Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES

Electric Power Disruption

Toolkit for Local Government

Gavin Newsom
Governor

Mark Ghilarducci, Director
California Governor's Office of Emergency Services

January 2020

This page intentionally left blank.

Summary of Changes

The following changes have been made in this edition.

- Updated information on critical facility identification
- Added information on the federal Health and Human Services **emPower** Program
- Added checklist for emergency power planning for people who use electricity and battery dependent assistive technology and medical devices
- Added information on the utilities' Public Safety Power Shutoff (PSPS) Program
- Web links corrected/updated

For any questions or comments regarding this plan, please contact the California Governor's Office of Emergency Services Planning and Preparedness Division at (916) 845-8731.

This page intentionally left blank.

Table of Contents

1.0 Foreword, Purpose, and Scope

Foreword

Electricity has dramatically changed daily life. Basic functions, including communication, transportation, food, housing, water, and healthcare, are dependent upon energy. As reliance on electricity continues to grow, a significant power disruption may put lives, the economy, and the environment in danger.

Electrical power disruptions can occur at any time during the year. Whether intentionally caused by the utilities proactive de-energization program or unintentionally caused by a natural disaster, power outages affect the health and safety of Californians. To reduce the impact to the public, local government emergency managers, public safety officials, and medical and health representatives should consider power disruptions in their disaster planning efforts.

Purpose

Cal OES has developed this toolkit to identify possible actions that local governments can take to protect public health and safety during electric power disruptions regardless of the cause. It also provides preparedness, response, recovery, and mitigation actions relevant to electric power disruptions.

Scope

This toolkit identifies the types of electrical power disruptions, the types of critical facilities, and vulnerable populations with critical electrical needs. The toolkit also provides general planning assumptions for consideration by local government in anticipation and reaction to power disruptions, as well as some typical criteria that may be used to identify those facilities and populations. This document is not prescriptive and is intended as guidance.

2.0 Disruption Classification, Notification Procedures, and Outreach

Classification of Disruptions

The electric power industry does not have a universal agreement for classifying disruptions. Nevertheless, it is important to recognize different types of outages

are possible so that plans may be made to handle them effectively. Electric power disruptions can be generally grouped into two categories: Intentional and Unintentional.

Intentional

- **Scheduled -** Some disruptions are intentional and can be scheduled. For example, a disruption may be necessary when components of the power system are taken out of service for maintenance or upgrading. Scheduled intentional disruptions can last from several minutes to several hours or days and customers are usually notified in advance.
- **Unscheduled -** Some intentional disruptions must be done "on the spot." As a result, advance notice cannot be provided. For example, fire services or law enforcement may request a disruption in service during a fire or an accident.
- **Demand-Side Management -** Some customers (i.e., on the demand side) have entered into an agreement with their utility provider to curtail their demand for electricity during periods of peak system loads. In return for agreeing to these disruptions, these customers receive a lower electric rate and/or a rebate.
- **Load Shedding** - When the power system is under extreme stress due to heavy demand and/or failure of critical components, it is sometimes necessary to intentionally interrupt the service to selected customers to prevent the entire system from collapsing. In such cases, customer service (or load) is cut, sometimes with little or no warning. One form of load shedding called a "rotating blackout" involves cutting service to selected customers for a predetermined period (usually not more than two hours). As power is restored to one block of customers, power to another block of customers is interrupted to reduce the overall load on the system.
- **Public Safety Power Shutoff (PSPS) Program** - The PSPS program is designed to enhance community wildfire safety and is the intentional de-energization of distribution and transmission lines, by a utility, to help reduce the likelihood of a wildfire. See Attachment 1 for specific program details.

Unintentional

- **Unplanned -** Unplanned disruptions are outages that come with essentially no advance notice. This type of disruption is the most problematic. The following are examples of unplanned disruptions:

- Accident by the utility or utility contractor, or others
- Malfunction, or equipment failure, due to age, improper operation, excessive operation, or manufacturing defect; special subcategories cover broken fuse links and underground cable, joint, or termination failures
- Overload on either the utility's equipment or a customer's equipment
- Reduced capability such as equipment that cannot operate within its design criteria
- Tree contact
- Vandalism or intentional damage
- Weather, including ice/snow, lightning, wind, earthquake, flood and broken tree limbs taking down power lines
- Wildfire that damages transmission lines

Notification Responsibilities

What follows is a general description of notification responsibilities for electric power disruptions.

California Independent System Operator - The California Independent System Operator (CAISO) is tasked with managing the power distribution grid that supplies most of California except in areas serviced by municipal utilities. There are times when supply margins are tight, especially during the summer, when air conditioning drives up electricity demand. When that happens, the CAISO initiates communications with the public to take actions to protect the grid reliability.

Loss of generation or transmission equipment, peak electricity demand forecasts, and hot temperatures during persistent heatwaves may trigger an emergency notification from the CAISO.

Emergency Notifications - CAISO uses a series of emergency notifications to alert the public based on system conditions. The emergency notifications are:

- Transmission Emergency – Declared for any event threatening or limiting transmission grid capability, including line or transformer overloads or loss.
- Stage 1 Emergency – Contingency Reserve shortfalls exist or forecast to occur – strong need for conservation. Operating reserves are between six (6) and seven (7) percent.

- Stage 2 Emergency – The CAISO has taken all mitigation actions and is no longer able to provide its expected energy requirements – requires CAISO intervention in the market such as ordering power plants online. Operating reserves are less than five (5) percent.
- Stage 3 Emergency – The CAISO is unable to meet minimum contingency reserve requirements and load interruption is imminent or in progress – notice issued to utilities of potential electricity interruptions. Rotating blackouts become a possibility when Stage 3 is reached. Operating reserves are between one and a half (1.5) and three (3) percent.

Utilities - Utilities generally attempt to provide outage information through automated notifications such as phone calls, text messages, emails, social media, mass media, and, if warranted, going door to door to inform customers and the public of electric power disruptions. For non-customers or account holders, some utilities have established a separate registry to receive notifications of potential power shut-offs.

Ongoing emergency coordination between city and county emergency managers and utility providers could enhance advance notification of electric disruptions and restoration coordination. In case of a PSPS program disruption the utilities will also notify local public safety officials and the California State Warning Center (CSWC).

Outreach

Utility Customers Defined - The term "customer" in this document means the bill payer. A customer may be an individual homeowner, government agency, or company representing an office building, apartments, or mobile home parks. The number of customers affected is not the same as the number of people affected. Disruption of electrical service to a single customer may, in fact, affect hundreds of individuals.

Utilities - Utilities may provide the following information to public safety agencies upon request:

- Utilities service area
- Infrastructure information
- General outage area

Cal OES - Cal OES and the operating utilities provide materials to the media, local governments, community-based organizations, access and functional

needs stakeholders, and others on power conservation tips, notifications, preparedness, and response activities via the Prepare for Power Down web site.

3.0 Preparedness Planning

The concepts used to prepare for floods, earthquakes, wildfires, and other emergencies should be used to plan for electric power disruptions. Electric power disruption plans should address actions to be taken during the four phases of emergency management: preparedness, response, recovery, and mitigation. Some power outages such as rotating blackouts due to energy shortages are brief (60 minutes or less) and possibly numerous over the entire summer and beyond, depending on weather and electrical supply. Such events may not merit activating an Emergency Operations Center or declaring an emergency given the anticipated brief duration of electric disruptions. Other power outages such as the utilities proactive de-energization program for wildfire safety or natural disasters may warrant activating an Emergency Operations Center or declaring an emergency given the anticipated extended duration of electric disruptions.

