

San Diego Gas & Electric Company's Progress Report on Implementation of Phase 2 De-Energization Guidelines

August 4, 2020



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I. Introduction

Pursuant to Ordering Paragraph (OP) 4 of California Public Utilities Commission (Commission or CPUC) Decision (D.) 20-05-051, San Diego Gas & Electric Company (SDG&E) submits this report detailing its progress towards implementation of the Phase 2 de-energization guidelines set forth in Appendix A of D.20-05-051 (Phase 2 Guidelines).¹ The Phase 2 Guidelines also require the electric utilities to prepare a Community Resource Centers Plan and an Electric Vehicle Plan. These are attached to this report as Appendix A and Appendix B, respectively. A copy of this progress report is being provided to the Director of the Commission's Safety and Enforcement Division (SED), served to the service list of Rulemaking (R.) 18-12-005, and posted to SDG&E's website.

SDG&E has an obligation to operate its system safely. This obligation requires SDG&E to de-energize (*i.e.*, turn off) power lines when necessary to protect public safety (Public Safety Power Shutoff or PSPS). SDG&E is statutorily authorized to do so under California Public Utilities Code (P.U. Code) §§ 399.2(a) and 451, consistent with D.12-04-024, Commission Resolution ESRB-8, D.19-05-042, and D.20-05-051.

SDG&E has been utilizing PSPS since 2013 as a measure of last resort to prevent catastrophic wildfires and reduce wildfire risk. Over the past year, California has increased its level of focus on mitigating the impact of PSPS events. SDG&E manages and mitigates the impacts of PSPS events through collaboration with key stakeholders and by implementing voluntary and CPUC-mandated mitigation measures, including extensive notification efforts. In an effort to continually improve, SDG&E is developing additional activities with the goal of reducing or eliminating to the extent feasible the impact of PSPS events.

SDG&E appreciates this opportunity to highlight its progress towards complying with the new and additional PSPS requirements established by the Commission in D.20-05-051. This report maps to and follows the sequencing of the Phase Guidelines for ease of reference.

¹ D.20-05-051 at OP 4 provides that the electric utilities "must submit two progress reports detailing progress towards implementation of the guidelines set forth in Appendix A." The first progress report is due two months after issuance of D.20-05-051, which is August 5, 2020. The second progress report is due six months after issuance of D.20-05-051, which is December 7, 2020 (consistent with Commission Rule 1.15 – Computation of Time).

II. Working Groups and Advisory Boards

This section describes SDG&E's overarching efforts related to working groups and advisory boards.

A. Working Groups

SDG&E has partnered with the County of San Diego's Office of Emergency Services (County OES) to create the Public Safety Power Shutoff Working Group, which will be a sub-committee to the County's existing Access and Functional Needs (AFN) working group. The PSPS Working Group will focus on sharing lessons learned between impacted communities and SDG&E to help refine SDG&E's de-energization protocols. This will include Community Resource Centers, communication strategies, information sharing, identification of critical facilities, strategies for supporting people and communities with access and functional needs, and contingency plans. In particular, SDG&E will seek recommendations from the PSPS Working Group on the best ways to conduct outreach to impacted communities in order to improve coordination for future de-energization events.

Consistent with the Phase 2 Guidelines, SDG&E has invited the small and multijurisdictional electric utilities, community choice aggregators, communications and water service providers, CPUC staff, tribal and local government entities, and representatives of people/communities with access and functional needs and vulnerable communities to participate in the PSPS Working Group. The first PSPS Working Group meeting is planned for August 26, 2020.

B. Advisory Boards

The SDG&E Wildfire Safety Community Advisory Council (WSCAC) is currently comprised of a specialized group of ten diverse and independent community leaders from public safety, tribal government, business, nonprofit, and academic organizations in the San Diego region. WSCAC members were identified and selected by SDG&E leadership due to their extensive leadership experience in public safety, emergency management, wildfire management, community-based services, community engagement, and academic/applied technology. WSCAC meetings are chaired by the Chief Safety Officer of SDG&E, and SDG&E plans to hold them on a quarterly basis. The WSCAC has thus far met twice in 2020 and has two more meetings scheduled.

