
OF A MAJOR OUTAGE**

Standard 4. Communications Strategy

SDG&E's Compliance to Standard 4

SDG&E's Communications Strategy is set forth below:

A. Customer Communications – Media Relations & Customer Contact Center

The Customer Contact Center starts to obtain emergency (storm) damage data during the Event Level II alert and continues through the completion of the emergency. During Events Level III or IV, the Customer Contact Center will dispatch a representative to the Electric Distribution Emergency Operations Desk to coordinate outage data for the Contact Center.

SDG&E has several communications tools to expedite the delivery of emergency (storm) information to media and customers, including:

- Emergency Radio Ads: SDG&E has contacted 24 local radio stations to obtain their turn-around time commitment to place emergency ads, which range from 1 hour to 24 hours depending on the station and day of week. Additionally, the stations are prepared to provide news coverage as the situation may merit;*
- Media Relations will issue media advisories as appropriate and proactively call local print publications and broadcast television and radio stations to provide emergency storm information. The information provided to the media will also be posted on social media channels that include Twitter, Facebook, and Instagram.*
- Web site outage information. An outage Web site, which can be accessed through www.sdge.com, provides information about active electrical outages. The information, listed by neighborhood or city, contains details such as the cause of the outage, number of customers affected and estimated restoration times. Similar information can be found on SDG&E's phone app.*

B. Government:

Guidelines for Emergency Services (ES) exist for reporting major electric and gas outage information for purposes of regulatory compliance and supporting proactive communicative links. Local and State Agencies may initiate the California Standardized Emergency Management System (SEMS) during an emergency which will coordinate the agencies' activities.

REPORTING PROCEDURES

During Normal Business Hours

Notification to ES could come from an Executive in-charge, Distribution Operations, a District Director or his designee or Corporate Communications, or the Customer Contact Center.

The on-duty ES employee is responsible for obtaining accurate internal information and then contacting the organizational emergency contacts on the agency listing as appropriate. The exception is the CPUC who is contacted by SDG&E's Claims Department when reporting criteria is met. An ES employee is responsible for providing follow up information at a reasonable frequency throughout the event to the appropriate agencies on the agency listing. Developing a record from the initial contact and each subsequent contact is necessary.

During Non-Business Hours

ES has a rotational employee that stands one-week on duty shifts. An 800 text paging service and e-mail provide the notification mechanism for alerting ES emergency team. The on-duty ES employee has 10 minutes to contact the notifying party, obtain information and call the Manager of ES, who will instruct the ES on-call on what notifications and/or action to take.

The on-duty ES employee is responsible for obtaining accurate internal information and then contacting the organizational emergency contacts on the agency listing as appropriate. The exception is the CPUC who is contacted by SDG&E's Claims Department when reporting criteria is met. An ES employee is responsible for providing follow up information at a reasonable frequency throughout the event to the appropriate agencies on the agency listing. Developing a record from the initial contact and each subsequent contact is necessary.

Agency Listing

- *California Energy Commission (CEC)
(916) 654-4287*
- *California Public Utilities Commission (CPUC)
(415) 703-2782*
- *State Office of Emergency Services (OES) Warning Center
(916) 845-8911*
- *California Utilities Emergency Association (CUEA) Executive Director
(916) 845-8518*
- *Orange County Office of Disaster Preparedness
(714) 628-7054*
- *San Diego County Office of Disaster Preparedness
(858) 565-3490*
- *San Diego City Emergency Management Coordinators
(858) 974-9891*
- *Other utilities in the state*

C. Independent System Operator (ISO) / Transmission Owner:

SDG&E deals directly with the ISO. This procedure is under the overall jurisdiction of the California Independent System Operator (CAISO). Proper

and timely communication with the CAISO is required. See ISO Operating Procedure 4610.

STANDARD 5

**COORDINATE INTERNAL ACTIVITIES
DURING A MAJOR OUTAGE
IN A TIMELY MANNER**

Standard 5. Activation Standard

SDG&E's Compliance to Standard 5

SDG&E's Activation Standard is set forth below:

The Electric Distribution Emergency Operations Desk Manager is responsible for declaring and assigning advisories or Event Levels. Declaration of different levels of emergency, Event Levels I through V notifies key departments that a major event is forecast or in progress that may significantly affect the distribution system. At every Event Level, each department has specific responsibilities that will allow the Company to prepare for such an event in an organized fashion. Key Departments for notification include:

- *Electric Distribution Operations – Distribution Control Center;*
- *Customer Service - Service Dispatch;*
- *District Construction & Operation Centers;*
- *Electric Construction & Maintenance;*
- *Customer Contact Center;*
- *Commercial & Industrial Services;*
- *Media Relations;*
- *Emergency Services;*
- *Construction Services;*
- *Procurement Services;*
- *Fleet Services;*
- *Asplundh Tree Expert Co.;*
- *Davey Tree Surgery;*
- *All On-Duty Personnel.*

Event Level Storm/Emergency Definitions:

Weather Advisory - *A Weather Advisory is declared when the forecast predicts conditions that could cause outages in the service territory.*

Event Level I *is declared when the forecast calls for any of the following:*

- *The first rain after an extended dry period (from 4 to 6 months);*
- *Winds above 25 to 30 mph, anywhere in the service territory;*
- *Temperatures above 100 degrees or below 35 degrees along the coastal strip;*
- *Thunderstorms, tornado watches or tsunami (tidal wave) warnings;*
- *Inclement weather has arrived in the service territory and is causing sporadic outages.*

Note: A Weather Advisory is not necessary to issue an Event Level I.

Event Level II is declared when a storm actually arrives in the service territory or an emergency/disaster causes a significant number of outages, and at least 1 district opens its District Emergency Operations Desk. Opening the District Emergency Operations Desk may consist of any of the following:

- The Distribution Control Center dispatches investigation orders to assessors and to troubleshooters;
- The District dispatches line crews for storm/emergency outages during off-hours. District dispatching of crews to storm/emergency outages during normal working hours is not normally considered as opening the District Emergency Operations Desk.

Note: Neither a Weather Advisory nor an Event Level I is necessary to issue an Event Level II Alert.

Event Level III is declared when a natural disaster has occurred or a storm/emergency has spread into the territory and any of the following conditions exist:

- Expect and/or achieve 40,000 customers out of service at any one time on the distribution system;
- 2 or more C&O Centers have opened their District Emergency Operations Desks.

Note: None of the following are required to issue an Event Level III: a Weather Advisory, an Event Level I nor an Event Level II.

Event Level IV is declared when the storm/emergency has spread into the territory, and a combination of the following conditions exist:

- Electric Distribution Emergency Operations Desk Manager has obtained approval from the Manager of Emergency Services and the Vice President of Electric Distribution Operations to set Event Level IV and to activate Emergency Operation Center;
- Expect and/or achieve 80,000 customers out of service at any one time on the distribution system;
- Storm/emergency intensity is forecast to last another 48 hours;
- All SDG&E crew resources are committed;
- All local contract crews are requested;
- Mutual Aid inquiries are considered when forecasted restoration time exceeds 24 hours.

Note: None of the following are required to issue an Event Level IV: a Weather Advisory, an Event Level I, an Event Level II Alert, nor an Event Level III.

Event Level V is declared when the storm/emergency has spread into the territory and any of the following combinations exist:

- *Electric Distribution Emergency Operations Desk Manager has obtained approval from the Manager of Emergency Services and the Vice President of Electric Distribution Operations to set Event Level V;*
- *10% of the customers are out of service at any one time;*
- *Storm/emergency intensity is forecast to last another 48 hours;*
- *All SDG&E crew resources are committed;*
- *All local contract crews are committed;*
- *Mutual Aid is considered when forecasted restoration time exceeds 24 hours; inquiries are made when forecasted restoration times exceed 36 hours; and requested, when service restoration times are forecasted to be between 48 hours and 72 hours.*

When an Event Level III condition is declared, the Electric Distribution Emergency Operations Desk will be opened. This position is staffed by the Director of Electric Distribution Operations. Its purpose is to help coordinate the movement of crews, equipment and material between districts, and to provide system-wide information to various groups.

Assessment Levels:

The Electric Distribution Emergency Operations Desk Manager will also declare assessment levels during storms, natural disaster, or emergency conditions. Depending upon the severity of the event, it may be necessary to provide direction to field personnel to the appropriate “assessment” level.

Assessment Level 1 – “Classic Assessment”, similar to those done by Electric Troubleshooters (ETS) on a daily basis, including typical emergency situations. Determine the problem and communicate the necessary crews, material, and equipment to complete the repairs. It is also expected that the Assessor, typically an ETS, will be capable of making field situations safe and can restore service while communicating with the Switching Center

Assessment Level 2 – “Wide Spread Assessment”, similar to Level 1 except that the Primary & Secondary Assessors are also involved and are not capable of making field situations safe nor directly restoring service. Determine the problem and communicate the necessary crews, material, and equipment to complete the repairs. To make conditions safe or restore service, Primary & Secondary Assessors must request the assistance of an ETS or crew

Assessment Level 3 – “Phased Assessment”, a severe widespread emergency of magnitude makes finding out the big picture of the overall damage the first priority followed by an in depth repair assessment

Assessment Level 3A – an overview Assessment Level 3A is performed when the most urgent need is to determine the scope of damage, such as number of poles burnt, areas affected, and number of customers without power. During emergencies of this type, communication means not normally used may be required. For example, an Excel spreadsheet may be used to communicate the circuits involved, extent of damage, repair schedule, and repair status. The necessary details to complete repairs are not gathered at this stage.

Helicopter – to the extent possible, the preferred method is helicopter reconnaissance. Assessment can be completed by Construction Supervisor, ETS, or other qualified personnel.

Assessment Level 3B – a full Assessment Level 3B is performed as a follow-up to level 3A Assessments. Level 3B assessments gather the necessary information to complete repairs. 3B Assessments may be done by Field Supervisors, Designers, Planners, or Engineers, as needed.

STANDARD 6

**NOTIFY RELEVANT INDIVIDUALS
AND
AGENCIES
OF AN EMERGENCY OR MAJOR OUTAGE
IN A TIMELY MANNER**

Standard 6. Initial Notification Standard

SDG&E's Compliance to Standard 6

Within one hour of the identification of a major outage or other newsworthy event, the utility shall notify the Commission and the Warning Center at the Office of Emergency Services (OES) of the location, possible cause and expected duration of the outage. The Warning Center at the OES is expected to notify other state and local agencies of the outage. Subsequent contacts between state and local agencies and the utility shall be conducted between personnel identified in advance, as set forth in Standard 4.B. From time to time the Commission staff may issue instructions or guidelines regarding reporting.

SDG&E's Initial Notification Standard is set forth below:

Guidelines for Emergency Services (ES) exist for reporting major electric and gas outage information for purposes of regulatory compliance and supporting proactive communicative links. Within 1 hour of the identification of a major outage or other newsworthy event, the CPUC and the Warning Center at the Office of Emergency Services shall be notified of the location, possible cause and expected duration of the outage.

REPORTING PROCEDURES:

During Normal Business Hours

Notification to ES could come from an Officer-in-Charge, Electric Distribution Operations, a District Manager or their designee or Media Relations.

The on-duty ES employee is responsible for obtaining accurate internal information and then contacting the organizational emergency contacts on the agency listing as appropriate. The exception is the CPUC who is contacted by SDG&E's Claims Department when reporting criteria is met. An ES employee is responsible for providing follow up information at a reasonable frequency throughout the event to the appropriate agencies on the agency listing. Developing a record from the initial contact and each subsequent contact is necessary.

During Non-Business Hours

ES has a rotational employee that stands one-week on duty shifts. An 800 text paging service and e-mail provide the notification mechanism for alerting ES emergency team. The on-duty ES employee has 10 minutes to contact the notifying party, obtain information and call the Manager of ES who will instruct the ES on-duty on notifications and/or actions to take.

The on-duty ES employee is responsible for obtaining accurate internal information and then contacting the organizational emergency contacts on the agency listing as appropriate. The exception is the CPUC who is

contacted by SDG&E's Claims Department when reporting criteria is met. An ES employee is responsible for providing follow up information at a reasonable frequency throughout the event to the appropriate agencies on the agency listing. Developing a record from the initial contact and each subsequent contact is necessary.

Agency Listing

- *California Energy Commission (CEC)
(916) 654-4287*
- *California Public Utilities Commission (CPUC)
(415) 703-2782*
- *State Office of Emergency Services (OES) Warning Center
(916) 845-8911*
- *California Utilities Emergency Association (CUEA) Executive Director
(916) 845-8518*
- *Orange County Office of Disaster Preparedness
(714) 628-7054*
- *San Diego County Office of Disaster Preparedness
(858) 565-3490*
- *San Diego City Emergency Management Coordinators
(858) 974-9891*
- *Other utilities in the state*

GUIDELINES FOR NOTIFICATION OF THE CPUC- EMERGENCIES OR URGENT EVENTS IN ELECTRIC UTILITY SYSTEMS

I. References

1. G.O 166, *Standards for Operation, Reliability, and Safety during (Electric) Emergencies and Disasters* and this report has been updated and also incorporates the requirements of the November 1, 2012 CPUC CPSD Memorandum of Emergency Reporting Guidelines as well as new Standard 1.E as required by Commission Decision 12-01-032.

This Plan is to ensure that San Diego Gas & Electric's process and procedures are established for emergencies and disasters in order to minimize response times, and provide for service restoration and communications for the public during those emergencies and disasters. This report has been developed, updated, and maintained in compliance with CPUC General Order 166 by Decisions D.98-07-097 and D.00-05-022. The period for this report is the previous twelve months ending June 30, 2016.

II. How to Report

Emergency Reporting

Please report electrical and power plant emergencies, incidents and outages electronically to:

- <http://www.cpuc.ca.gov/emergency>

If internet access is not available, please telephone the applicable event reporting hotlines:

- *Electric Utilities: 1 (800) 235-1076*
- *Power Plants: 1 (415) 355-5503*

If the hotlines' voice mail systems are not in service, please contact the following SED personnel:

- *Electric Utilities and Power Plants: Fadi Daye (213) 598-7439 (office) or Charlotte TerKeurst (415) 622-5167.*

Notification of Significant Grid Events

The CAISO will continue its current practice to notify Commission Offices, Directors and key staff of significant grid events (Alerts, Warnings and Emergencies; or AWE) by email. E-mails should be addressed to Charlotte TerKeurst at charlotte.terkeurst@cpuc.ca.gov and Fadi Daye at fadi.daye@cpuc.ca.gov, and copied to USBR at USRB@cpuc.ca.gov.