Local Governing Boards

Initiation of the planning process may require action by the governing board in the form of a resolution or ordinance that provides local guidance, identifying goals and objectives, and providing the authority, intent, and composition of the planning team.

Planning Team

The planning team should include agencies and departments that make up the general emergency management structure since the same problems experienced in other disasters could happen during power disruptions. A planning team may include the following, as determined by the local government:

- Management or executive
- City or county counsel
- Emergency management
- Law enforcement
- Fire services
- Emergency medical services
- Human services (county welfare or city community services, etc.)

- Animal Services
- Public health agencies
- Hospitals and care homes
- Schools
- Community-based organizations
- Disability and older adult service providers
- Operational area
- Public works departments
- Utility providers

General Planning Assumptions

In drafting a plan the following assumptions should be considered by local governments:

- Power disruptions may be caused by lightning strikes, wildfires, floods, accidents, intentional acts, and maintenance.
- Many emergency service providers are exempt from rotating blackouts, having been identified by the California Public Utilities Commission (CPUC) as "essential", and may have limited back-up generation capacity.
- Some emergency service providers may not be exempt from rotating blackouts because they have not been designated as "essential."
- Rotating blackouts may increase the need for emergency services causing emergency service providers to use more electricity, not less.
- Weather indicators such as flood warnings, Red Flag Warnings, and Wind Advisories may result in the utilities to temporarily de-energize the system in specific areas in order to protect their system and the community (i.e. PSPS).
- For a PSPS outage utilities should provide enough advanced notice to public safety officials and the community to coordinate responses.
- For widespread and extended outages, critical infrastructure such as public safety data/dispatch systems, emergency facilities, traffic monitoring systems and signals, fire suppression water supply systems, and healthcare infrastructure could be affected.
- Individuals dependent on electric power and vulnerable populations, such as older adults and low income, could be seriously affected by an extended disruption of electrical service.

Coordination with the Local Electric Utility

A local electric power disruption preparedness plan should be coordinated with the local electric utility service providers. Many aspects of a plan require close cooperation between the local government and the utility. These issues should be worked out and agreed upon in advance, before the disruption occurs, to ensure an efficient and effective response.

4.0 Critical Facilities

Critical Facilities

Critical facilities are buildings, areas, or systems that could experience significant impacts if electrical service was lost. While every home, office, commercial establishment, or industrial factory would be affected by the loss of electricity, some are more vital to the community well-being than others. Suggested guidelines for local governments to identify a facility as "critical" could include the following:

- **Impact on Public Health and Safety -** The loss of electrical service to some facilities can significantly affect public health and safety. Examples of such facilities include police and fire stations, hospitals, nursing homes, water pumping stations, railroad crossings, and industrial facilities that handle hazardous materials. In addition, "medical baseline" customers and others who rely on electrically powered equipment installed in the home can face serious health consequences when the power is out. Many of these facilities may have received exemptions from utilities from rotating blackouts but not for PSPS outages.
- **Impact on Orderly Functioning -** At some facilities, the loss of electrical service can cause significant disruption to the orderly functioning of government, business, and private citizen activities. Although direct health and safety issues may not be a consideration, the loss of electric service can have significant consequences. Examples of these types of facilities include traffic intersections, where heavy congestion can develop; elevator-served, high-rise buildings, where people can be forced to climb many steps to get into or out of the building; auditoriums, where loss of power can create difficulties for a large number of people exiting the facility; and facilities equipped with security alarms triggered by loss of

power and that require numerous investigations by local government response personnel.

- **Impact on the Economy -** Some facilities may experience significant economic loss as a result of electrical service disruptions. Examples include industrial factories, food-handling establishments (restaurants, supermarkets), and computer-based businesses. Facility owners may experience economic impacts in the short term (e.g., food spoilage), or the municipality may experience impacts in the long term, such as relocation of businesses that cannot cope with frequent power disruptions.
- **Impact on Other Infrastructures** - Loss of electrical service at some facilities can affect other infrastructures. For example, loss of power at a telecommunications switching office can interrupt communications, and loss of power at a natural gas compressor station can affect gas delivery. In worst-case conditions, these effects, known as "infrastructure interdependencies," can cascade with drastic consequences.

In applying these general guidelines, more specific criteria should also be considered to ensure that available resources are properly allocated. It is important to identify critical facilities as those that will require significant local government response (e.g., fire, law, emergency medical services, and public works) during an electrical power disruption.

The table below from the Department of Homeland Security is offered as a guide to help identify critical facilities.

Table 1: Types of Typical "Critical" Facilities

DHS Sector/Type of Facility	Example	Typical Criteria That Can Be Applied to Determine Criticality
Emergency Services	• Police stations • Fire stations • Emergency medical stations • Emergency communication transmitters	• All facilities are considered critical

DHS Sector/Type of Facility	Example	Typical Criteria That Can Be Applied to Determine Criticality
Water Systems	• Water supply pumping stations • Wastewater pumping stations and treatment plants	• Facilities needed to provide sufficient pumping capacity to maintain minimum flow rates and minimum pressure
Transportation	• Traffic intersections • Aviation terminals and air traffic control • Railroad crossings • Electric rail systems	• Major traffic intersections only • All aviation facilities • All protected rail crossings • All electric rail systems
Communications	• Telecommunications and Information Technology Infrastructure • Emergency services communications and dispatch centers	• All facilities are considered critical
Medical	• Hospitals, skilled nursing facilities, assisted living facilities • Mental health treatment facilities • Specialized treatment centers • Rehabilitation centers	• All facilities that require a state license to operate • Facilities with any patients on electrically powered life support equipment
Schools	• Preschools, K-12 schools, college, business, and trade schools	• All schools when in session
Day care	• Registered day care facilities (Adult and Children) • Sitter services, • After school centers	• All facilities that require a state license to operate

DHS Sector/Type of Facility	Example	Typical Criteria That Can Be Applied to Determine Criticality
Senior	• Senior citizen centers • Retirement communities • Adult Day Care Centers • Residential Facilities	• All facilities that require a state license to operate
Social Services	• Homeless/transient shelters • Missions and meal kitchens • Youth, family, and battered person shelters • Heating/cooling shelters	• Facilities to require regular fire safety inspections
Detention Centers	• Jails • Youth detention centers	• All facilities
Community Centers	• Libraries • Civic centers • Recreational Facilities	• Facilities that require regular fire safety inspections
Public Assembly	• Sports stadiums, concert auditoriums, theaters, and cinemas • Religious facilities • Shopping malls • Conference centers • Museums • Art centers	• Facilities that require regular fire safety inspections
Hotels	• Hotels and motels • Boarding houses	• Facilities required to register under tax laws
High-rise Buildings	• Apartments and condo buildings • Office buildings	• Buildings seven stories or higher
Food Service	• Restaurants • Grocery stores • Supermarkets • Food processing facilities	• Facilities required to register under tax laws • Facilities with significant food quantities stored on the premises
Industry	• Hazardous material handling	• All facilities

For a more detailed and comprehensive evaluation of critical facilities the Department of Homeland Security Presidential Policy Directive 21 identifies 16 critical infrastructure sectors whose assets, systems, and networks, whether physical or virtual, are considered vital. Below are the critical infrastructure sectors.