Consistent with D.20-05-051, SDG&E is in the process of modifying its WSCAC to comply with the Phase 2 Guidelines for advisory board membership as well as meeting cadence. SDG&E has identified several candidates to add representatives of regional water agency leadership and communications sector leadership to the WSCAC. SDG&E plans to focus future meetings around best practices for regional coordination, community preparedness, de-energization issues and safety, and the optimal use of existing and emerging technologies.

In addition to the PSPS Working Group and WSCAC, SDG&E along with the other investor owned utilities (IOUs),² established a voluntary Statewide AFN Advisory Council comprised of a diverse group of recognized Community Based Organization (CBO) leaders supporting the AFN population, members and advocates from within the AFN community as well as leaders from various State Agencies. The objective of the Statewide AFN Advisory Council is to help the IOUs learn and understand the unique needs of its most vulnerable customers and stakeholders. The IOUs plan to incorporate best practices to improve its support of the AFN population now and in the future. Specifically, the Council will: 1) actively identify issues, opportunities, and challenges; 2) serve as a sounding board and offer insights; 3) share experiences, perspectives, and best practices; 4) identify opportunities for partnerships; 5) help identify the needs of the various AFN constituents, and 6) amplify the message amongst the constituency they represent.

To date, the Statewide AFN Council has held three meetings, with the most recent meeting held on July 24, 2020. Some examples of feedback received by the Council include:

- Provide more tools and training for utility field personnel to engage with people with disabilities if encountered in the field
- Educate call center representatives to direct customers to 2-1-1 for the identification of community specific resources during and after an emergency or PSPS event
- Provide food replacement following a PSPS event
- Consider providing fuel for generators during a PSPS event
- Engage with CA Association of Health Plans and Department of Managed Care to encourage patient assistance obtaining backup power for medical needs

The next Statewide AFN Council meeting is scheduled for August 14.

III. De-Energization Exercises

SDG&E utilizes the Incident Command System (ICS) – Utility Compatible for all emergency response practices in an All Hazards environment. Documentation is written with ICS frameworks and personnel are trained in each of the ICS roles. Exercises are conducted following the Homeland Security Exercise and Evaluation Program (HSEEP). After-Action Reports (AARs) and Improvement Plans (IPs) allow SDG&E to continually strengthen the overall system on an annual cycle.

SDG&E's 2020 Training and Exercise plan follows a stepped approach. Between each step, lessons learned are applied to the following step towards building an effective virtual EOC plan, an effective communications system, and a confident and competent response team. All

² The IOUs are SDG&E, Southern California Edison Company (SCE), and Pacific Gas and Electric Company (PG&E).

exercises are being designed for a complex virtual response to a multiple incident scenario with coordination between the EOC and all other operations.

The Phase 2 Guidelines requires the IOUs to coordinate with public safety partners and representatives of people/communities with access and functional needs to plan de-energization simulation exercises throughout the utility service territories in the areas with the highest historical and forecasted risk for de-energization in advance of fire season. SDG&E's tabletop exercise with external partners is scheduled for September 22, 2020. SDG&E is conducting three internal exercises leading up to the final exercise that includes the external public safety partners, which will be conducted in a virtual environment to simulate the COVID-19 conditions.

As outlined in D.20-05-051, the September de-energization exercise will not disrupt electrical service, but will replicate a worst-case PSPS simulation, whereby SDG&E can measure program performance and test notification systems and protocols to critical facilities, as well as the functionality of a virtual EOC environment. Following the tabletop exercise, SDG&E will report lessons learned to the exercise participants as well as to the PSPS Working Group, WSCAC, and Statewide AFN Council.

IV. Who Should Receive Notice, When Should Notice Occur, and How Should Notice Occur?

A. Communications Plan

Communications and outreach efforts associated with SDG&E's de-energizations are a key component of its PSPS Public Education campaign. The campaign includes strategies and tactics that will help further empower and educate customers to become more resilient and able to overcome the challenges associated with PSPS events. The campaign strategies being deployed include direct and in-direct customer engagement and customer education through marketing and informational materials that are focused on preparedness, resource availability, PSPS event notifications, and real-time situation updates.