Utilities will also notify Commission Offices, Directors and key staff of imminent or planned curtailment of interruptible customer load and rotating outages of firm

load, whether ordered by the CAISO (Stages 2 or 3) or made necessary by other emergencies, by email to Charlotte TerKeurst at charlotte.terkeurst@cpuc.ca.gov and Fadi Daye at fadi.daye@cpuc.ca.gov, and copied to USBR at USRB@cpuc.ca.gov. The email should specify the start time, anticipated duration and the impacted areas (city and county).

III. What to Report and When

1. Major Utility Reporting Requirements (GO 166)

Definitions:

Emergency or Disaster: An event which is the proximate cause of a major outage, including but not limited to storms, lightning strikes, fires, floods, hurricanes, volcanic activity, landslides, earthquakes, windstorms, tidal waves, terrorist attacks, riots, civil disobedience, wars, chemical spills, explosions, and airplane or train wrecks.

Major Outage: Consistent with Public Utilities Code Section 364, a major outage occurs when 10 percent of the electric utility's serviceable customers experience a simultaneous, non-momentary interruption of service. For utilities with less than 150,000 customers within California, a major outage occurs when 50 percent of the electric utility's serviceable customers experience a simultaneous, non-momentary interruption of service.

Please follow the guidelines below for initial reports about Electric System Emergencies and Urgent Events. For emergencies that last more than 24 hours, please provide an update by 9 am each business day until the emergency is resolved. For reports required within one hour, please provide follow up reports as practicable, but at least once every four hours, during the business day.

ELECTRIC EMERGENCIES AND URGENT EVENTS

1. Imminent or planned implementation of Interruptible Electric Load Curtailments or Rotating Outages of Firm Electric Load by your utility, either ordered by the ISO (CAISO Stage 2 or 3 Alert) or necessary by other emergencies.

Notify us as soon as possible every time you interrupt new blocks of circuits.

Please report:

- Start time and anticipated duration of the Curtailments or Rotating Outages;
- Interruptible Load or Firm Load Rotating Outage Blocks/Groups and sub blocks/groups to be interrupted;

- *Total amount of Interruptible Load Curtailments or Firm Load Outages and major locations (counties and cities) of firm load to be interrupted;*
 - *Your contact person for this emergency, with contact numbers.*
2. *Outage of electric service expected to accrue to over 300,000 customer hours, or exceeding 300 megawatts of interrupted load, or affecting more than 10 % of your electric customers. (For utilities with fewer than 150,000 customers in California (small utilities), report when 50% of your customers are affected or 30,000 customer hours of interruption are expected to accrue.)*

Notify us within one hour. Please report:

- *Possible cause of the outage, time and location of the initiating event;*
 - *Approximate number and location (by county/city) of customers affected;*
 - *Work necessary to restore service;*
 - *Estimated time of service restoration;*
 - *Your contact person for this emergency, with contact numbers.*
3. *An emergency, involving your facilities or personnel, likely to be reported statewide or in more than one major media market.*

Notify us within one hour. Please report:

- *What happened, where, when, and how;*
 - *Any effects on electric service;*
 - *Any injuries, hospitalizations, or casualties;*
 - *Any property damage;*
 - *Steps being taken to resolve the emergency;*
 - *Time the situation is expected to return to normal;*
 - *Your contact person for this emergency, with contact numbers.*
4. *Interruptions to bulk power supply (generators, transmission lines, or other equipment controlled by you) that are likely to lead to a CAISO declared Stage 2 or 3 Alert on or before the next business day.*

Notify us within one hour. Please report:

- *The cause of the interruption, time and location of initiating event;*

- *Factors that would mitigate or worsen the emergency;*
 - *Location and number of customers potentially affected;*
 - *The expected duration of the low capacity situation;*
 - *Your contact person for this event, with contact numbers.*
5. *An electric outage 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 a situation (such as floodwaters threatening a substation) likely to lead to such an outage. (Small utilities shall report outages affecting 3,000 customers, or lasting over 24 hours for more than 250 customers, or are expected to accrue to more than 6,000 customer hours.)*

Notify us by 9 a.m. the next business day. Please report:

- *The cause and time of the interruption, and name and location of facilities affected;*
 - *Starting and end times of the outage;*
 - *Location (by county and city) and number of customers affected;*
 - *Number of customers for whom the outage exceeded four hours;*
 - *If the outage is ongoing, when service will be restored;*
 - *Your contact person for this event, with contact numbers.*
6. *Electric outages associated with OES declared states of emergency, not otherwise reportable under above criteria.*

Notify us as soon as possible. Please report:

- *Cause of the outage;*
- *Starting and end times of the outage;*
- *Location (by county and city) and number of customers affected;*
- *Number of customers for whom the outage exceeded four hours;*
- *If the outage is ongoing, when service will be restored;*
- *Movements of emergency crews between regions;*
- *Mutual assistance requests to other utilities;*
- *Your contact person for this event, with contact numbers.*

STANDARD 7

**EVALUATE THE NEED
FOR MUTUAL ASSISTANCE
DURING A MAJOR OUTAGE**

Standard 7. Mutual Assistance Evaluation

SDG&E's Compliance to Standard 7

No later than 4 hours after the onset of a major outage, SDG&E will begin the process of evaluating and documenting the need for mutual assistance.

The Electric Distribution Emergency Operations Desk Manager or Emergency Operations Center Officer-In-Charge will:

- Notify Emergency Services that mutual assistance is being considered and request that informal inquiries to other utilities be made;*
- Determine resource needs from discussions with the districts, the outage forecast data, the storm forecast and resource shortages;*
- Hold discussions with the Vice President of Electric Distribution, Manager of Emergency Services and the Emergency Services' Representative on the need for mutual assistance and obtain approval to request.*

Conditions triggering these discussions include, but are not limited to:

- All SDG&E crew resources have been or will be committed;*
- All local contract crews have been or will be committed;*
- The restoration times for primary outages are forecasted to be between 24 and 36 hours;*
- Storm intensity is forecasted to last another 48 hours;*
- Nearing ten percent of SDG&E's customers being out of service at any one time.*

It is the standard procedures during an EOC activation for a major event to evaluate as soon as possible if there would be a need for mutual assistance.

During the reporting period SDG&E did not activate or provide Mutual Assistance to another utility.

STANDARD 8

**INFORM THE PUBLIC
AND
RELEVANT PUBLIC SAFETY AGENCIES
OF THE ESTIMATED TIME
FOR RESTORING POWER
DURING A MAJOR OUTAGE**

Standard 8. Major Outage and Restoration Estimate Communication Standard

SDG&E's Compliance to Standard 8

SDG&E's major outage and restoration estimate communication plan is set forth below.

- A. *System-wide damage assessment at the onset of the emergency is extremely important and the information can be difficult to collect. The Storm Damage Assessment program has been developed to assist this process, and provide estimated restoration times. The Call Center starts to obtain emergency (storm) damage data during the Event Level II and continues through the completion of the emergency. During Event Level III or IV, the Customer Contact Center (CCC) will dispatch a representative to the Electric Distribution Emergency Operations Desk to coordinate outage data for the Customer Contact Center. This ensures data availability well in advance of the GO 166 requirement of within 4 hours of the identification of the major outage.*

SDG&E has developed several communications tools to expedite the delivery of emergency (storm) information to media and customers, including:

- Emergency Radio Ads: SDG&E has contacted 24 local radio stations to obtain their turn-around time commitment to place emergency ads, which range from 1 hour to 24 hours depending on the station and day of week. Additionally, the stations are prepared to provide news coverage as the situation may merit;*
- Media Relations will issue media advisories as appropriate and proactively call local print publications and broadcast television and radio stations to provide emergency storm information. The information provided to the media will also be posted on social media channels that include Twitter, Facebook, and Instagram.*
- Web site outage information. An outage Web site, which can be accessed through www.sdge.com, provides information about active electrical outages. The information, listed by neighborhood or city, contains details such as the cause of the outage, number of customers affected and estimated restoration times. Similar information can be found on SDG&E's phone app.*

In addition, the Media Relations team monitors the 24-hour media hotline where the media can obtain more information and updated information.

- B. *The CCC starts to obtain emergency (storm) damage data, including restoration estimates, during the Event Level II and continues through the completion of the emergency. During Event Level III or IV, the Call Center will dispatch a representative to the Distribution Storm Desk to coordinate outage data, including estimated restoration times, for the*

CCC. This ensures data availability well in advance of the GO 166 requirement of within 4 hours of the initial damage assessment and the establishment of priorities for restoring service.

STANDARD 9

**TRAIN ADDITIONAL PERSONNEL
TO ASSIST WITH
EMERGENCY ACTIVITIES**

Standard 9. Personnel Redeployment Planning Standard

SDG&E's Compliance to Standard 9

SDG&E's Training and Redeployment Plans for performing safety standby activities and assessing damage during a major outage are as follows:

Redeployment Plan - The District Operations and Engineering Manager is responsible to immediately assign resources to the damage assessment process. Personnel may include, but not limited to, Electric Troubleshooter, Working Foremen, Linemen, Helpers, General Foremen, Project Coordinators, and Planners. In a major event it may become necessary to draw on additional company personnel. Each district not yet involved in the emergency (storm) should be prepared to assist other districts. Requests for additional personnel resources should go through the Electric Distribution Emergency Operations Desk at Distribution Operations so that effective control and allocation of resources is assured. Distribution Operations will contact Trouble Dispatch Department if assistance is needed to recruit personnel. Trouble Dispatch Department will provide a callout list similar to the district callout lists for this purpose.

Training - Assessor and safety standby training is performed on an annual basis. Formal classes are provided to ensure public and worker safety. Drills for specific areas of the plan are performed during the year as practical training and a formal drill, using the entire plan is performed yearly. In addition, the O&E Manager in each district is to brief assessors and safety stand-by personnel prior to their deployment. Fielders are to understand that wires down or exposed conductors are to be considered energized unless identified, isolated, tested dead, and grounded. They are to be aware that downed or exposed conductors could become energized without warning in storm conditions.

During the reporting period, SDG&E did activate its Personnel Redeployment Planning Standard for the January 2016 rain storms. SDG&E's Construction Districts did call for more assistance with primary and secondary assessments. These employees primarily came from SDG&E's Project Management Departments.

STANDARD 10

**COORDINATE EMERGENCY PLANS
WITH
STATE AND LOCAL PUBLIC SAFETY AGENCIES**

Standard 10. Annual Pre-Event Coordination Standard

SDG&E's Compliance to Standard 10

SDG&E typically conducts a number of interim emergency training programs during the year. SDG&E did invite agencies to SDG&E's annual storm drill during the reporting period.

Refer to page 16 for details regarding SDG&E's annual emergency drill.

STANDARD 11

**FILE AN ANNUAL REPORT
DESCRIBING COMPLIANCE
WITH THESE STANDARDS**

Standard 11. Annual Report

SDG&E's Compliance to Standard 11

This document includes SDG&E's annual report for the 12 month period ending June 30, 2016 and describes SDG&E's compliance with the GO 166 standards. In addition, SDG&E's repair and maintenance personnel are listed below (by county) for 2015 and 2016.

2015 REPAIR AND MAINTENANCE PERSONNEL
BY CLASSIFICATION
IN EACH COUNTY

<u>Personnel Classification</u>	<u>San Diego County</u>	<u>Orange County</u>
<i>Electric Supervisor (General & Administrative)</i>	65	4
<i>Working Foreman</i>	40	3
<i>Fault Finding Specialist</i>	4	1
<i>Lineman</i>	151	12
<i>Apprentice Lineman</i>	27	3
<i>Line Checker</i>	4	0
<i>Troubleshooter</i>	35	3
<hr/>		
<u>Total</u>	326	26

2016 REPAIR AND MAINTENANCE PERSONNEL
BY CLASSIFICATION
IN EACH COUNTY

<u>Personnel Classification</u>	<u>San Diego County</u>	<u>Orange County</u>
<i>Electric Supervisor (General & Administrative)</i>	58	4
<i>Working Foreman</i>	39	4
<i>Fault Finding Specialist</i>	5	1
<i>Lineman</i>	162	14
<i>Apprentice Lineman</i>	25	4
<i>Line Checker</i>	4	0
<i>Troubleshooter</i>	34	3
<hr/>		
<u>Total</u>	327	30

STANDARD 12

RESTORATION PERFORMANCE BENCHMARK FOR A MEASURED EVENT

Standard 12. Restoration Performance Benchmark for a Measured Event

SDG&E's Compliance to Standard 12

SDG&E did not have any Measured Events during the twelve month time period ending June 30, 2016 that caused SDG&E to implement Standard 12. SDG&E's benchmarks are set forth below.

A. *Benchmark*

The CPUC will review SDG&E's restoration performance following a Measured Event¹ based on the Customer Average Interruption Duration Index (CAIDI).

B. *CAIDI*

A CAIDI of 570 or below is presumed reasonable. A CAIDI above 570 is presumed unreasonable; however, the presumptions are rebuttable. Each sustained interruption experienced by a single customer shall count as a separate customer interruption. CAIDI will be measured from the beginning of the Measured Event until all customers experiencing interruptions during the Measured Event have been restored.

C. *Transmission Outages*

Customer minutes of interruption caused by outages on the transmission system are included in the calculation of CAIDI. Transmission outage minutes attributable to compliance with ISO directives that preclude SDG&E from restoring service are excluded from the CAIDI calculation.

¹ Measured Event: A Measured Event is a Major Outage (as defined herein), resulting from non-earthquake, weather-related causes, affecting between 10% (simultaneous) and 40% (cumulative) of a utility's electric customer base. A Measured Event is deemed to begin at 12:00 a.m. on the day when more than one percent (simultaneous) of the utility's electric customers experience sustained interruptions. A Measured Event is deemed to end when fewer than one percent (simultaneous) of the utility's customers experience sustained interruptions in two consecutive 24-hour periods (12:00 a.m. to 11:59 p.m.); and the end of the Measured Event in 11:59 p.m. of that 48-hour period.