- Chemical Sector
- Commercial Facilities Sector
- Communications Sector
- Critical Manufacturing Sector
- Dams Sector
- Defense Industrial Base Sector
- Emergency Services Sector
- Energy Sector
- Financial Services Sector
- Food and Agriculture Sector
- Government Facilities Sector
- Healthcare and Public Health Sector
- Information Technology Sector
- Nuclear Reactors, Materials, and Waste Sector
- Transportation Systems Sector
- Water and Wastewater Systems Sector

Note that the guidelines listed above are provided for local governments to identify critical facilities for their jurisdiction. The California Public Utilities Commission and the utilities may have differing definitions of what a critical facility is. Local governments are encouraged to meet with utility providers to understand how and what facilities they classify as critical.

Evaluating Critical Facilities

Identifying those specific facilities that have the greatest impact to the larger community may provide useful information to decision makers when trying to allocate limited resources.

For example, maintaining power at a communications tower that is the backbone for emergency services for the entire county may be more important than a similar communication tower proving limited telecom service to a small neighborhood. Developing a criticality assessment process to determine which of these facilities have the largest consequences or criticality when not operational can be a powerful tool in responding to and recovering from electrical power disruption.

Local governments with more complex infrastructure interdependencies and/or have larger regional or statewide operational impacts may also find it necessary

to make a detailed examination of critical infrastructure. These governments may find it beneficial to identify degrees of criticality within each facility type.

Establishing a Criticality Assessment Process

A formal criticality assessment helps identify the consequences of disruption of a facility's operations. A criticality assessment identifies key assets and infrastructure that support missions, functions, or activities. It addresses the impact of temporary or permanent loss of key assets or infrastructures to an organization, locality, or function to perform its mission.

A criticality assessment is designed to assist with decisions on resource allocation and further work priorities. More often it is a step in a more detailed examination of risk. Such detailed examinations may be a business impact analysis, security survey, or continuity of operations planning effort. Examples of assessment models include *FEMA 433, Using Hazus-MH for Risk Assessment*, for natural hazards and *FEMA 452, A How-To Guide to Mitigate Potential Terrorist Attacks Against Buildings*, for human-caused events.

Regardless of the model selected, a comparison between similar facilities can be made once several criticality assessments of similar facilities have been conducted. These comparisons are often made easier by quantifying the various aspects of a facility's operations to determine a score.

Many of the formal criticality methods use the following four factors for their assessment:

- **Mission or Operational Impacts** – how significant is the facility's core function to the larger community
- **Economic Impact** – what is the financial cost to the facility itself and/or the larger community if this facility's operations were significantly disrupted
- **Population Impacted** – how many people would be impacted by a disruption of this facility's operations
- **Dependencies** – how significant would the impact on other facilities be if this facility's operations were disrupted

Scores for each facility may stand alone as a relative criticality score between similar facilities or may fall into broader risk categories that aggregate facilities according to defined levels of criticality or risk.

Gathering of Critical Facility Information

Local governments can gather information on critical facilities from various sources. Many local governments already have assembled a list of important facilities as a result of other emergency planning activities.

A key piece of data on critical facilities for electric power disruption planning is the current electrical service at each facility. Besides general information about a facility, it is important to gather the following details:

- Availability of electric power backup systems,
- Type of backup system (e.g., diesel generator, battery system) and fuel requirements if necessary,
- Maximum operation time of backup system,
- Availability of rapid connection capability for hook-up of portable generators, and
- Suitability of the facility as a temporary shelter during widespread, extended outages.

Attachment 2 is a sample critical facility survey form that has been included with this toolkit to assist in assessing critical facilities vulnerability.

In addition to using a survey form to gather information, local governments can conduct on-site inspections of selected facilities to determine the specifics of their electric power supply system and to identify any necessary enhancements.

Prioritization of Critical Facilities for Response

Once the information on critical facilities has been gathered, it is important to review the list and establish priorities for response during different types of electric power disruptions. Some facilities may require an immediate response in the event of any disruption of service because of the potential for immediate or significant public health and safety impacts. Other facilities may require a response only in the event of a lengthy disruption. If a widespread disruption affects numerous critical facilities, it may be necessary to allocate available response resources (e.g., law enforcement, fire service, emergency medical) to those facilities most in need. This type of "facility triage" may already exist in other local emergency response plans.

Response priorities for critical facilities will vary according to local requirements and needs. Some factors to be considered are:

- ***Length of time before the occurrence of serious impacts***. Critical facilities that may experience effects almost immediately warrant a more rapid response.
- ***Nature of potential impacts.*** Critical facilities that involve potential public safety impacts may warrant a more rapid response than those with just potential inconvenience impacts.
- ***Availability of backup power supplies.*** Critical facilities with backup generation capability may not need immediate response.
- ***Number and groups of people potentially affected.*** Critical facilities where a large number of people would be affected may warrant a more rapid response than those where only a few would be affected. Also, critical facilities that serve primarily older adults or children, individuals with access and functional needs, or critical medical needs may require more rapid response than other facilities.

The following table may be used as a general guide when deciding how to prioritize critical facility response:

Table 2: Examples of "Critical" Facility Prioritization

Critical Facility Response Priority	Examples of the Types of Critical Facilities That May Be Included in This Priority Class
Immediate Response • Highest priority for response under any disruption conditions • Potential for immediate, serious impacts • Most of these high-priority facilities will have or should have power backup capability	• Emergency services facilities, including police, fire, and emergency medical services • Medical facilities, for example, hospitals, care facilities, etc. • Road intersections • Railroad crossings • Populations on life support equipment
Response in First 2 Hours • High priority for response for all disruptions up to 2 hours • Contact is initiated with all facilities in this category to determine needed response	• Medical facilities, including skilled nursing facilities, care homes and medical offices • Schools, especially day care and elementary schools • High-rise buildings

Critical Facility Response Priority	Examples of the Types of Critical Facilities That May Be Included in This Priority Class
Respond in First 6 Hours • Priority for response when disruptions last longer than 2 hours • Response needed within 6 hours • Contact is initiated with all facilities in this category to determine the necessary response	• Water facilities, including water supply and wastewater treatment
Response on Call • Lower priority, but still critical • Response is made upon a request for assistance from a facility	• Public assembly • Commercial or industrial property

Special Considerations for Infrastructure Interdependencies

As noted previously, in some critical facilities, the loss of electrical service could affect other infrastructures (e.g., communication switching offices, natural gas compression stations). These installations, many owned and operated by private companies, may not be included on a local government's critical facility list. Nevertheless, it is in the best interest of the local government to identify these facilities and discuss with the owners how their facilities should be treated during a power disruption. There could be situations in which the local government could assist the company owner in protecting the facility from, and/or mitigating against, any damage from power disruptions. Such actions should be developed and prioritized by the local government as needed to prevent a cascading infrastructure failure.

5.0 Power Dependent Individuals

Utility Customers Dependent on Electric Power

Utilities generally refer to customers who are power dependent as Medical Baseline or Critical Care Customers. This is a rate reduction program customer's sign up for, not a list or category. Some utilities have already identified these customers and have procedures for notifying them of power disruptions.

It is important to note that Medical Baseline customers do not represent the full extent of the Access and Functional Needs Community who depend on electric power for medical or life support devices. Only three percent of the utilities' customers register for this program. There are many more individuals with access and functional needs who rely on power to some degree or another that are not registered as Medical Baseline or Critical Care Customers.

Identification of Individuals Dependent on Electric Power

Individuals dependent on electric power are people who would be seriously affected by a disruption in electrical service, including individuals who use electrically powered or battery-dependent medical support equipment, people with disabilities, and others with access and functional needs. For those people who use medical support equipment (e.g., respirators, automatic medication dispensers), short-term disruptions can be serious or even life threatening.