Before a Public Safety Power Shutoff

SDG&E's PSPS public education and communications campaign includes direct communications with customers through robust PSPS education. Targeted and in-language marketing materials have been, and continue to be, developed and distributed across the service territory to inform the general public and customers (residential and commercial) of important measures to prepare themselves for potential PSPS events. The primary calls-to-action for the campaign inform the public and customers to update contact information and sign up for PSPS update notifications and preparedness measures.

A cornerstone objective of SDG&E's wildfire safety public education and communication campaign is to inform the public and customers how to prepare for and build resiliency through a PSPS event. These efforts include the development of resource materials utilized for community outreach events, partner CBO community engagement with their constituents, communications with broadcast media and briefings with key stakeholders. The Company continues to inform the public of the expanded electric infrastructure hardening efforts to help the affected public remain resilient during wildfire-related events. In parallel, SDG&E is focused on an augmented understanding of customer and public pain points during weather-related events, illuminating gaps in SDG&E offerings and communications and identifying opportunities for improvement. Additional emphasis has been placed on in-language communications and engaging with hard-to-reach populations.

SDG&E is implementing its annual community education program. This effort utilizes a suite of marketing tactics that started in the Spring and will continue through the end of fire season. This campaign also supports and promotes the Company's outreach efforts such as open houses and community fairs. Due to the COVID-19 pandemic, these outreach events have been reimagined due to social distancing and public safety concerns. The Company created alternatives such as webinars and drive-through events. To date, SDG&E has seen tremendous success at its two drive-through safety fairs, which were held in communities located in the high fire threat district (Ramona and Julian) on July 11 and 18, 2020. Three more community events are planned through September.

The PSPS community public education campaign includes targeted AFN outreach efforts. SDG&E works with local CBOs, non-profits and service providers, such as 2-1-1 and the regional AFN Relay Network through County OES, to leverage pre-existing communication protocols to provide AFN outreach and communications within the service territory. In turn, these organizations amplify PSPS and wildfire safety messaging and resources to their constituents, including AFN populations and those who speak alternative languages.

The community public education campaign consists of messaging that includes, but not limited to, encouragement to update contact information and sign up for emergency notifications, prepare emergency kits and plans, practical how-to information when managing through an outage, and create defensible space around their properties. Campaign tactics will include platforms such as TV/radio broadcast, newspaper advertising, paid search, digital media, out of home advertising, newsletters bill inserts, informational videos. Campaign messaging will also be translated into the "prevalent" languages spoken in the territory and made available to those in-language audiences.

During a Public Safety Power Shutoff

During a weather-related event, SDG&E provides real-time situational awareness and one-voice communications including, but not limited to customers, the general public, local broadcast media outlets, public safety partners, local governments, tribal governments, CBOs and critical facilities. Upon identifying the risk and the affected communities, real-time situation updates

are initiated to appropriate stakeholders. SDG&E's NewsCenter and website are updated to provide situational updates for the duration of the event. During an event, all communications drive to the SDG&E NewsCenter and sdge.com for the most updated information. Broadcast media is proactively updated of SDG&E's PSPS related outages and help to communicate situational awareness with the public. The public, including customers, receive updates via broadcast media, notifications from the company's Enterprise Notification System (ENS) if signed up for notifications, social media channels, SDG&E's Customer Contact Center and partner organizations and stakeholders. Stakeholder coordination and message amplification continues through event conclusion.

The Company's collaboration with CBOs are also activated during a PSPS event. For example, 2-1-1 and County OES, which runs the AFN Relay Network, receive advanced notification within an event, as well as updates throughout an event. They also receive the same talking points as SDG&E's Customer Contact Center to ensure messaging consistency and the best available resources for affected communities. CBOs amplify safety messaging and real-time awareness during PSPS events. Some of these organizations also communicate directly with hard to reach AFN populations and have the capabilities to assist with language translations and other services for affected communities. Customers and the general public can also sign up for email, voice and/or text notifications during PSPS and wildfire-related events. These alerts will be made available in the required languages prevalent in the service territory.