STANDARD 13

CUSTOMER CONTACT CENTER BENCHMARK FOR A MEASURED EVENT

Standard 13. Customer Contact Center Benchmark for a Measured Event

SDG&E's Compliance to Standard 13

SDG&E did not have any Measured Events during the twelve month time period ending June 30, 2016 that caused SDG&E to implement Standard 13. SDG&E's benchmarks are set forth below.

A. Benchmark:

The CPUC will perform a review of SDG&E's Customer Contact Center performance following a Measured Event based on percent busies.

B. Percent Busies:

SDG&E's Contact Center performance will be presumed reasonable if the percent busies calculation is lower than Level-1 and presumed to be unreasonable if the percent busies calculation is greater than Level-2. The presumptions are rebuttable. Performance equal to or between Level-1 and Level-2 is subject to no presumption.

Percent busies calculation measures the levels of busy signals encountered by customers at SDG&E's switch and that of its contractors. Percent busies indicator is measured on a 24-hour basis for outage-related calls (on energy outage and general call lines) from the time the Measured Event begins (12:00 a.m. to 11:59 p.m.) and separately for each 24-hour period until the Measured Event ends.

- *Percent busies may be calculated as either:*
 - a. *Percent of call attempts reaching the Customer Contact Center that receive a busy signal.*
 - b. *Percent of time that trunk line capacity is exhausted.*
- *Level-1 is defined as 30% busies over the day of the outage (12:00 a.m. to 11:59 p.m.);*
- *Level-2 is defined as 50% busies over the day of the outage plus at least 50% busies in each of six one-hour increments (increments need not be consecutive).*

APPENDIX 1

FIRE PREVENTION PLAN



SDGE Fire Prevention
Plan for 2016.pdf

SAN DIEGO GAS & ELECTRIC COMPANY

FIRE PREVENTION PLAN



OCTOBER 31, 2016

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I. Executive Summary

San Diego Gas & Electric Company (“SDG&E”) provides this Fire Prevention Plan in compliance with Ordering Paragraphs 2, 4 and 5 of Commission Decision 12-01-032 (the “*Fire Safety Order*”), and Standard 1.E of General Order (GO)166.

In addition, Standard 1.E was added to GO 166 in January 2012 and was modified by Decision 14-05-020 (May 15, 2014). Standard 1.E requires SDG&E to prepare and submit plans to minimize the risk of catastrophic wildfire posed by overhead electric lines and equipment during extreme fire-weather events. As ordered by D.12-01-032, SDG&E submitted its first Fire Prevention Plan (FPP) by Advice Letter 2429-E on 12/31/2012. Resolution E-4576 (issued May 23, 2013) required SDG&E to make minor modifications to its FPP; these modifications were incorporated by SDG&E’s supplemental Advice Letter filing 2429-E-A. The supplemental AL 2429-E-A was approved by a disposition letter from the Director of the CPUC’s Energy Division on June 18, 2013, with an effective date of May 23, 2013. Consistent with General Order 166, D.12-01-032, and D.14-05-020, SDG&E’s updated 2016 FPP is attached to this report as Appendix 1.

The SDG&E Fire Prevention Plan provides a comprehensive overview of the organizational and operational activities SDG&E undertakes in order to address the risk of fire in the SDG&E service territory. The catastrophic wildfires which devastated San Diego County in 2007, unprecedented in their sheer magnitude, resulted in an enduring culture change reflected throughout SDG&E’s utility operations, system and facilities, organization, and corporate goals and objectives. As evidenced in this Fire Prevention Plan, SDG&E has a company-wide, single-minded focus on addressing and minimizing wildfire-related risks to public health, safety and welfare. SDG&E’s commitment to fire safety, prevention, mitigation, control, and recovery is a central tenet of our corporate culture. SDG&E takes a leadership role in addressing fire threats in the communities we serve and shares our personnel, resources, information, communications facilities, and/or fire-defense assets so as to enhance the capabilities of our local communities to defend against any repeats of catastrophic wildfire events experienced in southern California.

The SDG&E Fire Prevention Plan reflects a broad range of activities performed throughout the SDG&E organization. The Fire Prevention Plan is subject to the direct supervision of senior management, and its effectiveness is a performance measure for many SDG&E employees, some of whom are directly or indirectly responsible for contributing to and/or performing the activities described in the Fire

Prevention Plan. The SDG&E Fire Prevention Plan begins with system design, construction, operation, maintenance, inspection, and repair activities aimed at significantly reducing the potential for SDG&E facilities to become the source of ignition for a fire. Nevertheless, the ubiquity of our facilities and the range of climate and fuels (vegetation) conditions faced in the SDG&E service territory present some risk that our facilities, no matter how diligent or conservative our practices, might become the original or contributing source of ignition for a fire. To address this risk, SDG&E has implemented extensive operational programs designed to monitor the system closely whenever and wherever the threat of fire is elevated so that, in the event of an ignition, the threats to public safety from fire are quickly abated or mitigated as fully and quickly as possible. These programs include gathering and analyzing the data from SDG&E's extensive weather network. This network is one of the largest and densest networks of weather stations in the country and is used to determine where and when the threat of a wildland fire will present itself, which in turn facilitates the immediate organization and implementation of the SDG&E response appropriate to the threat.

SDG&E monitors all fires in its service territory and pays particular attention to wildland fires. These are fires that burn vegetation and are capable of propagation and may also threaten SDG&E facilities or may involve an SDG&E asset.

SDG&E's Fire Prevention Plan also includes firefighting and fire recovery activities. In the event fire conditions threaten public safety or SDG&E facilities or may involve an SDG&E asset, SDG&E will mobilize an appropriate range of resources including trained firefighting assets, communications capabilities, data and information collection, and command facilities, to address fire threats and assure the earliest possible recovery from a fire event in the affected communities.

Finally, the SDG&E Fire Prevention Plan is a "living document". In coordination with our many stakeholders, community leaders and the public, SDG&E shares and reviews the Fire Prevention Plan so as to assure its continuous improvement and maximum effectiveness. Community outreach and communications are also important aspects of the fire prevention, mitigation and recovery activities included in the Fire Prevention Plan. As SDG&E has shared and reviewed the Fire Prevention Plan with stakeholders and the public, the process has created a natural audience for disseminating information before, during and after conditions related to fires and the threat of fire. This audience is an important part of the communications chain used to broadcast threat and event information.

The activities described in SDG&E's Fire Prevention Plan have earned SDG&E various accolades for planning and performance. Beginning in 2005, SDG&E has been ranked "Best in the West" in reliability by PA Consulting Group, earning their regional ReliabilityOne award for eight consecutive years. SDG&E also received PA Consulting Group's National Award for Outstanding Reliability Performance in 2010 and 2014.¹ In 2008, SDG&E received PA Consulting Group's award for Outstanding Response to a Major Outage Event for our response to the 2007 wildfires. SDG&E has also been designated as a Tree Line USA utility by the National Arbor Day Foundation in recognition of our "best practices in utility arboriculture".² More recently, SDG&E received the Fire Safe Council Partner of the Year award for demonstrated leadership with community defensible space funding.³ These awards validate our efforts to assure our Fire Prevention Plan is best in class and grounded in the purposes we share with the communities we serve.

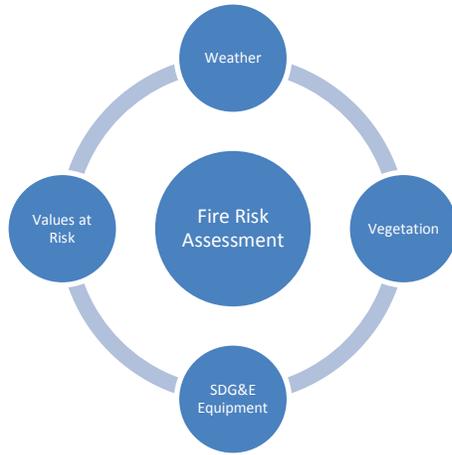
Although SDG&E measures and records data such as the "three second gusts" this specific information is not used as the single data point upon which to develop and put in place the many programs that SDG&E employs in the overall prevention of fire within its service territory as described in this plan.

The goals and activities included in the SDG&E Fire Prevention Plan focus on a comprehensive and integrated assessment of the risks of fire posed by SDG&E's overhead electric system. This assessment involves an assessment of SDG&E's equipment and facilities, weather conditions, the density and condition of potential fuels such as vegetation, and the potential threat to public safety, health and welfare using value at-risk measures, all as depicted in the graphic below.

¹ Information regarding PA Consulting Group's international consulting practice and best practices awards program for the electric utility industry can be found at the firm's public website and the following address: <http://www.paconsulting.com/industries/energy/merchant-utility/improving-performance-of-utility-through-benchmarking/polaris/r1-and-s1-awards/>.

² Information regarding the National Arbor Day Foundation and The Tree Line USA program, operated in conjunction with the National Association of State Foresters, can be found at the Foundation's public website and the following address: <http://www.arborday.org/programs/treelineusa/summary.cfm>.

³ Information regarding the Fire Safe Council (California Chapter), its extensive membership and Partner of the Year Award can be found at the Council's public website and the following address: <http://www.firesafecouncil.org/about/index.cfm>.



SDG&E's commitment to fire safety, prevention, mitigation, response, and recovery is a central tenet of our corporate culture. With this overarching view of fire risk assessment in mind, SDG&E presents the activities comprising its Fire Prevention Plan.

II. Minimizing Sources of Ignition

The SDG&E Fire Prevention Plan is founded upon the goal of minimizing the probability that the various components of its sixty-nine kilovolt transmission and twelve kilovolt distribution system might become the original or contributing source of ignition for a fire. SDG&E evaluated the prudent, cost-effective changes and improvements to its physical assets that could and should be made in order to meet this objective and implemented preventative operations, construction and maintenance plan consistent with these evaluations.

A. Mapping the High-Risk Fire Areas in the SDG&E Service Territory

SDG&E has performed and completed extensive mapping of its service territory to identify those areas at greatest risk to the occurrence of uncontrolled fires. Through these efforts, SDG&E identified two sets of geographic areas based on the potential risk of fire in the area and the threat to the public safety posed by fire. These two areas are known as the “Fire Threat Zone” (FTZ) and the “Highest Risk Fire Area” (HRFA). Generally, the FTZ includes the geographic areas most prone to wildfire due to local environmental conditions and features, and the HRFA includes areas within the FTZ where the risk of fire is the greatest.

1. Mapping the FTZ

As part of its response to Commission Rulemaking 08-11-005, SDG&E mapped its service territory to identify those areas where, due to local environmental conditions and features, the potential for wildfire was relatively high. This FTZ would be used to identify the areas where enhancements to rules, regulations and standards could reduce the potential for electric systems and facilities to ignite fires and thereby increase public safety and system reliability.

The FTZ mapping effort followed several key, objective principles. First, the FTZ was defined using parameters that would result in relatively constant boundaries not subject to continuous change and revision. This resulted in the use of criteria that tended to be conservative, *i.e.*, more inclusive than exclusive, so that the FTZ would describe the complete domain where the potential for wildfire was relatively high. Additionally, the FTZ map would need to be easily understood by key personnel and users, whether utility or other public officials, who might rely upon it in performing their job responsibilities.

In performing the mapping task, SDG&E began with the vegetation data developed and maintained by the California Department of Forestry and Fire Protection (“CAL FIRE”). These data were available on the CAL FIRE Fire and

Resource Assessment Program (“FRAP”) website. Using this data, SDG&E mapped the FTZ in its service territory. This zone encompasses most of the vegetated rural areas in the Counties of San Diego and Orange. Compared to the HRFA described below, the FTZ includes areas where the density of vegetation is relatively low. The FRAP maps describe the fire risks in certain areas as “little or no threat”, “moderate”, “high”, “very high”, and “extreme”. Generally, the FTZ include all of the areas described in the FRAP maps as “extreme” and “very high” risk, and some portion of the areas described as “high” risk. In shaping the FTZ, SDG&E also applied its knowledge of its service area and internally developed high-resolution weather data and histories.

Because SDG&E personnel will use the FTZ map for various purposes, it was important to make the FTZ map easy to use and understand. One particular adjustment made by SDG&E to the raw data upon which the map was based was to create a contiguous FTZ, rather than create a multitude of “pockets” of high risk. The original data created a mosaic of areas of varying degrees of risk – such a map would have been difficult to interpret and use. As an example, based purely on the raw weather and vegetation data, there would have been areas where the risk of fire would have been designated as “little or no threat”, “very high”, and “low” again along a one-mile stretch of road. Rather than include and parse anomalies, SDG&E adjusted the shape of the FTZ to normalize the design, construction, operations, maintenance, and inspection activities across larger areas. This resulted in the inclusion of some lower-risk areas in the FTZ and, in a few cases, the exclusion of some isolated higher-risk areas from the Threat Zone. The resulting color-coded FTZ map is attached to this Fire Prevention Plan as Appendix A.

The Commission has authorized SDG&E to use its FTZ map until such time as the Commission issues its final rules and regulations governing the development and maintenance of fire-threat maps as part of Phase 3 of Rulemaking 08-11-005. SDG&E is participating in that proceeding and will update its FTZ map pursuant to the further direction of the Commission.

2. Mapping the HRFA

The HRFA represents those areas within the FTZ where local environmental conditions and features combine to create the highest risk of fire in the SDG&E service territory. SDG&E’s Fire Coordinators, a team of in-house experts trained and experienced in fire behavior, fire prevention and firefighting, drafted the initial HRFA map in 2008 and reviewed annually (see appendix for current map). Using Geographic Information System software, SDG&E’s experts identified areas

where the combination of relatively dense vegetation, relatively high winds, and development (e.g., homes, hospitals, schools, and other community assets) presented the highest risks of fire, property losses and injury from fire. Thus, the HRFA map identifies the areas marked by an overlap of (1) the “highest risk vegetation”, *i.e.*, where the vegetation was relatively dense and in close proximity to housing, business and/or community development,⁴ and (2) locations prone to high winds.