Gathering of Information on Individuals Dependent on Electric Power

Local emergency managers and public health officials work closely to pool resources and leverage technologies to help communities protect the health of at-risk populations. A key resource in this effort is data sharing through the **emPOWER** Program. In 2013, the federal Office of the Assistant Secretary for Preparedness and Response (ASPR), at the U.S. Department of Health and Human Services, in partnership with the Centers for Medicare and Medicaid Services (CMS), developed the Health and Human Services (HHS) **emPOWER** Program to help communities protect the health of at-risk populations. The HHS **emPOWER** Program consists of three data and mapping tool-sets:

- The first tool is the HHS **emPOWER** Map and Representational State Transfer (REST) Service. This is a public, interactive map that displays the total number of at-risk electricity-dependent Medicare beneficiaries in a geographic area, down to the zip code. REST allows users to consume the same map data layer in their own geographic information system.
    - The California Department of Public Health (CDPH) Emergency Preparedness Office (EPO) provides a link to their GIS map that contains **emPOWER** data along with several additional layers of data, including but not limited to: healthcare facilities, weather, and utilities.

- The second tool is the HHS **emPOWER** Emergency Planning De-identified Dataset. This dataset is accessible to public health authorities and provides de-identified Medicare billing information for each type of durable medical equipment (DME) and dialysis, oxygen tank, and home health care service in a geographic area, down to the zip code. The federal Office of the Assistant Secretary for Preparedness and Response (ASPR) provides an updated dataset each month to state, territory, and certain major metropolitan area (i.e., New York City, Chicago, Los Angeles County, District of Columbia) public health authorities.
    - CDPH EPO shares the HHS **emPOWER** Emergency Planning De-identified Dataset monthly with the Local Hospital Preparedness Program (HPP) and Public Health to Emergency Preparedness (PHEP) Coordinators and encourages coordinators to share the data with local health departments and emergency management officials.
- The third tool is the **HHS emPOWER** Emergency Response Outreach (Individual Dataset), containing limited individual level information through a secure mechanism, which can be used to conduct outreach prior to, during, and after a public health emergency. This resource is made available by request to public health authorities in the event of an emergency that requires life-maintaining and saving outreach assistance.

Local health departments are a critical component of the information-sharing process. Their retrieval of **emPOWER** data and their subsequent sharing of that information with local emergency managers is vital to successful disaster planning and response.

Voluntary Registries

Collecting information on individuals dependent on electric power can require a great deal of effort and resources. The use of voluntary registries has been a topic of discussion with state and local emergency planners, and within the disability community. Some jurisdictions have developed pilot registries in which people with access and functional needs chose not to participate. Offering registries connotes implications that jurisdictions should consider:

- Registries may be perceived as a promise or guarantee by local government that the registrants will be provided with evacuation services.

Jurisdictions should carefully consider the implications of such perceived promises, as disclaimers do not tend to change perception.

- There may be a tendency by a jurisdiction to view those on the registry as the only ones who need assistance.
- Registries may focus on the registrants first rather than looking at the population more broadly.
- If registries are designed based on individual residential information only, planning will have a major gap as disasters can occur any time of the day.
- There are Health Insurance Portability and Accountability Act (HIPAA) considerations that must be factored into the development and deployment of registries.
- Maintenance of information on the registry (location of individual and medical information) can be problematic.
- There could be potential legal liabilities when sharing this information.
- There may be unrealistic expectations of first-responders capability in a disaster. It is important not to focus on the "who" in planning but to look at the population in broader terms. If overall communication, evacuation, sheltering, and recovery plans have integrated the needs of people with access and functional needs, response and recovery will be more effective.

Local jurisdictions are encouraged to leverage existing disability and older adults service systems, such as In-Home Supportive Services, Meals-on-Wheels and Paratransit, as opposed to creating new registries. Information can be gleaned from a variety of sources to provide the comprehensive information necessary to inform emergency planning and response.

Emergency Power Planning for People Who Use Electricity and Battery Dependent Assistive Technology and Medical Devices

The Pacific ADA Center has developed an emergency power planning checklist for people who use electricity and battery dependent assistive technology and medical devices. Electricity and battery-dependent devices include:

- breathing machines (respirators, ventilators)
- power wheelchairs and scooters
- oxygen, suction, or home dialysis equipment

Some of this equipment is essential for independence while other equipment is vital to keeping people alive. See Attachment 3 for selected portions of this checklist. The full version can be found at the Pacific ADA National Network web page.

Community Engagement

Currently 20% of the population has a disability and virtually everyone has access and functional needs at one time or another. Disabilities are a part of life experience. Although this may be a temporary situation, the consequences of not receiving essential support for people who require it during an emergency might be severe. Persons with access and functional needs and at-risk populations is substantial (e.g., disabilities, languages, age). Individuals in this category may experience additional barriers to their safety and well-being during extended power disruptions.

One of the best ways to understand the risks and build capabilities and resources for people with access and functional needs is to include them in the whole community planning process. Whole community planning looks beyond the traditional government-centric approach to emergency planning to understand and meet the actual needs of the community, to engage and empower community based organizations, and to strengthen partnerships between emergency managers and community partners to use what works well on a daily basis. Government, community, and private organizations should work together before, during, and after a power disruption in order to improve the way communities plan, respond, and recover from events. It is important to remember that whole community partners can serve as expediential force multiplies to help lessen the impacts of extended power disruptions to a community.

Below are examples of community engagement to proactively reach out to people to conduct wellness checks:

- Partner with local disability community based organizations, Independent Living Centers, and service providers to reach out to and check up on their clients.
- Work with neighborhoods to establish neighbor helping neighbor networks that can offer people without power everything from outlets and fridge space to a place to spend the night.

- Be innovative in leveraging existing organizations such as Community Emergency Response Teams (CERT) or other volunteer organizations such as AmeriCorps to perform wellness checks throughout prolonged power outages.

6.0 Response Concept of Operations

Concept of Operations

Local government notifications of power disruptions are generally dependent on arrangements between local emergency managers and the utility that serves the jurisdiction. In cases of the PSPS program utilities will notify the state and local governments in advance of the power disruption when possible with the expectation that the state and local governments can prepare for the disruption and use their notification systems to amplify the message to the public.

Response to a Notice of an Electric Power Disruption

Response to an electrical power disruption notice should include: initiating deployment of available backup systems, alerting the public, providing preparedness tips, and moving emergency response equipment and personnel into rapid response positions. Early implementation could decrease the impact of any outages.

Table 3: Examples of Local Government Response to Electrical Disruption Notifications

Action	Agency/Department Initiating Action
• Alert local government departments/agencies of potential disruptions such as police, fire, emergency medical, and public works.	• Local Emergency Manager/Public Safety Official
• Establish contact with the electric utility representatives.	• Local Emergency Manager/Public Safety Official
• Advise the public and businesses in the jurisdiction. Include notice to check the status of any back-up equipment, and to reduce electric consumption.	• Local Electric Company

Action	Agency/Department Initiating Action
• Check the status of local government communication equipment, the availability of generators and fuel.	• Public Works
• Reconfigure traffic patrols to accommodate the flow of traffic through intersections where traffic control devices are inoperable.	• Law Enforcement
• Alert public to reduce consumption.	• Local Electric Company through media and automated notifications
• Reduce local government electricity consumption.	• All local government departments
• Position crews to operate backup equipment.	• Public works
• Delay emergency responders shift changes.	• Law Enforcement • Fire Services • Emergency Medical Services • Public Works
• Open shelters for persons who may need a cool (in summer) or warm (in winter) place. Consider the use of public pools for extended hours and other public buildings as cooling shelters.	• Care & Shelter Coordinator

Response During a Disruption

This section addresses procedures for disruptions, which may occur without warning at any time of the year.