Based on customer and community feedback, notifications in 2020 are being simplified, will be clearer to related activity to wildfire mitigation or risk, and are being restructured to show increased empathy. SDG&E will continue to solicit feedback from public safety partners and members of AFN organizations to jointly develop and further refine communication and noticing plans. This will include efforts at the aforementioned PSPS Working Group meetings.

Broadcast and social media channels have become essential communication platforms during PSPS events for the service territory. SDG&E has developed messaging and creative assets specifically for these platforms and leveraging trusted and relied upon forums, such as Nextdoor, to communicate with the public and affected communities. Wildfire and PSPS related Public Service Announcements (PSAs) and social media posts will help further situational awareness. Should any communication channels cease to operate during an event (internet, mobile communications or landline access), then detailed messaging and real-time updates will be amplified across other channels including broadcast media (radio/tv), social media, Customer Contact Center and coordination with community-based organizations.

In the event impacted communities experience instances of no, or limited, internet or cellular coverage, SDG&E plans to deploy changeable, moveable road signs that will provide impacted communities updated PSPS information. These will be located at higher trafficked intersections, identified with the assistance of Caltrans.

After a Public Safety Power Shutoff Event

Following a PSPS event, SDG&E begins to evaluate and refine the Company's response in its entirety, specifically looking for any process gap and opportunities for improvement. SDG&E personnel meet and confer with the various stakeholders, including but not limited to customers, public safety partners, local governments, tribal governments, CBOs and critical facilities impacted by the Company's response. Feedback is solicited of collaborative actions that worked well and those that can be improved. Recommendations are evaluated, adapted and utilized to develop and refine the following year's public education and communication campaigns.

Clearly and succinctly communicating PSPS information with customers is always a top priority of SDG&E. In effort to provide clear comprehension and understanding of messaging, SDG&E employs qualified experts possessing strong aptitude in developing content of notifications, thus minimizing confusion. Furthering the clarity of notifications, SDG&E routinely engages with – and solicits post-event feedback – from various stakeholders, including impacted customers. This refinement is an on-going process that will continue to evolve with external feedback and is a topic that is planned for upcoming quarterly PSPS Working Groups sessions.

B. Website and Technology

SDG&E's website, SDGE.com, has been hosted on the Amazon Web Services (AWS) "Cloud" infrastructure (through an AWS preferred vendor, Acquia) since 2011. During an active PSPS event, SDG&E utilizes Acquia's 24/7 monitoring tools and staff to check not only up-time, but performance, as well. If a degradation of SDGE.com performance is detected, Acquia will add AWS web servers to increase capacity, and it is experienced and well versed in this type of requirement.

SDG&E has built a highly-scalable website infrastructure, which includes:

- Using CloudFlare as the Content Delivery Network;
- Fine-tuning load balancing and proxy caching;
- Utilizing a multi-tier stack, that separates the web servers from the file/database servers; and
- Implementing an upgraded disaster recovery system (in different parts of the country).

SDG&E also monitors for malicious activity (*e.g.*, Denial of Service attacks) and has a set of tools that can detect this type of activity. If malicious activity is found, SDG&E will block the nefarious IP Addresses from contacting SDG&E's website.

Further, SDG&E has created a backup website on AWS, SDGEInfo.com, which is a two-page website to communicate to customers during a PSPS event if SDGE.com becomes unavailable.

To support customers who are in areas of low bandwidth, SDG&E redesigned its website (SDGE.com) in 2018 and implemented improvements, which provide a website that loads fast and is easy to use. SDG&E accomplished this by preventing unnecessary image downloads and reducing the amount of scripting (*e.g.*, JavaScript and Cascading Style Sheets (CSS)) on each page of SDG&E’s website. Specific improvements included:

- Minimalist design – removed pages promoting other SDG&E programs that caused longer load times;
- Responsive design – website optimized for devices, including mobile, tablet and desktop;
- Static pages – pages do not include many background scripts (*e.g.*, Amazon.com which would serve up information based on browsing history);
- Page loading – consistently monitor page load times and optimize ways for pages to load, including reducing;
 - The amount of pre-loaded data on each page (*e.g.*, images, PDFs, *etc.*)
 - The number of requests per page (*e.g.*, “handshakes” amongst servers)
- Content Management System (CMS) – a CMS, Drupal, writes lean code based, which creates faster loading pages since the browsers do not have to read lots of code;
- Content Delivery Network (CDN): a CDN is a group of servers which work together to provide fast delivery of Internet content. This creates less dependency on customers’ internet connection.