As with the FTZ map, SDG&E utilized the FRAP data and maps available from CAL FIRE to determine the level of vegetation likely to exist in specific areas of the FTZ. Areas prone to high winds were identified using historical data from weather stations located throughout the SDG&E service territory. This included the use of data from SDG&E’s private network of weather stations. The data were used to identify locations where there was a reasonable probability that wind speeds would exceed fifty miles-per-hour (50 mph) under the “Santa Ana” wind conditions usually experienced during the late summer and fall in southern California. Finally, SDG&E adjusted the HRFA map to reflect our own knowledge and information regarding conditions in our service territory.

The HRFA maps are reviewed annually and adjusted to reflect environmental conditions expected to be present during the coming year’s fire season, typically the late summer and fall seasons of each year. For example, fire perimeters and other fire protection measures are updated annually and reflected in the HRFA maps. In addition, the methodologies used to develop the HRFA map are reviewed and modified to ensure that lessons learned are incorporated into the map. As an example, SDG&E assures that the HRFA includes areas where there are data indicating a coincidence of high winds and dense vegetation. As noted above, the Commission has authorized SDG&E to use its FTZ map until such time as the Commission issues its final rules and regulations governing the development and maintenance of fire-threat maps as part of Phase 3 of Rulemaking 08-11-005. SDG&E continues to participate in that proceeding and will update its HRFA map pursuant to the further direction of the Commission.

B. Building Resiliency into the SDG&E System

In providing this Fire Prevention Plan, SDG&E takes note that the Commission’s order focuses specifically on the measures taken by SDG&E related to the

⁴ In assessing fire risks and prioritizing fire prevention activities, SDG&E considers the potential that an uncontrolled fire will threaten members of the public and/or property. Based on expert analyses provided by the Fire Coordinator team, SDG&E considers the potential path a wildfire is likely to take and prioritizes its activities along those corridors where the risk to life and property are greatest.

occurrence of “three-second wind gusts...that may exceed the structural or mechanical design standards for overhead power-line facilities.” In reviewing the SDG&E Fire Prevention Plan, the Commission should be aware that SDG&E organizes its activities around addressing the threat of fire posed by various conditions and, in particular, on reducing the potential that SDG&E’s facilities or operations might provide an original or contributing source of ignition for a fire. As the *Fire Safety Order* correctly anticipates, forecasted and ambient wind conditions, especially when high winds combine with the hot, dry conditions typically experienced during the late summer and fall seasons in southern California, are an important factor in assessing and addressing fire threats.

Three-second gusts represent a “measurement standard” rather than an independent “fire condition”. That is, the weather instruments relied upon by SDG&E for measuring wind conditions are designed and calibrated to measure, record and report wind speeds across ten-minute periods – the average of the wind speeds recorded across any single ten-minute period is reported as the “sustained wind”. In computing wind data for each ten-minute period, wind speeds are measured across three-second intervals and the highest wind speed reached during any three-second interval within any ten-minute period is separately recorded as the highest “gust” for the period. With respect to assessing and responding to the potential threat of fires, SDG&E takes potential and actual wind speeds into account, both as to sustained winds and gusts. Although both sustained wind speeds and gusts are considered, SDG&E’s Fire Prevention Plan programs and activities are not designed around either wind measure. Rather, both are considered within a full range of inputs related to Fire Prevention Plan programs and activities.⁵ The three-second interval by which “gusts” are measured is not, then, an independent operational planning standard or the focus of facility design and construction standards. Thus, SDG&E closely monitors the current weather situation and adjusts its operation to take into account current wind speeds “that may exceed the structural or mechanical design standards for overhead power-line facilities”, however SDG&E’s safety-related activities cannot be said to address the potential for strong wind *gusts* as a stand-alone criterion.

⁵ As an example, among the non-environmental factors taken into account as SDG&E evaluates the threat of fire is whether firefighting assets are available or unavailable. Where local firefighting assets might have been previously deployed to a distant locale to fight an existing fire, SDG&E would be more conservative in assessing the actions it might take to abate or mitigate the potential threats within its service area. Winds would be a factor, but not the single determining factor under this circumstance, in deciding SDG&E’s response to the local threat of fire.

Using the FTZ and HRFA maps, SDG&E evaluated the prudent and cost-effective system improvements it could make to its transmission and distribution system which would reduce the potential for SDG&E's facilities in the FTZ and HRFA to provide the source of ignition for a fire. In part, this evaluation was performed in conjunction with the Commission's Rulemaking 08-11-005 – during Phase 1 of the proceeding, the Commission modified, with SDG&E's full support, various design, construction, maintenance, and inspection standards consistent with reducing the threat of fire posed by overhead electric and communications facilities.

1. Design and Construction Standards

To reflect the more stringent design and construction standards adopted by the Commission and so as to improve the performance of the SDG&E system in terms of meeting fire-prevention goals, the SDG&E Facilities Design Manual was modified to include an entirely new section aimed at providing guidance for hardening circuits against the risk of fire. These modifications include both proactive measures designed to reduce the incidence of ignitions and reactive measures by which SDG&E can respond to the threat of fires and mitigate the threat of fires.

SDG&E is also an aggressive advocate for modernizing those portions of the Commission's General Order 95 which provide the rules and regulations governing the design and construction of overhead electric and communications facilities. SDG&E continues to participate in the discussions regarding Load and Resistance Factor Design (LRFD) and a new "High Fire Risk District" with stakeholders in Phase 3 of the Commission's Rulemaking 08-11-005, with the objective of improving General Order 95's focus on fire-safety and system-reliability objectives. Fire safety begins with the design and construction standards pursuant to which utility facilities are designed, built and operated, so improving these regulations will provide the foundation for assuring that facilities built in the future will be stronger and safer than those built under prior versions of the rules.

2. Wood-to-Steel Program

Of significance is SDG&E's program to undertake replacement of wood poles used in those portions of the SDG&E sixty-nine (69) kilovolt transmission and twelve (12) kilovolt distribution system located in the FTZ and HRFA, substituting steel poles in their place. Wood poles are constructed to withstand working loads under stress of fifty-six miles per hour (56 mph) wind speeds. These new steel

poles are designed to withstand working loads under the stress of eighty-five mile-per-hour (85 mph) wind speeds. To date, SDG&E has installed over 5,000 new steel poles in the FTZ, and plans on further investment to continue to replace wood distribution and transmission poles with steel poles. These new steel pole facilities are being installed in conjunction with the application of higher strength conductors and increased spacing between lines beyond the requirements of Commission General Order 95, resulting in a decrease in the likelihood of live lines coming into contact with one another or arcing after being struck by flying debris. In addition, SDG&E's current design standards now reflect the use of steel poles over wood poles in the FTZ.

3. Undergrounding Line Segments and Facilities

SDG&E formed a technical team with expertise in the undergrounding of distribution systems and facilities. The team evaluated the undergrounding of various circuits, segments, elements, and equipment located in the HRFA. These experts provided senior management with an understanding of the potential for undergrounding portions of the overhead system in order to mitigate the risk of fire and the results are being used on circuit analysis to underground portions where feasible.

4. Special Case – Cleveland National Forest

The Cleveland National Forest Master Special Use Permit (MSUP) and Permit to Construct (PTC) for Power Line Replacement Projects. SDG&E currently operates and maintains a network of electric facilities located within the Cleveland National Forest (CNF). On September 19th, 2016 SDG&E received a "Master Special Use Permit" (MSUP) to operate and maintain facilities within CNF. The MSUP allows SDG&E to develop a series of projects and activities aimed at increasing safety and reliability of existing electric facilities within and near the CNF. Final approval for these projects and associated permits were received earlier in 2016 and work began in late September of 2016.

These projects will increase safety and reliability by replacing existing electric infrastructure that currently serves the USFS, emergency service facilities (fire, communication and other), campgrounds, homes, businesses, and other customers within the CNF and surrounding areas. The proposed projects include replacement of several existing 12 and 69 kilovolt electric facilities spread throughout an approximately 880 square mile area in Eastern San Diego County. The existing electric lines located within CNF also extend outside of CNF

boundaries. The overall project includes operational components complementing SDG&E's Community Fire Safety Program, which in turn includes community outreach, new fire prevention measures, and enhanced emergency response.

The project design was based on various recommendations addressing fire prevention and the Forest's environmental values and aesthetics. Using an analytical matrix reflecting elements of fire risks and environmental concerns, SDG&E and the Forest Service collaborated to determine which sections of the system should be upgraded. Each segment required a custom solution based on many factors, including the location of the customer being served by the distribution system, the topography of the land, and various biological, cultural and environmental factors.

5. Automated Reclosers

As part of its Community Fire Safety Program, SDG&E has undertaken one of the largest deployments of state-of-the-art pulse reclosers, focusing heavily on the FTZ and HRFA. This equipment allows SDG&E to operate its system with significantly reduced energy flows during reclosing operations and be able to sectionalize various elements of its distribution system to better manage system operations and reliability. These pulse reclosers and other Supervisory Controlled and Data Acquisition ("SCADA") controlled reclosers are managed remotely by SDG&E Distribution System Operators. In addition, SDG&E has implemented more sensitive relay settings to all SCADA reclosers in the HRFA. These sensitive relay settings provide very fast clearing of faults on distribution circuits and are remotely operated via SCADA, allowing for real-time adjustments triggered by adverse weather conditions.

6. Fire Detection and Mitigating the Threat of Fire

In addition to hardening the SDG&E electrical system, SDG&E is leveraging its assets to address fire threats. Along these lines, SDG&E has placed high-visibility, high-resolution rotating cameras on twenty-nine (29) key towers along those portions of the Sunrise Power Link located in the FTZ and HRFA. The cameras were activated in September 2012, can be controlled remotely and can rotate a full 360 degrees, and are coupled with an advanced centralized smoke-detection algorithm, which allows for earlier fire-detection and -warning capabilities.

SDG&E is also collaborating with the staff at the University of California, San Diego, responsible for the operation of the San Diego High-Performance Wireless Research and Education Network (HPWREN). This high-speed wireless data network is designed to connect hard-to-reach areas in remote environments and provide real-time data; the network includes earthquake sensors and mountaintop cameras, the latter having become a part of the emerging early fire-detection and fire-warning system being deployed in the San Diego backcountry. Currently, there are a total of 22 camera locations each with multiple camera views. In addition, SDG&E continues to work with multiple vendors specializing in early fire detection systems, and will continue to work with these vendors to develop new and improved ways of spotting fires before they become uncontrolled wildfires.

7. Testing and Deploying Emerging Technologies

SDG&E continues to evaluate and incorporate new technologies and equipment into its overhead electric system. SDG&E's Electric Distribution Engineering Department is responsible for evaluating and creating new equipment and use standards for emerging and pre-commercial technologies. Using equipment failure data, the department determines which technologies should be incorporated into the SDG&E system and which could be improved prior to application. This department continually evaluates the many new types of technologies which may improve electric reliability and public safety, and gives special attention to technologies that may contribute to SDG&E's fire-safety goals and objectives. As an example, SDG&E is beginning to apply and analyze more advanced fault-clearing equipment that contain algorithms to improve the ability of the system to clear "wire-down" faults more quickly and which will serve to reduce the potential such faults might provide an ignition source.

8. Facility Inspection and Repair Program

In addition to adding, redesigning and replacing facilities and elements as described above, SDG&E has implemented more stringent monitoring and inspection programs in the FTZ and HRFA, which will intensify our efforts to identify potential substandard system facilities and elements. As an example of these efforts, SDG&E is developing the use of pole-loading algorithms which more accurately calculate working loads and stresses. In addition, SDG&E coordinates these activities with communications infrastructure providers which jointly use SDG&E's poles and facilities.

SDG&E also maintains a comprehensive outage database which is used for reliability measurement and reporting purposes. Correlations between outages and locations are analyzed to determine whether certain equipment is prone to outage or has the potential to be an ignition source. This analysis is then matched to weather and other environmental conditions. Where it is determined that certain types of hardware have higher incidents of failure and potentially a higher incidence rate for ignition, they are replaced or prioritized for replacement. Vegetation Management also maintains a comprehensive outage database. Outages related to trees and or vegetation are investigated, documented, and results analyzed to determine if additional pruning or removal measures are warranted to prevent any reoccurrence.

SDG&E is in the process of conducting facility testing using three-dimensional light detection and ranging (“LiDAR”) surveys in the HRFA. This technology is being used to perform aerial scans of the sixty-nine kilovolt transmission system in the HRFA on a three-year cycle. These surveys provide detailed depictions of terrain, vegetation and other obstacles in the vicinity of SDG&E’s facilities. This data is processed and modeled by the SDG&E Power Line System Computer-Aided Design and Drafting technology to depict actual field conditions. The information produced is used to ensure safe and proper clearances are met so as to reduce the potential for line faults occurring in the HRFA. Where potential issues are discovered, SDG&E will address them by September 1st, the calendar start of the peak fire season, subject to permitting requirements and other exigencies and conditions.

9. Oversight of Activities in the Rural Areas

Early in 2010, a multi-disciplinary technical team of subject matter experts within SDG&E, named the “Reliability Improvements in Rural Areas Team” (“RIRAT”), was formed and tasked with (a) developing a multi-dimensional understanding of the complex fire-risk issue within the SDG&E service territory, (b) assessing the conditions which pose the greatest risks related to fire, (c) determining the level of risk mitigation that could be provided by various proposed projects, and (d) assigning priorities to capital and operating programs and projects that could address fire-related risks in the FTZ. As is evident from the FTZ map that is attached to this Fire Prevention Plan, it is in these areas where the potential for uncontrolled wildfires, and potentially the greatest losses, is the highest. The RIRAT focused its attention on facilities and activities in these areas so as to

assure cost-effective fire-prevention measures are promptly evaluated and implemented.