Limited disruptions affect only a few select customers and extend for short periods of time (less than approximately 2-4 hours). The primary focus is to respond to the needs of individuals dependent on electric power and/or critical facilities that may be affected. The following table presents possible actions.

Table 4: Examples of Response to Limited Disruptions

Action	Agency/Department Initiating Action
• Determine the possible impact on critical facilities and/or individuals dependent on electric power.	• Local Emergency Manager • Public Safety Official
• Dispatch personnel to deal with traffic issues (inoperable traffic control devices, railroad crossing gates), downed power lines, fire and security alarms, medical calls and affected local government facilities.	• Law Enforcement • Fire Services • Emergency Medical Services • Public Works

Response to Extended and/or Large Area Disruptions

Extended disruptions affect a larger area and multiple use customers, and may last for a relatively long time. The focus of the response is to identify critical facilities and individuals dependent on electric power that may be affected and to dispatch personnel to provide assistance. This action could be taken in advance of receiving calls for assistance. Emergency responders may require some prioritization of response.

When large areas of the jurisdiction, or perhaps the total jurisdiction, are without electric power, the response is essentially the same as for an extended disruption. The only distinction is that a complete prioritization of responses is necessary because local government resources may not be adequate to meet all the needs for assistance. In addition, it may be necessary to ask for activation of the EOC and/or operational area, as mutual aid may be required. A region wide disruption that affects large portions of local jurisdictions and more than one city or county may involve invoking general disaster plans and activating the Regional and State EOCs.

Table 5: Examples of Response for Extended and/or Large Area Disruptions

Action	Agency/Department Initiating Action
• Establish contact with local electric utility representative.	• Local Emergency Manager • Public Safety Official
• Determine the possible impact on critical facilities and/or individuals dependent on electric power. Establish response priorities.	• Local Emergency Manager • Public Safety Official
• Advise emergency responders of the extent of the disruption. Request assistance based on information obtained during phone calls with the affected facilities and individuals.	• Local Emergency Manager • Public Safety Official
• Dispatch personnel to deal with: o Traffic issues o Security issues o Downed power lines o Fire and security alarms o Medical needs o Critical facility needs o Affected local government facilities	• Law Enforcement • Fire Services • Emergency Medical Services • Public works
• Coordinate with the local electric utility provider to provide support for repair crews.	• Local government emergency manager
• Evacuate residents to shelters as needed (e.g., cooling shelters or heated facilities depending on weather conditions).	• Emergency Medical Services, • Law Enforcement
• Recall emergency staff.	• Law Enforcement • Fire Services • Emergency Medical Services • Public Works • Others as necessary.
• Proclaim a local emergency.	• Local Emergency Services Director or governing body

Action	Agency/Department Initiating Action
• Activate EOC and activate/request Operational Area activation.	• Local Emergency Manager
• Identify backup alert and warning capabilities if the existing alert and warning systems are impacted	• Local Emergency Manager • Public Safety Official • Law Enforcement
• Establish Community Assistance Centers for the public.	• Local Emergency Manager in partnership with the utility
• Request assistance under mutual aid if needed.	• Local Emergency Manager

7.0 Recovery

Although power disruptions may be brief, the response and recovery actions could overlap. Documenting effective lessons-learned will improve future responses.

Before a disruption is over and while response actions are still being undertaken, the local electric utility may need support from the local government (e.g., law enforcement, fire services, public works) to gain entry to equipment sites, to secure repair sites from unauthorized access, or to provide other support services. It is important for local governments to have an established procedure for providing this support to the utility. The communication protocol for the local electric utility to request this support and manner in which local government personnel can provide it should be established before any emergency situation.

Local government staff should be cognizant to avoid dangerous exposure to unfamiliar equipment or attempting repairs on electrical utility equipment because of potential safety and liability risks.

Immediately after any electrical power disruption event, it is important for the local jurisdiction to evaluate its capabilities and take appropriate action in preparation of future similar events. When the power returns, all backup and

emergency equipment should be returned to standby and be ready for subsequent disruptions.

Further, after a power disruption, an after action review could help to identify any weaknesses in the overall process and to make corrections. This type of debriefing can help prepare for the next disruption.

Table 6: Examples of Recovery Actions

Action	Agency/Department Initiating Action
• Provide support to the local electric utility repair crews that must repair equipment on public or private property.	• Law Enforcement • Fire Services • Public Works
• Upon notice from the local utility that the situation has been restored to normal, proclaim an end to the event.	• Local Emergency Director • Local Government representative
• Inform local government departments to revert to normal operations.	• Local Emergency Director • Local Government representative
• Shut down emergency generation and coordinate the retransfer to local electric utility power.	• Local Electric Utility Representative • Public Works
• Remove portable generators and return them to storage.	• Public Works
• Return backup equipment to standby status and replenish fuel supplies.	• Public Works
• Reset traffic signals.	• Public Works
• Repair buildings, grounds, and street damage.	• Public Works
• Complete damage reports if an emergency was proclaimed.	• Local Emergency Director • Local Government representative

Action	Agency/Department Initiating Action
• Hold a debriefing.	• Local Emergency Director • Local Government representative
• Conduct an after action review.	• Local Emergency Manager

8.0 Mitigation

Local governments can take steps that will improve their ability to cope with electric power disruptions in the longer term. These steps include, but are not limited to, the use of building codes, zoning ordinances, climate change action plans, and growth and development projections.

Building Codes

Building codes are used to ensure that construction in a community meets minimum standards required for public health and safety and for quality workmanship. Building codes can also be used to increase a community's ability to deal with disruptions to the electric power infrastructure by requiring facilities to be adequately prepared for power disruptions, and increase the efficiency of power consumption.

Modification of a building's use can significantly affect electrical service requirements, which may or may not be readily identified on building permits. Some examples of this type of project include the following:

- Conversion of conventional commercial or industrial facilities to computer-based company operations with extensive computer equipment and air-conditioning requirements;
- Conversion of a commercial building to residential condominiums; and
- Rehabilitation of residential buildings to increase their electrical service.

Local governments can use zoning change requests, permit applications, economic development plans, or other means to identify modification to rehabilitation projects.

Communities that adopt building codes as part of their municipal code, thus making compliance mandatory, frequently use several codes developed by national organizations. While model codes provide basic guidance, municipalities often amend and modify them to meet specific local requirements.

Zoning Ordinances

Zoning ordinances stipulate the type of land use that is acceptable in various locations in a community. Zoning can significantly affect the electric power requirements of an area. For example, an area zoned "residential" will have a very different electricity load profile than an area zoned "commercial" or "industrial."

There are two ways in which zoning can affect the electric power infrastructure. First, zoning plays a role in determining the location of a site for electric power facilities, including power plants, transmission lines, and substations. Second, zoning affects the electric power infrastructure because it influences the type and rate of development

Growth and Development Projections

All electric power companies develop projections of long-term demand as a starting point for planning the expansion of electric power generation, transmission, and distribution facilities. Projections are made for a range of planning horizons (from 1 to 20 years) and for a range of geographical resolutions (for the entire system to individual distribution substations and feeder lines). In general, the shorter the planning horizon and the larger the geographic resolution used, the more likely the demand forecast will be reasonably representative of the actual situation.