Regarding the Phase 2 Guidelines’ requirement for the electric utilities to consult with the California Department of Technology (CDT) regarding steps for website and service performance necessary for effective and uninterrupted communication to the general public regarding de-energization events, SDG&E met with the CDT on July 21, 2020 and also provided follow-up information to the CDT after the meeting.

C. Notifications Regarding Potential or Active De-Energization Events

SDG&E makes every effort to provide accurate notifications prior to potential de-energizations. These notifications are informed by forecasted weather conditions, and are sent to customers on potentially impacted circuits consistent with the CPUC’s PSPS notification timing requirements. SDG&E’s meteorology department consistently monitors the weather conditions in the service territory and provides a rolling seven-day forecast of the potential for wind events and wildfire conditions, but given the dynamic nature of this information, it is likely to change as weather conditions materialize. The potentially impacted circuits and sectionalizing devices, and the associated impacted customers, is updated as those forecasted weather conditions evolve. In addition to voice, email, and text notifications, customers and the public may view location-specific PSPS information via SDG&E’s website and, beginning this year, a new PSPS mobile application. To the extent SDG&E has false positives or false negatives, they will be enumerated in the PSPS post-event reports.

D. Meter and Circuit IDs

SDG&E supports providing communication carriers with the meter and circuit IDs feeding communication carrier critical facilities to be de-energized. In fact, in 2018 SDG&E spearheaded new communication protocols for communication carriers in order to enhance transparency and aid these customers in PSPS preparedness. Consistent with the Phase 2 Guidelines, SDG&E will continue to provide communication carriers with the meter ID and sectionalizing/circuit ID of their facilities in SDG&E's de-energization and re-energization notifications.

V. Community Resource Centers

Per the Phase 2 Guidelines, SDG&E has prepared a Community Resource Centers (CRC) Plan, which provides siting and accessibility of CRC locations as well as an overview of resources needed to best serve impacted customers and communities. The CRC is provided in Appendix A hereto.

VI. Restoration of Power Service Upon Conclusion of Public Safety Need for De-Energization

SDG&E continues to strengthen its ability to quickly and safely restore power after a PSPS event has occurred. Since the 2019 fire season, SDG&E has focused on identifying PSPS event data that will improve its capabilities of tracking and prioritizing restorations to within 24 hours after the "conclusion of conditions that cause a de-energization event."

SDG&E has analyzed technology solutions and identified a software solution to capture this data. The software is currently in the design phase and SDG&E anticipates implementing it prior to the fourth quarter of 2020. Additionally, standardized circuit patrol resource type and general patrol time requirements have been assembled to allow for enhanced estimated time of restoration forecasting. Robust use of these metrics will allow for stronger restoration prioritization and resource allocation during a PSPS event in order to support meeting the CPUC mandated 24-hour restoration limit.

The Phase 2 Guidelines, to the extent possible, require the electric utilities to inform public safety partners and operators of critical facilities and critical infrastructure within one hour of the utility knowing it will re-energize a line. SDG&E has met with internal stakeholders to map out a new process for performing one-hour pre-energizing notifications to community partners and customers. SDG&E is currently working to train responders on their roles in this new process and to deconflict these new customer notifications with its current PSPS event messaging with the intent of ensuring customers have a clear understanding of the phases of re-energization, know where to go to get updates on the restoration activities, and have fair expectations on the timelines for their restoration.

VII. Transportation, Communications, and Water System Resilience

Since 2019, SDG&E has worked with representatives of communications and water service providers to assess their need for backup generation. SDG&E is currently working with these critical infrastructure customers, including the transportation sector, to capture which sites have either fixed generators, are able to deploy a generator, or do not have access to backup generation during a PSPS. Once SDG&E captures this data, it will be able to coordinate with local, tribal, Federal and State government agencies to consult on backup generation needs.