The RIRAT, among other things, oversaw the evaluation and implementation of the various fire-hardening activities described above.⁶ Its work was guided by the following specific goals and objectives:

- Enhance the distribution system in the San Diego backcountry (a.k.a FTZ and HRFA);
- Develop statistical measures for assessing distribution-system performance relevant to fire-related risks so as to provide an understanding of the scope of the risks that must be addressed and develop metrics for measuring improvement;
- Identify and prioritize areas posing the greatest fire-related risks;
- Develop guidelines and a portfolio of solutions to minimize fire-related risks;
- Develop a multi-year plan for the rebuilding of circuits of greatest fire-related risk;
- Review and analyze all reports of “wire-down” occurrences; and,
- Use the “wire-down” analysis to identify causes and best solutions so as to minimize future occurrences and further reduce fire-related risks.

In order to meet their goals, the RIRAT adopted the following guiding principles:

- Utilize risk-based prioritizations to maximize risk-mitigation;
- Improve design specifications to reduce the potential for igniting fires;
- Consider and, to the extent prudent and cost-effective, employ technology-based solutions to reduce fire risks and improve overall system reliability;
- Prioritize system-rebuild efforts based on a matrix of available projects, considering the most important input factors such as the recent occurrence of a “wire-down”, wind and weather conditions, fire risks, values at risk, outage history, conductor type, condition of equipment, environmental conditions, and resulting customer impacts;
- Systematically consider and evaluate the following options:
 - Fire-hardening sections of feeder circuits or individual circuit branches;
 - Undergrounding by traditional undergrounding or cable-in-conduit;

⁶ The Rural Area Team also oversaw the design and implementation of operations, maintenance and inspection programs and activities in the San Diego backcountry. Those activities and programs are discussed in further detail later in this Fire Prevention Plan.

- Adjusting protective equipment by revising settings, balancing loads, adding reclosers, replacing expulsion fuses with fault tamers, and/or reducing fuse size; and,
- Employing new methods and/or technologies, such as spacer cables, wireless fault indicators, “off-grid” solutions, and Smart Grid technologies;
 - Replace higher-risk equipment based upon statistical analytics;
 - Use tree guards and/or insulated aerial cables; and,
 - Assess the costs and benefits of optional solutions for reasonableness.

Previously, the RIRAT oversaw the evaluation and approval processes for the various system improvements and capital projects described above, and specifically addressed system design and facilities from the perspective of minimizing fire-related risks in the rural areas included in the FTZ and HRFA. In 2013, the RIRAT and associated processes were incorporated into a new program called the Fire Risk Mitigation (FiRM) program. This new effort is discussed in greater detail below.

10. Fire Risk Mitigation (FiRM) Program

In 2013, SDG&E started an overhead distribution fire hardening re-building effort with a program called the Fire Risk Mitigation (FiRM) Program. FiRM addresses fire risk by hardening facilities in the HRFA and by replacing aged line elements, utilizing advanced technology, and safeguarding facilities from known local weather conditions.

The program is compiled of dozens of projects annually which focus on re-building in areas of the highest fire risk, with the riskiest type of conductor and wood poles. Statistics from the RIRAT are coupled with information about “known local conditions” to scope projects.

III. Operational Practices for Reducing the Risk of Ignition

Despite all the efforts SDG&E might take in designing, redesigning, improving, replacing, and fire-hardening various elements of its overhead electric system, there will be some remaining potential risk that SDG&E’s facilities might be the source of ignition for a fire. To address these risks, SDG&E has designed and implemented a number of operations, maintenance and inspection programs directly addressing fire prevention and the mitigation of effects from fires.

A. System Management: Quality Assurance and Quality Control

SDG&E has enhanced its system-management programs so as to assure that, to the extent possible, SDG&E's overhead system, facilities and equipment are unlikely to become the source of ignition for a fire. These programs generally encompass inspection and maintenance functions, and have been modified to focus on minimizing the probability that damaged or aging facilities will provide the ignition source for a fire. Inspection and repair of the SDG&E transmission and distribution systems have particularly intensified in the FTZ and HRFA. To that end, SDG&E performs a G.O. 165-type system maintenance patrol of the entire overhead electric system in the FTZ on an annual basis. Safety related non-conformances identified in those patrols are scheduled for follow up repair. These patrols are twice as frequent as that required of the overhead system in general. In addition, SDG&E has implemented Quality Assurance and Quality Control standards and programs throughout its service territory, with a special focus in the HRFA during fire season.⁷ These proactive programs are designed to identify potential structural and mechanical problems before they fail. Distribution facilities within the HRFA are currently inspected in detail on a three-year cycle and corrections are made in the same year before fire season begins. Where the facility in need of repair is owned by a party other than SDG&E, e.g., by a communication infrastructure provider, SDG&E will issue a notice to repair to the facility owner and work with the facility owner to ensure necessary repairs are completed promptly. SDG&E's operational goal, subject to permitting requirements and other exigencies and conditions, is to complete all facility and equipment repairs before September 1st of each year. However, for 2016, because in large part due to the declared drought by the Governor of California, SDG&E completed repairs one month early⁸.

Annual adjustments to the HRFA map, if any, are also reflected in the scope of the Quality Assurance and Quality Control program.

The SDG&E Transmission Quality Assurance and Quality Control program is similar in nature to its distribution counterpart. Transmission lines within the HRFA, subject to any annual adjustments to the HRFA boundaries that might be

⁷ The Quality Assurance and Quality Control program augments the five-year inspection cycle imposed under the provisions of Commission General Order 165.

⁸ September 1st marks the beginning of the "fire season", although the highest risks of and from fire in the SDG&E service territory typically peak in October and November.

made based on updated data, are inspected on a three-year cycle.⁹ Matters of concern are identified for repair, and SDG&E makes best efforts, subject to permitting requirements and other exigencies and conditions, to complete all repairs within the HRFA by September 1st.

B. Enhanced Vegetation Management and Clearance Program

SDG&E currently maintains records for over 463,000 trees located near its power lines. Almost 100,000 of these trees are located within the SDG&E HRFA. All of the 450,000 inventory trees in SDG&E's database are monitored using known species and specimen growth rates, with additional consideration given to the amount of rainfall occurring during periods affecting overall tree growth, and past pruning practices. Each tree is visited by a staff arborist on an annual cycle. The annual inspections are routine maintenance and hazard tree assessments to ensure that every tree remains fully compliant for the duration of the cycle and/or is trimmed according to accepted standards and clearances. Prior to fire season, SDG&E requires vegetation management contractors to perform annual training on hazard tree assessment. This refresher training helps set the stage for a second inspection and corresponding tree-hazard evaluation is performed for each tree in the HRFA. The tree evaluation includes 360-degree assessment of every tree within the 'strike zone' of the conductors and maximize time-of-trim clearances. To the extent unsafe clearances may exist, an order to clear vegetation is issued and trimming is completed prior to September 1st of each year. In addition, SDG&E conducts off cycle patrols for Century Plant blooms and bamboo. The off- cycles are performed throughout the entire service territory during their peak growth to prevent the new growth from encroaching the minimum clearances of overhead conductors. These activities ensure safe minimum vegetation clearances are achieved prior to the peak fire season.

In addition, SDG&E continues a robust tree removal program to remove problematic species, this occurs system wide. The SDG&E "Right Tree-Right Place Program assists customers in the selection of the tree species and planting locations which will minimize interference with nearby power lines and facilities. SDG&E also offers free tree replacements in the event that an existing tree cannot be maintained safely near power lines and should be removed rather than trimmed. Notably, SDG&E has, for the 13th consecutive year, been recognized by the National Arbor Day Foundation as a "Tree Line USA" utility company in

⁹ The three-year inspection cycle for transmission facilities coincides with the normal cycle specified in SDG&E's Transmission Maintenance Practice manual.

recognition of our “best practices” combining worker education and training, public outreach, quality tree care, and system reliability.

SDG&E also manages over 35,000 poles within the CAL FIRE jurisdictional areas that have been designated as “subject poles”.¹⁰ For poles within the CAL FIRE jurisdiction that bear these “non-exempt” attachments, SDG&E is required to perform “pole brushing”, that is, clearing all vegetation within a ten-foot radius of the pole. To further reduce potential ignition sources, vegetation management works closely with the FiRM Team and engineering to reduce the number of non-exempt power line components by replacing such equipment, where feasible, with exempt equipment, which should also reduce the potential for pole attachments to become an ignition source.

Lastly, SDG&E Vegetation Management provides electrical equipment training with Cal Fire representatives. This training is in preparation for a Cal Fire Inspection for PRC 4292 and 4293 in the State Responsible Areas. Over the years, the program has developed a great working relationship with Cal Fire. The training provided helps to ensure SDG&E is maintaining proper clearances of vegetation to conductors and equipment as we enter the fire season. Cal Fire Inspections have been jointly performed with SDG&E, however, the training is intended for Cal Fire to better understand how our system operates and what equipment requires mitigations to prevent an ignition source. This training can be used by Cal Fire while they are conducting their own day to day operations and inspections in the field.

C. Coordination with Communications Infrastructure Providers

In 2012, SDG&E developed and began using a new web based communication conduit to simplify the recordkeeping for, and approval, inspection and repair of, pole attachments owned by Communications Infrastructure Providers. Named the “Telecommunication Equipment Attachment Management System” (“TEAMS”), the system was placed in operation in October 2012. TEAMS provides a direct communication link between SDG&E and Communications Infrastructure Providers and a shared-recordkeeping functionality. There are four key benefits provided by TEAMS. First, TEAMS enables Communications Infrastructure Providers to file pole attachment applications on-line – tracking of these applications and accompanying documents can now be performed electronically.

¹⁰ These attachments are designated as “subject poles” by virtue of posing some potential risk for becoming an ignition source.

This provides the baseline data necessary for SDG&E to monitor the equipment and resulting working loads placed on SDG&E facilities. Second, all attachment applications can be delivered and tracked by the applicant and SDG&E. Third, this system is also used for requesting and tracking requests for pole transfers and other transactions involving changes to equipment on jointly used poles with communications-related attachments. Finally, if during an inspection SDG&E discovers any pole attachment to be non-compliant and/or in need of repair, notices and the tracking of repairs will be done through TEAMS. This provides both SDG&E and the Communications Infrastructure Providers with electronic records of the actions taken by both to assure overhead facilities are in good repair and less of a risk to be a source of ignition for a fire.

D. Workforce Training and Field Practices

SDG&E believes that an important line of defense against the ignition of fires is a well-trained and alert workforce. Internally, SDG&E has created a culture of fire prevention. To that end, SDG&E has adopted an extensive set of work rules and complementary training programs designed to minimize the likelihood that SDG&E's facilities or field work not be the source of ignition for a fire. The rules and training programs are in large part embodied in SDG&E Electric Standard Practice No. 113.1 ("ESP 113.1"), which specifically addresses wildland fire prevention and fire safety. ESP 113.1 was developed by SDG&E's expert team of Fire Coordinators based on their experience (over 100 years of combined work experience) in fire behavior, fire prevention and firefighting techniques. ESP 113.1 also incorporates principles and concepts drawn from various federal, state and local protocols and standards addressing wildland fire prevention and suppression.

ESP 113.1 describes the conditions under which the threat of fire is considered high, and the changes in field practices and resources which will be implemented as the threat increases. These changes affect work rules, equipment which will be made available to work crews under different conditions, and even worker attire. ESP 113.1 specifies minimum training requirements and annual refresher requirements for all SDG&E and contract personnel working in the FTZ and HRFA. The work rules and training also apply to personnel working in SDG&E's Electric Distribution Operations and Electric Grid Operations control centers.

As an essential part of ESP 113.1, SDG&E has reviewed and has an understanding of the Incident Command System. This system provides a structure for disciplined communications and decision-making under the threat of

fire as well as during fire emergencies. SDG&E field supervisors are assigned varying levels of on-scene command responsibilities in terms of coordinating and managing the SDG&E response to threat and emergency conditions. Training in the Incident Command System protocols and responsibilities is a key element of the annual training conducted by SDG&E. ESP 113.1 is also reviewed annually and any needed changes adopted and made known to all affected.

IV. Mitigating the Threat of Fire: Awareness and Readiness

A. Situational Awareness

Although the risk of fire is a year-round reality, there are certain recurring environmental and weather conditions, particularly during the late summer and early fall, when the risks of and from fire, particularly from uncontrolled wildfires, in the SDG&E service territory are abnormally high and the dangers most severe. SDG&E's fire-prevention and risk-mitigation activities begin with intensive data gathering and data analysis so that, if and when these abnormal and dangerous conditions are anticipated or occur, SDG&E is prepared to mobilize personnel and resources to abate, mitigate and respond to these conditions and any potential fire threats.

SDG&E has developed extensive, high-resolution weather databases which are used to identify those areas where the threat of and from uncontrolled wildfire is the highest and/or most dangerous. The areas which SDG&E monitors most closely are shown in the FTZ and HRFA maps – these areas are distinguished by the coincidence of high winds and combustible vegetation. SDG&E's weather databases are constantly updated using weather data provided by a number of sources, including the United States National Weather Service, local airports, and SDG&E's proprietary mesonet located throughout SDG&E's service territory.¹¹ SDG&E's mesonet provides over 200,000 data points per day.¹²

SDG&E has three (3) full-time degreed and experienced meteorologists on staff. Their responsibilities include analyzing the historical databases and, importantly, monitoring incoming data in real-time. They also provide a detailed daily forecast of weather conditions relevant to SDG&E's operations. Their forecasts, a combination of heat, humidity, wind, and other conditions, are combined into an "Operating Condition" assessment, which tracks the potential for fires occurring in

¹¹ The location of SDG&E's weather stations is shown on the Fire Threat Zone and Highest Risk Fire Area map attached as an appendix to this Fire Prevention Plan.