Zoning affects the electric power infrastructure because it influences and is influenced by the type and rate of development.

9.0 Power Disruption Safety Tips

This section provides some preventative actions that can be taken by the general population, older adults, people with disabilities, and others with access and functional needs to be better prepared during power disruptions.

General Public

What Should I Do?

- Meet with your family and/or neighbors to discuss the disruptions and how to prepare and respond.
- Have a plan for medically fragile friends and relatives. If they use life support equipment, know if the equipment has a battery backup and test it.
- In a widespread emergency, cellular communication networks may quickly become overloaded with calls or lose power if there is no power backup systems. For homes or businesses with the traditional landline consider keeping a standard phone plugged into a wall phone jack.
- When an electrical disruption occurs, turn off all appliances, computers, and lights except for one that will indicate when power has been restored.
- Food Safety - Perishable food should not be held above 40 degrees Fahrenheit for more than 2 hours. During a power disruption, do not open the refrigerator or freezer as an unopened refrigerator will keep food cold enough for about 4 hours. If the refrigerator was out for no more than four hours, perishables should be discarded.

During Summer:

- Be aware of days of extreme heat predictions by listening to the radio, TV, and/or monitoring the news.
- Stay indoors and avoid extreme temperature changes.
- Wear light colored, lightweight, and loose fitting clothing.
- Prevent dehydration by drinking at least 6-8 glasses of fluids every day.
- Avoid alcohol and caffeine. They both dehydrate the body.
- Avoid any unnecessary outdoor activities or travel.
- Avoid any direct exposure to the sun. If you must go outside, wear sunscreen, a hat, and conduct outdoor activities during the coolest part of the day.
- Know and watch for signs of heat stress, particularly in small children, older adults, and the medically fragile individuals.

Special Concerns:

- Health concerns associated with a rise in temperature include heat cramps, heat fatigue, heat syncope, heat exhaustion, or heat stroke.

- General signs and symptoms of heat related health problems include weakness, dizziness, nausea, and/or muscle cramps.
- For heat cramps, heat fatigue, or heat syncope stop the activity which caused the symptoms and move to a cooler environment if feasible. If you have other medical concerns, contact your physician.

For heat exhaustion: Heat exhaustion can occur after exposure to high temperatures and is often accompanied by dehydration. Without proper intervention, heat exhaustion can progress to heat stroke, which can damage the brain and other vital organs or in some cases, cause death. Immediately move to a cooler environment, minimize activity, drink water or juice, and use cool wet clothes on the body.

For heat stroke: Signs and symptoms of heat stroke include sudden high temperature, headache, rapid heartbeat, difficulty breathing, rapid breathing, profuse sweating, muscle rigidity, confusion/altered mental status, and/or possible seizures. Call 911 immediately as this is a medical emergency. Be sure to move to a cooler environment as feasible, apply cold water compresses to the body, or immerse your body in cool water while waiting for medical transport.

During Winter:

- If you go outside for any reason, dress for the season and expected conditions.
- For cold weather, wear several layers of loose-fitting, lightweight, warm clothing rather than one layer of heavy clothing. Outer garments should be tightly woven and water-repellent.
- Mittens are warmer than gloves.
- Wear a hat.
- Temporarily shut off heat to less-used rooms.
- If using kerosene or propane heaters, maintain ventilation to avoid build-up of toxic fumes.
- Keep heaters at least three feet from flammable objects.
- Refuel kerosene or propane heaters outside.
- Conserve fuel, if necessary, by keeping your house cooler than normal.

Frostbite: Frostbite is a severe reaction to cold exposure that can permanently damage its victims. A loss of feeling and a white or pale appearance in fingers, toes, or nose and ear lobes are symptoms of frostbite.

Hypothermia: Hypothermia is a condition brought on when the body temperature drops to less than 90 degrees Fahrenheit. Symptoms of hypothermia include uncontrollable shivering, slow speech, memory lapses, frequent stumbling, drowsiness, and exhaustion.

For Frostbite or Hypothermia: If frostbite or hypothermia is suspected, begin warming the person slowly and seek immediate medical assistance. Warm the person's trunk first. Use your own body heat to help. Arms and legs should be warmed last because stimulation of the limbs can drive cold blood toward the heart and lead to heart failure. Put person in dry clothing and wrap their entire body in a blanket.

Avoid giving a frostbite or hypothermia victim caffeine or alcohol. Caffeine is a stimulant and can cause the heart to beat faster and hasten the effects the cold has on the body. Alcohol is a depressant and can slow the heart and also hasten the ill effects of cold body temperatures.

What Will I Need?

An Emergency Kit Should Include:

- A 10-day supply of any needed medication or medical supplies.
- A first aid kit for your home.
- A battery-powered radio with fresh batteries (this may be your only source of information during the disruptions).
- Flashlight or battery powered lantern and extra batteries.
- Additional supplies for special needs (i.e. infants, older adults, and pets).
- Have reserve supply of bottled water.
- Alternate ways to heat home, if necessary, (i.e., dry firewood for a fireplace or woodstove, or kerosene for a kerosene heater approved for home use).

Older Adults and/or Power Dependent Individuals

- Contact the local electrical utility company in advance about any specific needs regarding machines or other life-sustaining devices that depend on electricity. If lack of electricity would create an immediate threat to life or safety, local public safety agencies should also be given advance notification.
- To expedite emergency response, house numbers should be readily visible from the street.

- For people using battery-powered mobility or breathing equipment, assure that batteries are fully charged each day. Contact your medical equipment provider to be aware of their ability to assist during a power disruption.
- Establish a support network of friends and neighbors who can check in periodically if the power is out, to assure that assistance is available if needed.
- Keep a flashlight or lantern equipped with fresh batteries within easy reach, so that some light is immediately available if the power does go out. For people with limited reach or grasping ability, inexpensive battery-operated touch lamps are a good option. Such lights can be installed in areas of greatest use, and are small enough to be carried in an emergency. Do not use candles or oil lamps for light in an emergency, as they can be fire hazards.
- Store supplies of medicine and drinking water so they will be readily accessible in the event of a power disruption. Some household water supplies may be disrupted during power disruptions.
- Assemble a 10-day supply of prescription medications and durable medical goods and store them in a convenient location in the event that a prolonged electrical disruption or other emergency should require evacuation.
- A copy of emergency contact numbers and current prescriptions should be stored in the same location.

10.0 Legal and Regulatory Requirements

Some solutions considered in planning for a local electric power disruption cannot be implemented without obtaining special legal and regulatory authority. Local governments should fully engage legal counsel to ensure that all necessary authorizations are in place. Some actions could subject the local government to liabilities so proper legal measures should be in place to address these liabilities.