Per the Phase 2 Guidelines, SDG&E has designed a plan, with input from Electric Vehicle (EV) charging network providers, to reinforce EV charging networks and key charging locations with backup generation. This EV Plan is provided in Appendix B hereto.

In accordance with D.20-05-051, SDG&E has begun preliminary conversations with technology vendors to explore mobile and deployable Level 3 EV fast charging in PSPS impacted areas. Most of the products explored thus far are “off-the-shelf,” however, some have customizable options. In addition, SDG&E engaged in several conversations with the IOUs regarding what a typical architecture for this type of charging solution might look like. If the available “off-the-shelf” fast charging solutions do not provide the desired features, SDG&E is prepared to enlist the help of engineering design firms to assist with the scoping and development of a viable and efficient mobile and deployable Level 3 fast charging solution.

Additionally, SDG&E is having internal discussions about the architecture and methodology best suited for the public to obtain the EV charging station status data for those units within the Tier 2 and Tier 3 HFTD areas to display on SDG&E’s website and mobile apps. SDG&E currently has 51 EV chargers within the Tier 2 HFTD and 7 within the Tier 3 HFTD and will be working with providers to gather the appropriate status data and display it to EV drivers.

VIII. Medical Baseline and Access and Functional Needs Populations

One of the most effective and meaningful ways to engage with the AFN community is by leveraging strategic partnerships, by region. SDG&E has established strong partnerships with key community-based organizations that serve AFN customers. SDG&E will utilize these partnerships to identify, meaningfully communicate with and provide support to AFN customers beyond those in the medical baseline population to ensure they are prepared for and aware of PSPS. Additionally, SDG&E has been utilizing these partnerships, working groups, and the Statewide AFN Council to identify assistance needed by these customers.

One example of these partnerships is the creation of an AFN Support Model with 2-1-1 San Diego and 2-1-1 Orange County to help mitigate adverse impacts to those experiencing PSPS events. 2-1-1 San Diego and 2-1-1 Orange County are well-positioned to support vulnerable populations regardless of where they reside, and SDG&E is in discussions with Tribal partners to

extend support to their vulnerable communities. These incremental partnerships will create an expanded offering of services, programs and collateral available to AFN and vulnerable populations. Expanded offerings will include:

- Enhanced identification of AFN customers through partner lists and phone screening;
- Assessment of AFN population needs and aligning them with existing and new regional resource providers;
- Referral of customers to resources such as evacuation planning;
- Additional services such as assisted transportation, back-up power, essential resiliency items, food security, outreach and welfare checks, and temporary shelter;
- Navigation support (*e.g.*, personalized case management and follow-up for impacted individuals with the greatest need);
- Outreach campaign to customers in advance of and during PSPS events through a broad range of communication channels; and
- Proactive community engagement outside of the fire season to ensure AFN individuals have the resources they need ahead of time.

SDG&E is also leveraging community-based organizations to identify assistance needed, including evacuation planning. For example, SDG&E has included PSPS preparation content in San Diego County's "Personal Disaster Plan for People Who May Need Assistance," which provides evacuation planning assistance. In order to enhance distribution, SDG&E will utilize a mailing campaign to send these guides to AFN customers in the High Fire Threat District. SDG&E will train its Customer Service Field Representatives who may encounter AFN customers during PSPS door-knock notifications on the County of San Diego's First Responder AFN Training Series. This is a series of eight videos developed by County OES to provide first responders with helpful information to consider when evacuating individuals with physical, cognitive and emotional disabilities.

In accordance with the Phase 2 Guidelines, on June 1, SDG&E submitted its 2020 Plan to Support Access and Functional Needs Populations During Public Safety Power Shutoffs, which summarizes SDG&E's broader plans to support the AFN population.

Finally, SDG&E is prepared and has a process in place to provide medical baseline and critical facility customer information to local and tribal governments, upon their request, on a confidential basis.

IX. Transparency

SDG&E provides a dedicated section on its website for wildfire information (<https://www.sdge.com/our-commitment-wildfire-safety>). Wildfire Safety is the main part of the website's global navigation, and SDG&E is constantly updating and adding to the site. From this main page, SDG&E provides information related to:

- Public Safety Power Shutoffs
- SDG&E's Community Fire Safety Program
- Community Resource Centers
- And additional preparedness and safety information

As part of the website's outreach and education about wildfire, information is available regarding Vegetation Management, the Alert SDG&E Camera Network, SDG&E's weather network, undergrounding, and wood-to-steel pole upgrades.