¹² SDG&E makes its weather data available to public agencies and the general public free of charge through several popular media outlets, including the Internet.

any region of the SDG&E service territory. There are four (4) Operating Conditions used for these purposes:

- **Normal Condition:** This condition is declared when it has been determined by the SDG&E meteorologists and Fire Coordinator team that the burn environment is not conducive for wildfires within the SDG&E service territory;
- **Elevated Condition:** This condition is declared when it has been determined by the SDG&E meteorologists and Fire Coordinator team that the burn environment has become conducive for wildfires within the SDG&E service territory;
- **Extreme Condition:** This condition is declared when it has been determined by the SDG&E meteorologists and Fire Coordinator team that a combination of high winds, low relative humidity, and the burn environment will create critical fire weather conditions; and,

Red Flag Warning (RFW) Condition: Red Flag Warning Condition is declared by the National Weather Service when high *winds and low relative humidity are forecasted to occur for an extended period of time*. Depending on the condition reported and broadcast by the meteorological staff, various operational changes and rules appropriate to each condition will be triggered and implemented. A table summarizing the four conditions and the associated operational responses to each is shown immediately below:

Operating Chart for Normal through Red Flag Conditions

CONDITION	Normal Condition Fire Potential Index 1-11 Fuel and weather conditions are no longer conducive to significant fire growth. Based on fire indices and Fire Coordinator / Meteorologist Recommendation		Elevated Condition Fire Potential Index 12-14 The burn environment of a specific area or district has become conducive for a large wildfire within the SDG&E service territory.		Extreme Condition Fire Potential Index 15 and above An extreme operating condition will be declared when the burn environment of a specific area or district has become conducive for a catastrophic wildfire within the SDG&E service territory. .		Red Flag Condition (NWS) RFW: Relative Humidity ≤ 15%, with sustained winds ≥ 25 mph and/or frequent gusts ≥ 35 mph (duration ≥ 6 hours) Declared by NWS	
	Distribution	Transmission	Distribution	Transmission	Distribution	Transmission	Distribution	Transmission
Highest Risk Fire Area	No change to reclosing policy. Line will be tested by recloser action.	No change to reclosing policy. Line will be tested by recloser action.	All reclosers will be turned off.		All reclosers will be turned off. Enable Sensitive Relay Setting at direction of EDO.		All reclosers will be turned off. Enable Sensitive Relay Setting at direction of EDO.	
			TESTING		TESTING		TESTING	
			Distribution	Transmission	Distribution	Transmission	Distribution	Transmission
			SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.	SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.	SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.
		If a Distribution outage is caused by a Transmission/Substation outage, Distribution will consult with Fire Coordinator / Meteorologist and evaluate re-energization without a patrol.		If a Distribution outage is caused by a Transmission/Substation outage, Distribution will consult with Fire Coordinator / Meteorologist and evaluate re-energization without a patrol.		Crew Deployment Plan Activated Staging Sites Include: All C&O Centers Viejas, Santa Ysabel, Jamul, Del Mar, Fallbrook		
		If a Distribution outage is caused by a Transmission/Substation outage, Distribution may re-energize without a patrol, as directed by Control Center Management, SDG&E FC and/or Meteorologist.		Crew Deployment Plan Activated by District		At a > 56 mph wind gust forecast, EDO will stage field observers, close to affected areas.		
FIRE THREAT ZONE	No change to reclosing policy. Line will be tested by recloser action.		All reclosers will be turned off.		All reclosers will be turned off.		All reclosers will be turned off.	
			TESTING		TESTING		TESTING	
			Distribution	Transmission	Distribution	Transmission	Distribution	Transmission
			SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.	SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.	SGF Targets: Patrol entire line or line segment before energizing. Non-SGF Targets: Patrol line segment to load-side sectionalizing device before energizing.	Patrol entire line or line segment before energizing.

The daily weather forecast and Operating Condition are broadcast by electronic media to personnel whose activities are affected by the declaration of the Operating Condition – the forecast, particularly when the threat of fire is high or rising, will be updated and rebroadcast as conditions warrant and as the staff meteorologists determine is appropriate. The forecast is broadcast in real-time to a large audience of SDG&E employees. Personnel receiving these weather forecasts are trained to adjust their activities, duties and priorities based upon the Operating Condition reported by the staff meteorologists.

Generally, as actual or forecasted wind speeds, measured in terms of both sustained winds (the average wind speed across ten-minute intervals) and wind gusts (the highest wind speed occurring during a three-second period within a ten-minute interval), increase, the Operating Condition will change (or “be elevated”), from “Normal” to “Elevated Condition” or “Extreme Condition” or “Red Flag Condition”, depending on environmental and weather conditions and the strength of the winds being experienced or forecasted. With each step-change in the Operating Condition, personnel are placed on appropriate levels of alert. In addition, the level of system monitoring and, ultimately, system operations and activities, are elevated according to the prevailing Operating Condition. Most importantly, as wind speeds increase, SDG&E deploys an increasing number of field crews, troubleshooters and Wildland Fire Prevention resources to areas with the highest winds and where the greatest threat of fire exists, so as to increase the probability that fires will be detected early and a response will occur as soon as possible.

B. The Fire Potential Index

SDG&E has developed a comprehensive assessment tool, known as the “Fire Potential Index” (FPI) that is used as a tool for making operational decisions which will reduce fire threats and risks. This tool converts environmental, statistical and scientific data into an easily understood forecast of the short-term fire threat which could exist for different geographical areas in the SDG&E service territory. The FPI is issued for a seven-day period, and provides SDG&E personnel time, during which they may plan and prepare accordingly.

The FPI reflects key variables such as the state of native grasses across the service territory (“green-up”), fuels (ratio of dead fuel moisture component to live fuel moisture component), and weather (sustained wind speed and dew point depression). Each of these variables is assigned a numeric value and those individual numeric values are summed to generate a Fire Potential value from zero (0) to seventeen (17), each of which expresses the degree of fire threat expected for each of the seven days included in the forecast. The numeric values are classified as “Normal”, “Elevated”, and “Extreme”.

The state of native grasses, or “Green-Up Component”, of the FPI is determined using satellite data for various locations. This component is rated on a 0-to-5

scale ranging from very wet (or “lush”) to very dry (or “cured”). The scale is tied to the NDVI, which ranges from 0 to 1,¹³ as follows:

FPI Green-Up Component

Very Wet/Lush: 0.65 to 1.00	0.60 to 0.64	0.55 to 0.59	0.50 to 0.54	0.40 to 0.49	Very Dry/Cured 0 to 0.39
0	1	2	3	4	5

The Fuels Component of the FPI measures the overall state of potential fuels which could support a wildfire. Values are assigned based on the overall state of available fuels (dead or live) for a fire using the following equation:

$$FC = FD / LFM$$

Where FC represents “Fuels Component” in the scale below;

And FD represents Fuel Dryness Level (using a 1-to-3 scale);¹⁴ and,

And LFM represents Live Fuel Moisture (percentage).

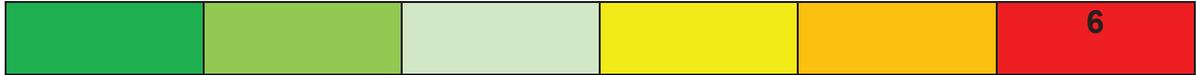
The product of this equation represents the fuels component that is reflected in the FPI as follows:

FPI Fuels Component

Very Wet					Very Dry
1	2	3	4	5	

¹³ The Normalized Difference Vegetation Index (“NDVI”) is a simple graphical indicator that can be used to analyze remote sensing measurements, typically but not necessarily from a space platform, to assess whether the target area under observation contains live green vegetation or not. More information on the NDVI scale is available at the following address: http://en.wikipedia.org/wiki/Normalized_Difference_Vegetation_Index.

¹⁴ These values are taken from the Southern California Geographic Area Coordination Center, an interagency support center for fire protection and suppression. More information regarding this agency can be found at the following address: <http://gacc.nifc.gov/oscc/>.



The weather component of the FPI represents a combination of sustained wind speeds and dew-point depression as determined using the following scale:

FPI Weather Component

Dewpoint/Wind	≤4 knots	5 to 9	10 to 14	15 to 19	20 to 24	>24 knots
>50°F	2	3	3	4	5	6
40°F to 49°F	2	2	3	3	4	5
30°F to 39°F	1	2	2	3	3	4
20°F to 29°F	1	1	2	2	3	3
10°F to 19°F	0	0	1	1	1	1
<10°F	0	0	0	0	0	0

The individual numeric values representing the three variables reflected in the FPI, shown above, are combined and placed on the following scale:

Fire Potential Index (FPI)

Normal	Elevated	Extreme
≤ 11	12 to 14	≥ 15

The FPI was developed by a team made up of SDG&E meteorologists, fire coordinator, and statistical analysts. The team has validated the FPI values and their usefulness by recreating historical values for the past ten (10) years. The historical results bore a very strong correlation to actual fire events in terms of the severity of past fires and, in particular, provided very accurate information as to when the risks of uncontrolled and large-scale wintertime fires were high. SDG&E expects to tie proactive and reactive operational practices and measures to the FPI values, with the further expectation that SDG&E will be able to reduce the likelihood its facilities and operations will be the source of ignition for a fire during times when the risk of fire as measured by the FPI elevated or extreme.

C. The SDG&E Emergency Operations Center (SDG&E EOC)

In the event the National Weather Service declares a Red Flag Warning (RFW), the SDG&E meteorologists will elevate the warning broadcast to SDG&E personnel to the highest level of alert. RFW's are typically issued when relative humidity is at or below fifteen percent (15%) and sustained winds are expected to reach twenty-five miles-per-hour (25 mph) or higher and/or frequent wind gusts exceeding thirty-five miles-per-hour (35 mph) are expected for a duration of six or more hours. A RFW will also be issued under "dry lightning conditions", where a lightning event is expected in the absence of enough precipitation to wet potential fuels which are considered critically dry. Upon the declaration of a RFW, SDG&E may activate the SDG&E EOC depending on critical fire weather conditions and forecasted wind speeds.

Because RFW Conditions present threats to the SDG&E electrical system and its component facilities and equipment, specific members of SDG&E management and operating departments are placed on alert when these conditions are present and the National Weather Service has issued a RFW. Upon such a declaration, these senior managers and operating personnel are called upon to appropriately staff the SDG&E EOC, a secure and dedicated facility which serves as a command center for SDG&E operations under high-threat conditions. The activation of the SDG&E EOC assures that appropriate decision makers and experts are assembled together, providing for the close monitoring of the electrical system and operations by all involved departments and disciplines. As the situation changes, the SDG&E EOC personnel will take appropriate and timely actions as necessary in order to protect public safety and defend against the threat that SDG&E's electrical facilities may become a source of ignition.¹⁵

¹⁵ Such actions may include those authorized by statute and CPUC decisions, including D.09-09-030 as modified by D.12-02-024.

D. Crew Mobilization and Deployment Strategy

During an Extreme Operating Condition or Red Flag Condition, the management of the SDG&E Electric Distribution Operations and Electric Grid Operations control centers work to coordinate the assignment of appropriate and needed resources to each of the affected regional operating districts. At minimum, Electric Troubleshooters and personnel from the Wildland Fire Prevention resources are made available for immediate response to address fire threats or events. If the event is more severe, additional resources will be coordinated between and assigned from Electric Distribution Operations, Electric Grid Operations, Electric Regional Operations, Construction Services, and Kearny Substation and Transmission Operations Center to manage the event. Field personnel may be assigned to observe an area forecasted to experience the most adverse weather conditions – these personnel are under instructions to report flying debris, vegetation damage, or significant conductor movement. Based on these field observations, SDG&E deploys appropriate resources to address the fire threats posed by these conditions.

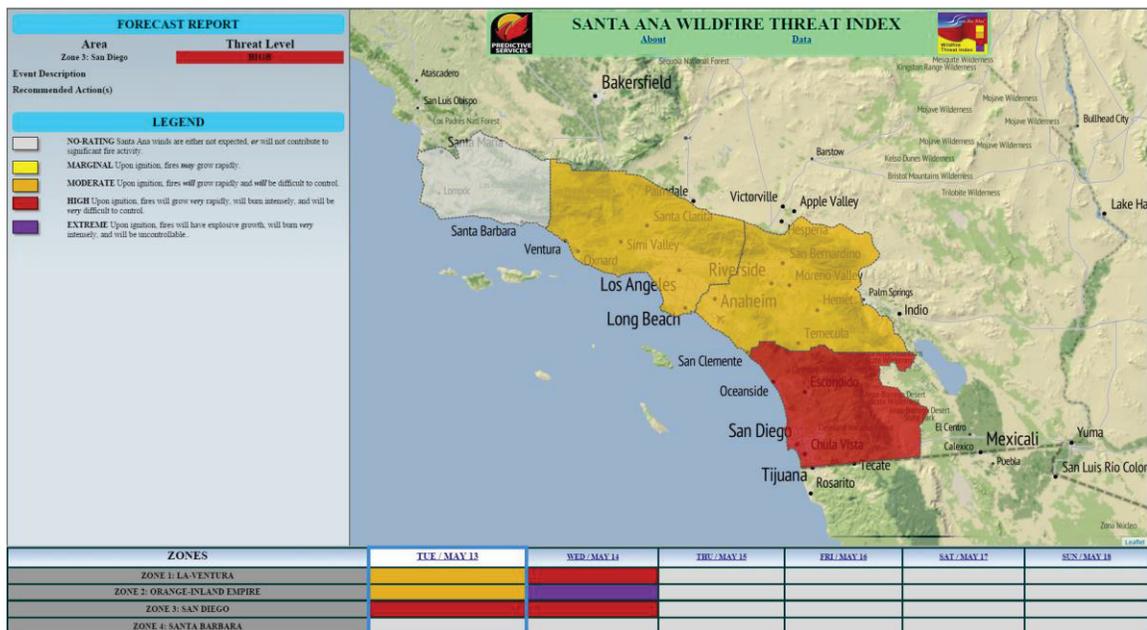
E. Field Patrols

Under Elevated, Extreme and Red Flag Warning Conditions, SDG&E may perform an appropriate patrol of any circuit sustaining a forced outage. Qualified electrical workers are dispatched to inspect the circuit, determine the cause of the outage, and evaluate the physical integrity of the circuit. Upon the appropriate evaluation, restoration will commence when repairs are completed and/or there is no longer a threat to public safety or the electric system. In some cases, and weather permitting, field personnel may be positioned to observe and test the affected circuit.

Training and refresher drills for field patrols are conducted and are designed to exercise the assembly of Patrol Teams and the communication hierarchy of the SDG&E Incident Command System. These drills ensure effective management of the Restoration Patrols and disciplined communications between Patrol Teams, Patrol Leaders, Fire Coordinators, Meteorology and Incident Commanders.