11.0 Information Sources

The information in this guidance is based on materials that were developed by Cal OES, the City of Chicago, California's utilities, and numerous public and private sector agencies. For more information, please see the following websites:

Bear Valley Electric Service

California Governor's Office of Emergency Services

California Energy Commission

California Independent System Operator

California League of Cities

California State Association of Counties

California Utilities Emergency Association

California Department of Public Health

Emergency Medical Services Authority

Liberty Utilities

PacificCorp

Pacific Gas and Electric

Prepare for Power Down

San Diego Gas and Electric

Southern California Edison

State of California, Governor's Office, June 1, 2001
Governor's Executive Order D-38-01

American Red Cross
Functional and Access Needs Support - A Toolkit for Empowering Inclusive Action

CA Public Utilities Commission
De-Energization (PSPS)

California Public Utilities Commission
Decision Adopting De-Energization (Public Safety Power Shutoff) Guidelines (Phase 1 Guidelines)

California Public Utilities Commission
CPUC FireMap

California Governor's Office of Emergency Services
Office of Access and Functional Needs

California Governor's Office of Emergency Services
State of California Multi-Hazard Mitigation Plan (September 2018)

California Governor's Office of Emergency Services
State of California Emergency Plan (October 2017)

California Governor's Office of Emergency Services
State of California Alert and Warning Guidelines

California Department of Public Health
Safety in a Power Outage

Chicago Metropolitan Area Critical Infrastructure Protection Program
Planning for Electric Power Disruptions

Federal Emergency Management Agency
FEMA 426, Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings

Federal Emergency Management Agency
FEMA 433, Using Hazus-MH for Risk Assessment

Federal Emergency Management Agency
FEMA 452, A How-To Guide to Mitigate Potential Terrorist Attacks Against Buildings

Federal Emergency Management Agency
Comprehensive Preparedness Guide (CPG 101 v2)

Health and Human Services
emPower Program

Office of Cybersecurity, Energy Security, and Emergency Response
Community Guidelines for Energy Emergencies

State of Minnesota
Functional Needs Planning Toolkit for Emergency Planners

Pacific ADA National Network
Emergency Power Planning for People Who Use Electricity and Battery Dependent Assistive Technology and Medical Devices

Attachment 1: Public Safety Power Shutoff (PSPS) Program

With the growing threat of extreme weather and wildfires, investor-owned utilities have expanded their community wildfire safety programs to include the Public Safety Power Shutoff (PSPS) Program. More information on the utilities community wildfire safety programs can be found at:

- Pacific Gas and Electric (PG&E)
- Southern California Edison (SCE)
- San Diego Gas and Electric (SDG&E)
- Bear Valley Electric Service
- Liberty Utilities
- PacificCorp
- Prepare for Power Down

The PSPS program is the utility's intentional de-energization of distribution and transmission lines to help reduce the likelihood of an ignition. According to utilities, they will choose to de-energize only as a last resort when extreme fire danger conditions are forecasted and observed.

Threat Assessment

Utilities will monitor and assess various conditions that may affect the de-energization of an area. No single factor drives a PSPS but rather a combination of factors such as:

- Red Flag Warnings declared by the National Weather Service
- Fire threat to electric infrastructure
- Low humidity levels
- High winds and high wind gusts
- Dry vegetation that could serve as fuel for a wildfire
- Real time observations by on-the-ground utility experts

Per the California Public Utilities Commission (CPUC), utilities will de-energize only if the utility "reasonably believes that there is an 'imminent and significant risk' that strong winds may topple power lines or cause major vegetation-related damage to power lines, leading to increased risk of fire". Public Safety Power Shutoff could occur several times per year although it is impossible to predict future weather conditions in the new normal of climate-driven extreme weather events.

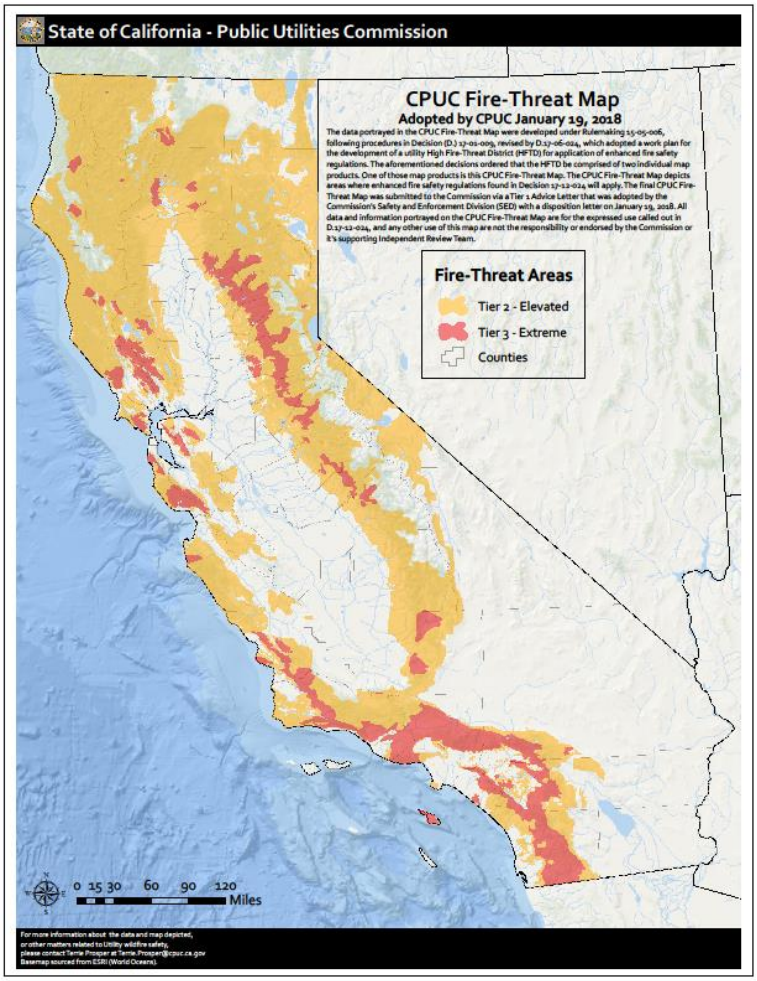
In the event of a PSPS utilities will notify their customers, public safety partners, first responders, and others per their operating procedures.

Following de-energization utility crews will work to inspect the lines and safely restore power to customers. However, depending on conditions or if any repairs are needed, outages will remain for as long as extreme and dangerous weather conditions pose a potential fire risk. Depending on the severity of the weather and other factors, power outages could last several hours to multiple days.

Potentially Impacted Areas

While customers in high fire-threat areas are more likely to be affected, any customer could have their power shut off. The most likely electric lines to be considered for shutting off pass through areas that have been designated by the CPUC as elevated (Tier 2) or extreme (Tier 3) risk for wildfire.

Figure 1: CPUC Fire Threat Map



A more detailed interactive Fire Map can be found on the CPUC web site.

Although a customer may not live or work in a high fire-threat area, their power may be shut off if the community relies upon a line that runs through an area experiencing extreme fire danger conditions. The specific area and number of affected customers will depend on forecasted weather conditions and which circuits need to be turned off for public safety.

Notification

Guidelines from CPUC endorse utilities providing advance notification informing customers of the potential to turn off power. Utilities will attempt to contact customers prior to termination of power. Shutoff notifications may occur at any time and can occur by phone, email, and/or text. During outages and after restoration, utilities may attempt to send updates using the same methods. For non-customers or account holders, some utilities have established a separate registry to receive notifications of potential power shut-offs.

For Medical Baseline customers, utilities may place live calls to customers who aren't reached by the initial automated alerts and may send a utility representative to notify customers they are unable to contact with the live call. If the customer does not answer the in-person contact, utilities may leave an informational door hanger at the customer's residence. As of this writing, utilities have indicated that they will not undertake any other additional outreach.

Utilities will attempt to contact public safety agencies and/or local governments prior to customer notification as conditions permit. Per the CPUC, "… utilities must also notify, as feasible, fire departments, first responders, critical facilities, other potentially affected entities, and the CPUC before de-energizing." Utilities will, if possible, based on conditions, provide notice to cities, counties, and emergency response partners in advance of notifying customers about a potential de-energization. Utilities may provide descriptions or maps of areas served by circuits selected for de-energization as conditions permit.