F. Santa Ana Wildfire Threat Index (SAWTI)

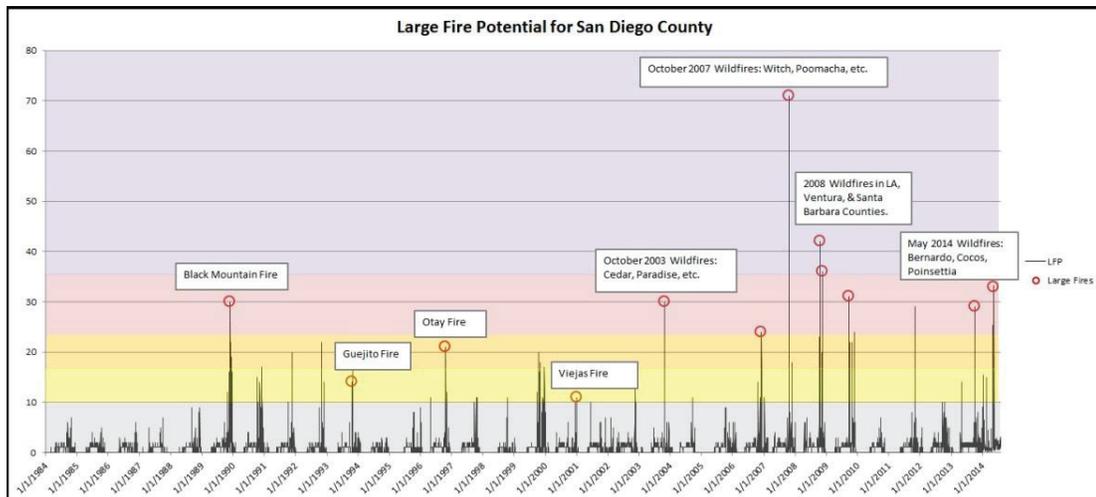
San Diego Gas & Electric (SDG&E), The U. S. Department of Agriculture/U.S. Forest Service, and UCLA, in collaboration with CALFire, the Desert Research Institute and the National Weather Service unveiled a new web-based tool in September 2014 to classify the fire threat potential associated with the Santa Ana winds that are directly linked to the largest and most destructive wildfires. The Santa Ana Wildfire Threat Index (SAWTI) categorizes Santa Ana winds based on anticipated fire potential. The index uses wind speed, humidity, and fuel conditions to determine how severe an event will be in terms of its impact upon the fire environment. The SAWTI, which includes four classification levels from “Marginal” to “Extreme,” will be used to help fire agencies, other first-responders and the public determine the appropriate actions to take based on the likelihood of a catastrophic wildfire fueled by high winds. The Santa Ana Wildfire Threat Index uses a comprehensive, state-of-the-art predictive model that includes dead fuel moisture, live fuel moisture, and the greenness of annual grasses to create a detailed daily assessment of the fuel conditions across Southern California. This information is coupled with calibrated weather model output (comprised of wind speed and atmospheric moisture), to generate a 6-day forecast of Large Fire Potential. The Large Fire Potential is then compared to climatological data and historical fire occurrence to establish the index rating.



A number of fire agencies and forecasting models have used pieces of this data and various interpretations of what the information means relative to the development and potential impact of a Santa Ana wind event. This tool, however, for the first time incorporates all of the data into a single site that is available not only to first responders and government agencies, but also to the public. One of the most significant elements of the index is the “call to action” associated with each level of the index, which includes recommended steps based on the potential severity of the forecasted Santa Ana.

G. Climate Change Adaptation

Between January 1st and September 17th of 2016, 4,802 fires were reported across the state of California with a burn area totaling 307,592 acres. This is an increase of 890 fires during the same period in 2015, and stands at 123% of the 5-year averages of fires, respectively (CAL FIRE 2016). While these numbers are exacerbated by the current five-year stretch of drought conditions, data ranging back to 1984 across San Diego County confirms that the number of high fire potential days each year has increased since the early 2000s (see Figure 6). These trends are projected to continue as a combination of factors leads to increases in both fire season duration and severity through the end of the century (Melillo 2014, Kent 2015, CEP 2014).



A 2013 study done by the National Oceanic and Atmospheric Administration (NOAA) National Environmental Satellite, Data, and Information Service (NESDIS) group found that the effects of climate change will not significantly alter the frequency of Santa Ana wind events, which typically occur 2-5 days per month between October and March and have contributed to the growth of several of the largest fires in Southern California history. However, due to overall warming across the region, Santa Ana winds are likely to bring higher temperatures and lower humidity that will increase the fire potential with each event (Kunkel et al. 2013). Because Santa Ana wind events typically deliver the warmest conditions

Figure 6. Large fire potential for San Diego County, calculated using a combination of weather and fuels conditions. Larger values indicate higher fire potential. Labels and red circles indicate observed large fires in San Diego County.

to the coastal communities, increases in fire potential may also extend to the coastal canyons and wildland areas that historically have not been as high of a wildfire concern. The warmer temperatures are also expected to enhance evaporation and transpiration even outside of Santa Ana events, which will deplete fuel moistures at faster rates. When coupled with longer dry periods, increases in tree mortality due to drought, and increased warmth, this will result in longer fire seasons across the Southwest (Kent 2015, Westerling et al. 2006).

Wildfire Projections	2050	2100
<ul style="list-style-type: none"> San Diego Foundation/SCRIPPS 	<ul style="list-style-type: none"> Longer and more extreme fire seasons 	<ul style="list-style-type: none"> Probability of large fires in SoCal could increase by 30%

Table 3. Wildfire projections for both 2050 and 2100. Many studies did not focus on wildfire impacts specific to Southern California and, thus, were not included.

Though the general consensus is that fire seasons will lengthen and become more severe through the coming century, there are still several unknowns that may alter fire behavior including shifts in vegetation type and the rebound rates of fuels in burned areas (Kent 2015, Westerling et al. 2006). It has been suggested that some vegetation types will be unable to adapt to the temperature increases, which would initially lead to an ample supply of dead fuels to carry fire, but would eventually result in a decline in fuels coverage unless the vegetation was phased

out by species more apt to handle the hotter temperatures (Kent 2015). In addition, assuming the fires fully consume the fuels, increases in fire activity will eventually become limited until enough vegetation can grow back to support fire growth (Kent 2015).

Wildfire: Potential Vulnerabilities

Wildfire has been identified as one of the greatest weather-related risks to San Diego Gas & Electric, due to the region's complex topography, lack of summer and early fall rains, and susceptibility to dry Santa Ana winds that can accelerate fire growth. It was this combination of factors that led to the Cedar Fire of 2003 and the Witch Fire of 2007 – both of which rank among the top 10 largest wildfires in California history – that spread across San Diego County and had large impacts to the utility. Because of the known wildfire risk and the potential impacts on utility operations, SDG&E has taken a multitude of steps to adapt to our changing climate conditions across our service territory. These steps have been described in depth in this plan and include the identification of locations at greatest risk for fire growth within the service territory and instituted a process to make the electric system more resilient to wildfires that includes replacing wooden poles with steel, installing new technologies to make the electric grid more resilient to fire and building upon a robust vegetation management program to keep trees and brush clear of power lines.

Despite the proactive approach to mitigating fire risk, increases in temperature and prolonged periods of drought in the decades to come will likely lead to high risk fire areas expanding from the foothills and mountains into the lower elevation coastal canyons and wildland interfaces that have proven to historically be at lower risk for fire growth. This would result in the potential for more damaged or destroyed wooden poles with any fires that occur and may even cause household impacts if the fires run up the canyons into densely populated neighborhoods (Kohls 2015). Projections for longer fire seasons also bring the potential for an increased number of planned work cancellations due to high fire concerns, including government-issued restrictions in national forestland.

V. Fire Suppression and Recovery

When fire risk is high and a wildland fire occurs, SDG&E may mobilize its available resources (Wildland Fire resources and/or Industrial Fire Brigade, see below) as the situation dictates, to assist in the suppression of the fire and in recovery activities. These resources could be made available, if requested, to the public agencies with responsibility for fire suppression and recovery.

A. Fire Coordination Personnel

SDG&E employs a full-time staff of Fire Coordinators and contracts for additional resources and personnel on an as-needed, project-by-project basis. The six Fire Coordinators currently on staff have over a century of firefighting experience and are experts in fire behavior, fire prevention and firefighting techniques. The Fire Coordinators serve as the direct link between SDG&E and emergency-response agencies. They also serve as the single point of contact for the fire agency Incident Command System, provide periodic updates to fire emergency personnel and SDG&E personnel, establish radio and communications assignments for every fire event, assist in the coordination of activities related to de-energizing and re-energizing power lines, and update on-scene personnel, control centers, service dispatch, and the SDG&E regional operations centers as to the status of each incident. The Fire Coordinators are active in professional forums, seminars and training throughout the service territory to ensure state-of-the-art fire practices are incorporated into SDG&E operations and practices. The Fire Coordinators also participate in engineering and operational meetings to advise SDG&E personnel regarding fire threats and prevention.

The Fire Coordinators also share information with the firefighting agencies within the SDG&E service territory and, on a rotating basis, provide those agencies with electrical and gas safety training.

B. Firefighting Assets and Resources

1. Wildland Fire Prevention Resource

SDG&E has contracted for wildland fire-suppression trucks and trained firefighting personnel. Up to eight (8) fire suppression trucks are provided to SDG&E throughout the fire season, and are available to SDG&E on an on-call basis for the other months of the year. These resources are dispatched with work crews during days on which the threat of fire is high. Prior to the commencement of the day's work, firefighting personnel provide instruction and advice specifically addressing fire risks and the potential mitigation and prevention measures the crews should observe in order to eliminate or reduce the likelihood of an ignition. The firefighting crews also pre-deploy hose lines and tools as a precautionary measure and monitor the work performed by the SDG&E crews.

In the event of an ignition, the firefighting personnel have the equipment, skills and ability to respond and extinguish fires quickly.

When the fire risk is very high, SDG&E deploys additional fire trucks as needed pursuant to a proactive staging plan triggered by the declaration of “Extreme Conditions” and “Red Flag Warning Conditions”. These resources are strategically placed throughout the service territory to be available as needed.

2. Aviation Services Department

This department is responsible for contracting aviation assets and personnel, planning, supporting and managing day-to-day aviation activities, measuring aerial job performance, and supporting fire-suppression activities. With respect to its fire-suppression responsibilities, the department coordinates the provision of SDG&E aerial resources to firefighting efforts. The department also oversees SDG&E’s contributions to, and participation in, the local Aerial Firefighting Protection Fund in collaboration with the San Diego Fire Department and the San Diego County Office of Emergency Services.

SDG&E has also contracted with Erickson Air-Crane for the provision of a Type 1 firefighting helicopter from August 1st through November 30th through the year 2016, or as critical fire weathers dictate. This contract is under the supervision of the Department.

3. The Industrial Fire Brigade (IFB)

SDG&E has contracted a full-time 7/24/365 Industrial Fire Brigade. The IFB is specially trained in fighting fires involving electrical equipment and flammable liquids. The IFB members are housed in facilities located near the geographical center of the SDG&E service territory and are fully equipped to handle utility-related fire emergencies.

The IFB has available four (4) portable fire-suppression trailers, each provisioned with 300 gallons of Class B Alcohol Resistant firefighting foam, 500 pounds of PKP Dry Chemical extinguishing agent, a 500 gallon-per-minute monitor, and two self-educating handlines designed to work with hydrants or other mobile fire apparatus. These trailers are located in strategic locations to SDG&E’s assets and service territory. These fire-suppression trailers are available upon request to external fire agencies.

The IFB is also responsible for the development of comprehensive pre-emergency response plans for each SDG&E facility. These plans will be developed for

SDG&E's high-value assets first, including SDG&E's power plants, peaker stations, and extra-high-voltage substations. These plans are designed to improve emergency response at each of these facilities significantly.

4. Miscellaneous Assets

SDG&E maintains a collection of portable emergency generators which may be deployed on an as-available basis to customer locations to provide temporary power during electrical outages. If available, these generators could be made available to providers of essential services as a first priority or to other customers upon request and on a case-by-case basis.

SDG&E has been proactive in developing programs and partnerships which significantly improve emergency-event communications both internally and in cooperation with emergency-services agencies. In this regard, SDG&E has acquired Mobile Field Command Trailers and satellite phone booths for deployment to supplement essential communications during emergencies. As part of efforts to improve internal communications in remote areas, SDG&E has partnered to create the Area Situational Awareness for Public Safety Network (or "ASAPnet"). ASAPnet is designed and deployed to provide internet connectivity to and between more than seventy (70) fire stations throughout the San Diego County backcountry.

C. Recovery Activities

At the end of emergency events, the SDG&E Emergency Operations Center conducts a debrief and prepares an after-action report that identifies action items to correct or improve future responses.

Also, SDG&E employees participate in a number of volunteer and charitable activities on an ongoing basis – this participation expands dramatically following local disasters. These activities include providing human, financial and other resources to the American Red Cross, San Diego County Recovery, the San Diego Burn Institute, and many other worthy organizations.

D. Fire Incident Data Collection Plan

Contained within Phase 3, Track 2 of the on-going Fire Safety OIR proceedings the parties jointly developed a plan for the IOU's to collect and report data to SED regarding power line fires, and for SED to use this data to (1) identify and assess systemic fire safety risks associated with overhead power line facilities and (2) formulate measures to reduce the number of fires ignited by power lines. SDG&E

has adopted the plan developed by the parties within the proceeding and further has created a plan specific to SDG&E's initiation and implementation of these requirements to insure compliance.

The CPUC/SED requirements can be summarized by the following bullets:

- Any data collection and subsequent data reporting will be in addition to the incident reporting requirements currently required of the utilities.
- Data needs to be consistent using the default formats provided within the proceeding.
- New fire reporting requirements should not be limited to designated "fire threat" zones or districts but for all areas.
- Fire reporting shall meet the following criteria;
 - Self-propagating fire of material other than electrical and/or communication facilities.
 - The resulting fire traveled greater than (1) meter from the ignition point.
 - The utility has knowledge the fire occurred.
- Information shall be objective and factual.
- Utilities will report data in an annual report for the previous calendar year before April 1st of each year.
- The data collected is raw data that is correct to the best of the utility's knowledge at the time of submission.

The SDG&E Data Collection plan further specifies responsibilities and accountability for compliance with this plan;

- Fire Coordination: The Fire Coordination group will continue to manage the current fire database and continue to work with Emergency Services to move this process into the SDG&E Emergency Incident Reporting (EIR) system. The transition will occur without disruption or loss of data as well as be able to generate the required report. All qualifying fires will be reported to the On-duty Fire Coordinator.
- Compliance Management: As part of their annual calendar, Compliance Management will track and insure that this reporting requirement to the SED is met in the required timeframe.
- Claims, Legal, & Regulatory: Will continue their role and responsibilities for fires related to SDG&E facilities as well as review the annual report prior to submission.
- Control Centers: Both Distribution Operations and Grid Operations supervisors and operators will understand what denotes a reportable fire and assist in ensuring qualifying fires are reported to the On-duty Fire Coordinator.
- Electric Regional Operations and Transmission Construction Maintenance: Troubleshooters, Construction Supervisors, and line personnel will understand what denotes a reportable fire and assist in ensuring qualifying fires are reported to the On-duty Fire Coordinator.

- Training: An initial training and annual refresher training will be developed by the Fire Coordination group and delivered to the Control Center and District field personnel to insure compliance with these requirements.
- Root Cause Analysis: The data collected will continue to be shared internally with the T&D engineering group for further root cause analysis to help determine fire mitigation measures that make sense to implement in the future.

VI. Community Outreach and Public Awareness

SDG&E has created a multi-level approach to community education and outreach as our contribution to public awareness of fire threats, fire prevention and emergency preparedness. The key elements of this approach are described below.

A. Fire Safety Stakeholder Collaboration and Communication

In 2009, SDG&E customers and community leaders were invited to participate in a fire safety collaboration process. About 40 stakeholders – representing local schools, water districts, disability rights advocates, consumer groups and fire departments – worked with SDG&E for more than a year to develop a joint fire-prevention plan. This process was facilitated by a federal mediator. The process produced more than 100 potential solutions aimed at preventing the occurrence of major fires. SDG&E has implemented many of these solutions as identified by the stakeholders, including deactivating automatic reclosers, hardening its overhead electric system, replacing wood poles with stronger steel poles and larger conductors, and undergrounding portions of the electrical system, where feasible.

SDG&E frequently invites community leaders, government agencies and the public at-large to participate in a collaborative fire-safety process to continue dialogue and partnerships regarding public safety.

B. Partnering with Firefighting Agencies

SDG&E partners with the San Diego County Fire Chiefs' Association and other organizations to address a range of fire prevention and emergency activities. These partners include; fire agencies, Fire-Safe councils, Community Emergency Response Teams (CERTs) and other community organizations. Among the activities addressed through these partnerships are, including but not limited to:

- Participation in coordinated multi-agency preparedness and emergency events;
- Support and participate in the annual County Wildland Drill; coordinated by the San Diego Fire Training Officers;
- Participation in Fire Station and Fire Safe Council Open Houses;
- Emergency preparedness radio spots with the San Diego County Fire Chiefs' Association and the American Red Cross; The provision and underwriting of grants by SDG&E to support Volunteer Fire Fighters, CAL FIRE Public Information Officer Command Vehicles, Burn Institute programs, and the San Diego Kids Fire Safety Program;
- Fire-safety media campaigns in conjunction with the American Red Cross and local television station KUSI-TV; and,
- The "Prepare San Diego Partnership" and Sheltering Memorandum-of-Understanding executed by and with the American Red Cross;

SDG&E is a member of the California Utilities Emergency Association (CUEA), a collaboration between electric, natural gas, water and telecommunications utilities in California. CUEA serves as a point of contact for critical infrastructure utilities and the California Office of Emergency Services (Cal OES) and other governmental agencies before, during and after an event. CUEA also provides emergency response support wherever practical for electric, petroleum pipeline, telecommunications, natural gas, water and wastewater utilities.

C. Community Partnerships

SDG&E is proud to support non-profit organizations whose programs promote emergency preparedness and safety at home and in our communities. In 2012, SDG&E began providing funds to charitable organizations committed to regional and local emergency preparedness and fire safety, such as 2-1-1 San Diego, the American Red Cross, and the Burn Institute, plus dozens of volunteer fire departments, Community Emergency Response Teams, and Fire Safe Councils.

SDG&E provides regular communications to residents and businesses located in the FTZ and HRFA. These fire-safety and emergency communications include, but are not limited to;

- Customer education events, emergency preparedness symposiums for businesses, public participation meetings, and backup generator safety workshops;
- Informational and emergency preparedness mailings to customers in the HRFA;
- Educational advertising campaigns focusing on SDG&E's preparations for the fire season and the preparations SDG&E's customers should make for emergencies;
- Educational information disseminated through the Energy Notes newsletter distributed with customer billings;
- Distribution of a co-branded "newsletter" with the American Red Cross, the San Diego Office of Emergency Services, and the County Fire Chiefs Association;
- Distribution of the "pocket-Card", which provides formatted emergency information that easily folds and fits in an automobile glove box or emergency kit;
- Distribution of "refrigerator magnets" bearing important emergency information;
- The provision of weather information and system-outage status on SDGE.com;
- Dissemination of information regarding emergency-preparedness events via social media, such as Twitter and Facebook;
- Opt-in campaign offering customers electronic-mail access to safety checklists and fire-safety videos;
- Publication of information for SAFE San Diego Education and Outreach events in the community following an emergency.

In addition to routine outreach and communications, SDG&E intensifies its effort to communicate with customers when fire-threat conditions are elevated or extreme. SDG&E has instituted an early warning system advising customers that a Red Flag Warning has been declared by the National Weather Service and dangerously high winds are expected. SDG&E also opens communications with local water districts, telecommunications infrastructure providers, the San Diego County Office of Education, the San Diego County Office of Emergency Services, and the American Red Cross as soon as possible following the declaration of a

Red Flag Warning. SDG&E assembles a team, including members from Business Services, SDG&E's Meteorological Department, and SDG&E's Electric Distributions Operations center, to provide updates on the status of the SDG&E system and weather conditions.

As alert conditions are elevated, SDG&E also contacts, directly and indirectly, Medical Baseline (MBL) customers, including life support and temperature sensitive customers. Under severe threats of emergencies, where SDG&E cannot make contact with these customers via our outbound-dialer system, SDG&E will send field personnel to make personal contact and, failing all else, to leave door hangers alerting the customer of the situation.

D. Fire Preparedness Website

SDG&E maintains a publicly accessible website focused on safety, including gas safety, electric safety, fire safety, tree safety, emergency preparedness, generator safety, and outage information. SDG&E Emergency Preparedness Brochures, pocket-Cards, radio spots, print advertisements, and social media postings via Facebook and Twitter, have been utilized to distribute and provide links to SDG&E's emergency preparedness and safety website:

<http://www.sdge.com/safety/fire-safety/proactive-approach-fire-prevention>

Additional fire-related websites supported and maintained by SDG&E are accessible using the following addresses:

- Emergency Preparedness web pages: <http://www.sdge.com/safety>
- Weather and Outage web pages: <http://www.sdge.com/tools/windspeed-dashboard>

E. Fire Mitigation Funds

In addition to providing various fire risk mitigation and -preparedness grants as described above, SDG&E funds two fire-mitigation programs as a part of the Sunrise Power Link Project. These programs, known as the "Powerline Firefighting Mitigation Fund" and the "Defensible Space and Structure Hardening Grants Fund", are operated subject to agreements with various firefighting agencies whose jurisdictions include lands along the Sunrise Power Link transmission corridor.

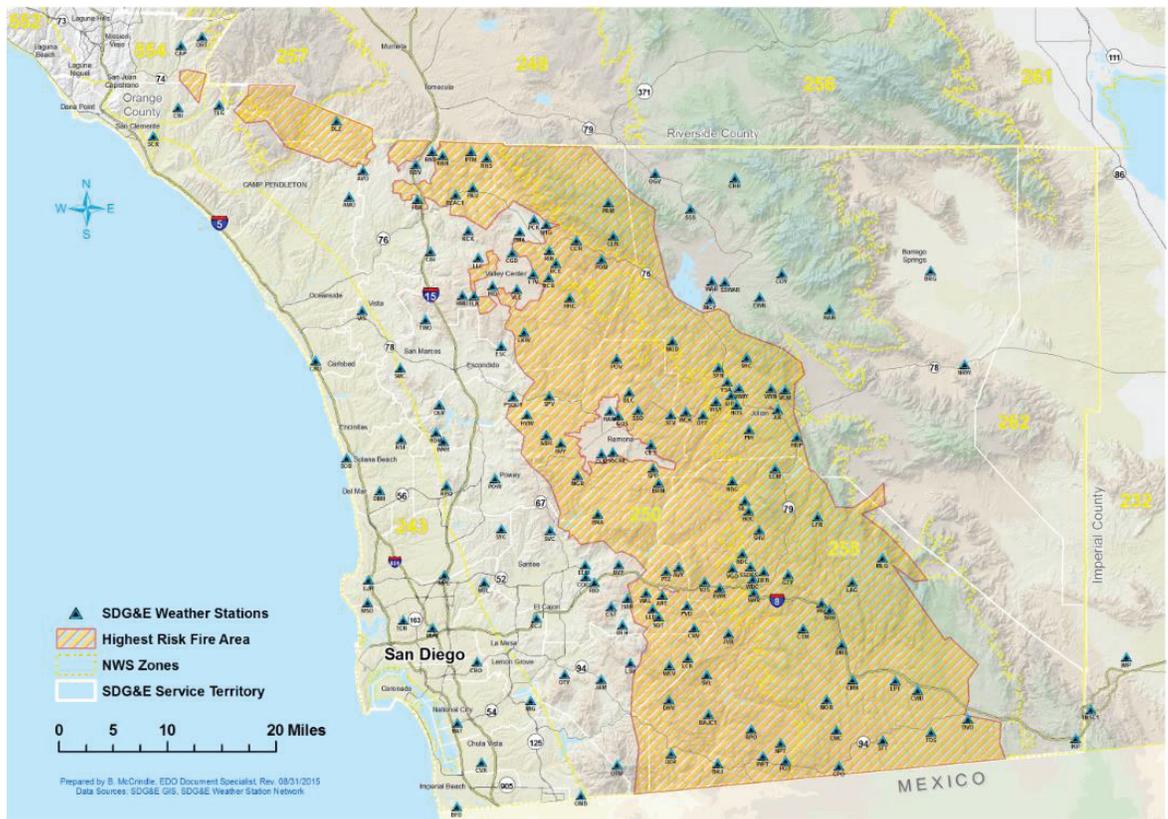
The Powerline Firefighting Mitigation Fund was used to provide a lump sum to each of the seven fire agencies with jurisdiction along the transmission line route.

Each agency received \$556,524, for a total disbursement of \$3.9 million – these funds were used to purchase new fire trucks and communications equipment, increase fire patrols, and fund additional personnel during the fire season. The agencies receiving these funds include CAL FIRE, Federal Bureau of Land Management, County of San Diego, City of San Diego Fire & Rescue Department, Alpine Fire Protection District, Lakeside Fire Protection District, and the San Diego Rural Fire Protection District.

The Defensible Space & Structure Hardening Grants Program was implemented in 2012 and will remain in place as long as the Sunrise Power Link is in service. A Public Education and Outreach Program for eligible property owners includes a grant application website. The program provides funding for the creation and maintenance of defensible space around homes in close proximity to the Sunrise Power Link. This defensible space will bring those homes into with compliance with various fire codes so as to assist firefighters in minimizing structure and property damage. These funds may also be used to fire-harden structures by retrofitting rooftops with fire-resistant materials, installing fire shutters and double-pane windows, cave boxing, and removing and/or replacing wood fencing and/or decks. SDG&E annually provides \$2.8 million (2008\$) to fund the program.

Appendix A

2016 Map of SDG&E HRFA, And Meteorological Network



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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-Test Year 1996 General Rate
Case.

(U 39 M)

A.94-12-005
(Filed December 9, 1994)

Commission Order Instituting Investigation Into
the rates, Charges, Service, and Practices of
Pacific Gas and Electric Company

I.95-02-015
(File December 9, 1994)

Commission Order Instituting Rulemaking, to
Develop Standards for Electric System Reliability
and Safety Pursuant to D.96-09-073.

R.96-11-004
(Filed November 6, 1996)

**NOTICE OF AVAILABILITY OF
SAN DIEGO GAS & ELECTRIC COMPANY'S
ANNUAL REPORT IN COMPLIANCE WITH GENERAL ORDER 166**

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October 31, 2016

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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-Test Year 1996 General Rate Case. <p style="text-align: right;">(U 39 M)</p>	A.94-12-005 (Filed December 9, 1994)
Commission Order Instituting Investigation Into the rates, Charges, Service, and Practices of Pacific Gas and Electric Company	I.95-02-015 (File December 9, 1994)
Commission Order Instituting Rulemaking, to Develop Standards for Electric System Reliability and Safety Pursuant to D.96-09-073.	R.96-11-004 (Filed November 6, 1996)

**NOTICE OF AVAILABILITY OF
SAN DIEGO GAS & ELECTRIC COMPANY'S
ANNUAL REPORT IN COMPLIANCE WITH GENERAL ORDER 166**

Please take notice that on October 31, 2016, San Diego Gas & Electric Company (“SDG&E”) submitted its **ANNUAL REPORT IN COMPLIANCE WITH GENERAL ORDER 166** to the California Public Utilities Commission (“CPUC”). Pursuant to Rule 1.9 of the Rules of Practice and Procedure of the CPUC, SDG&E will upon request provide a copy of the Report to parties who request it. Copies of the Report may be obtained by contacting:

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San Diego, CA 92123
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Fax: (858) 654-1789
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As discussed in the Annual Report, SDG&E's Emergency Response Plan (which is prepared pursuant to General Order 166) is also available as a stand-alone document. A copy of this Plan may also be requested from the contact listed above.

Respectfully submitted,

/s/ KEITH W. MELVILLE

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October 31, 2016