Operational Area jurisdictions may also provide additional notifications to their local government jurisdictions, county departments, public safety agencies, and citizens via the jurisdictions alert and notification procedures. To assist with alert and warnings, Cal OES has developed Statewide Alert and Warning Guidelines

that provide consistent application of alert and warning best practices, procedures, and protocols.

Attachment 2: Sample Critical Facility Survey Form

Sample Critical Facility Survey Form

(Referred to on page 15)
(Please work with your legal counsel before using this sample.)

City of _____

County of _____

Date: _____

Facility Name: _____

Facility Address: _____

_____**Zip Code:** _____

Street/Road Intersection (if no street address is available): _____

_____

Facility Geographical Coordinates (if known):

Latitude: _____ **Longitude:** _____

Contact Information

Contact Person – Business hours: _____

Phone: _____ **Mobile Phone:** _____

Fax: _____ **Email:** _____

Contact Person – Non-business Hours: _____

Phone: _____ **Mobile Phone:** _____

Fax: _____ **Email:** _____

Facility Category (*check* all that apply and *circle* the subcategory in parentheses):

___ Emergency Services (police, fire, emergency medical, disaster agency, 911 center)

___ City/County Office

___ Water Facility (water supply, well, water tower, pumping station, wastewater treatment, lift station)

___ School (pre-school, kindergarten, grade school, middle school, high school, college, trade school)

___ Community Center (library, municipal recreation facility)

___ Transportation (road intersection, rail crossing, airport)

___ Telecommunications Facility (switching office, transmitter, repeater)

___ Medical (hospital, emergency center, medical office, nursing home, assisted living, animal care)

___ Public Congregation (recreation facility, auditorium, place of worship, theater, shopping center)

___ Day Care (children, adult)

___ Multi-unit Residential (low rise, high rise, senior)

___ Hotel

___ Other Government Facility

___ Commercial

___ Industrial

___ Other (specify) _____

Electrical Service

Feeder Circuits (if known): _____

Current Electrical Service Inputs (if known): _____

Voltage (V): _____ No. of Phases: _____No. of Wires: _____

Backup Equipment

Is an On-site Backup Generator Available? Yes____ No____

If Yes, Give Type of Generator: _____ Diesel: _____ Natural gas: _____ other: _____

Generator Capacity (kw): _____

Portion of the Facility's Normal Load that the Generator can handle: _____%_

On-site Fuel Storage Capability / Time Generator can operate before refueling: _____

Generator Transfer Switch: Automatic: _____ Manual: _____

Uninterruptible Power Supply (UPS) available: Yes_____ No_____

UPS Capacity (amp-hours): _____

Equipment Connected to UPS: _____

Time UPS can operate before recharging: _____

Rapid connection switches for portable generation available: Yes_____ No_____

Shelter Capability

Is the Facility available as a shelter?

For summer cooling: Yes_____ No_____

If Yes, give the approximate shelter capacity (No. of people): _____

For winter warming; Yes_____ No_____

If Yes, give the approximate shelter capacity (No. of people): _____

If Yes, are toilets and shower facilities available? Yes_____ No _____

Additional Comments:

Attachment 3: Emergency Power Planning Checklist for Individuals Dependent on Electric Power

Emergency Power Planning for People Who Use Electricity and Battery Dependent Assistive Technology and Medical Devices

(Referred to on page 21)

This emergency power planning checklist is for people who use electricity and battery dependent assistive technology and medical devices. Electricity and battery-dependent devices include:

- breathing machines (respirators, ventilators)
- power wheelchairs and scooters
- oxygen, suction, or home dialysis equipment

Some of this equipment is essential to your level of independence while other equipment is vital to keeping you alive! Use the checklist to make power-backup plans. Even if you are on the "priority reconnection service" list, your power could still be out for many days following a disaster. It is vital that you have power backup options for your equipment.

Below is selected portions of the ADA Network Emergency Planning Checklist. The full version can be found at the Pacific ADA Center web page.

Date Complete	Does not Apply	Item
		Planning Basics
		Create a plan for alternative sources of power.
		Read equipment instructions and talk to equipment suppliers about your backup power options.
		Get advice from your power company regarding type of backup power you plan to use.
		Regularly check backup or alternative power equipment to ensure it will function during an emergency.

Date Complete	Does not Apply	Item
		Teach many people to use your backup systems and operate your equipment.
		Keep a list of alternate power providers.
		• Ask your nearby police and fire departments and hospital if you could use them as a backup for your equipment power if your backup systems fail.
		Label all equipment with your name, address, and phone number. Attach simple and clear instruction cards to equipment and laminate them for added strength.
		Keep copies of lists of serial and model numbers of devices, as well as important use instructions in a waterproof container in your emergency supply kits.
		Life-Support Device Users
		Contact your power and water companies about your needs for life-support devices (home dialysis, suction, breathing machines, etc.) in advance of a disaster.
		• Many utility companies keep a "priority reconnection service" list and map of the locations of power-dependent customers for use in an emergency. Contact the customer service department of your utility companies to learn if this service is available.
		Let your fire department know that you are dependent on life-support devices.
		All ventilator users should keep a resuscitation bag handy. The bag delivers air through a mask when squeezed.

Date Complete	Does not Apply	Item
		If you receive dialysis or other medical treatments, ask your provider for the plans in an emergency and where you should go for treatment if your site is not available after an emergency.
		Oxygen Users
		Check with your provider to determine if you can use a reduced flow rate in an emergency to extend the life of the system. Record on your equipment the reduced flow numbers so that you can easily refer to them.
		Be aware of oxygen safety practices:
		• Avoid areas where there are gas leaks or open flames.
		• Post "Oxygen in Use" signs.
		• Always use battery powered flashlights or lanterns rather than gas lights or candles when oxygen is in use (to reduce fire risk).
		• Keep the shut-off switch for oxygen equipment near you so you can get to it quickly in case of emergency.
		Generator Users
		Make sure use of a generator is appropriate and realistic.
		A 2,000 to 2,500-watt gas-powered portable generator can power a refrigerator and several lamps. (A refrigerator needs to run only 15 minutes an hour to stay cool if you keep the door closed. So, you could unplug it to operate other devices.)
		Operate generators in open areas to ensure good air circulation.

Date Complete	Does not Apply	Item
		Safely store fuel.
		• The challenge when you live in an apartment is knowing how to safely store enough gasoline.
		• Store a siphon kit.
		Test generators from time to time to make sure they will work when needed.
		• Some generators can connect to the existing home wiring systems; always contact your utility company regarding critical restrictions and safety issues.
		Rechargeable Batteries
		Create a plan for how to recharge batteries when the electricity is out.
		Check with your vendor/supplier to find alternative ways to charge batteries. Examples include:
		• Connecting jumper cables to a vehicle battery.
		• Using a converter that plugs into a vehicle's charging mechanism.
		If you substitute a vehicle battery for a wheelchair battery, the charge will not last as long as a charge for a wheelchair's deep-cycle battery.
		If you use a motorized wheelchair or scooter, if possible store a lightweight manual wheelchair for emergency use.
		• Stored extra batteries require periodic charging even when they are unused. If your survival strategy depends on storing batteries, closely follow a recharging schedule.

Date Complete	Does not Apply	Item
		Know the working time of any batteries that support your systems.
		When you have a choice, choose equipment that uses batteries that are easily purchased from nearby stores.
		When Power is Restored
		Check to make sure the settings on your medical device have not changed (medical devices often reset to a default mode when power goes out).
		Other Backup Plans