SDG&E's dedicated PSPS website (<https://www.sdge.com/wildfire-safety/public-safety-power-shutoffs>) outlines the PSPS shutoff process, notifications, and gives a wealth of background information about PSPS. Additionally, SDG&E publishes a frequently asked questions section and a call to action to sign up for alerts.

The information is easily accessible and as discussed in Section IV.B above, SDG&E takes website best practices into account, including:

- Responsive design – SDGE.com is optimized for any size device customers use to access the website;
- Usability studies have ensured the website is easy to use and information is easy to locate;
- Accessible – SDG&E utilizes accessibility coding techniques so that customers with disabilities can access the website.

X. Definitions

SDG&E continues to partner with local governments and Public Safety Partners to identify and include critical infrastructure in notifications, including public safety answering points (9-1-1 emergency services) and transportation critical infrastructure. In June 2020, SDG&E identified NAICS codes associated with the transportation sector and reviewed the corresponding customer lists for reasonableness and for inclusion as an SDG&E transportation PSPS critical infrastructure and facility. SDG&E's final list of transportation accounts based on the NAICS codes has been coded in our customer notification system as PSPS critical. SDG&E Account Executives are engaging with these newly identified transportation customers to ensure that SDG&E has the proper contact information for PSPS notifications and emergencies.

Additionally, the Account Executives are initiating discussions with these customers regarding their back up generation capabilities. SDG&E has a marketing campaign for unassigned transportation accounts that will direct these customers to a landing page where emergency notification contacts and back up generation information is being requested. SDG&E is also providing educational information to these newly identified transportation customers regarding PSPS.

Appendix A
Community Resource Center Plan

San Diego Gas & Electric Company's Community Resource Center Plan

August 4, 2020



I. Introduction

Per the Phase 2 Guidelines, SDG&E has prepared this Community Resource Centers (CRC) Plan, which provides siting and accessibility of CRC locations as well as an overview of resources needed to best serve impacted customers and communities. SDG&E consulted with various stakeholder groups in the development of this plan through webinars, e-mails, and virtual conference calls. Feedback received during those sessions is incorporated herein and SDG&E will continue to refine the program through ongoing dialogue with the required CRC stakeholders. The following stakeholder groups have participated in such engagements:

- Public Safety Partners
- Regional and Local Governments
- Tribal Representatives
- Community Resource Organizations
- Wildfire Safety Community Advisory Council

The remaining stakeholder groups are either in progress or scheduled for an upcoming review session.

II. Community Resource Center Plan

After the devastating wildfires in San Diego County in 2007, SDG&E held a number of meetings in impacted communities throughout its service territory. As a result of the community feedback, SDG&E established a network of CRCs to help communities in real-time during extreme weather events, including Public Safety Power Shutoff (PSPS) events. Specifically, SDG&E employees volunteer to staff the CRCs to provide situational awareness, including updates and real-time information directly to the impacted community; light snacks, water, and ice for temporary relief to residents in the area; and access to charge small electronic and medical devices to impacted communities.

A CRC may be activated if a PSPS event is projected to extend through the night, into the following day, or at any time an impacted community requires additional resources as a result of a PSPS event. Planning for CRC activation takes place far in advance of the first 24 hours of potential PSPS outages in order to provide enough notification to all stakeholders (*e.g.*, vendors, generator suppliers, building owners, *etc.*) as possible.

Response to and during a PSPS event requires a focused assessment, effective communication, and coordinated action across all functions within emergency responder roles. Use of critical thinking skills provide a foundational basis that personnel can utilize to affect timely responses to most, if not all, situations.

The decision to open CRCs is made by the Customer Service Section Chief (CSSC) of SDG&E's Emergency Operations Center (EOC). SDG&E's CRC coordinator, in consultation with SDG&E's

Meteorology department, will recommend the appropriate CRCs to be activated based upon the current projected community impacts. Once activation has been confirmed by the EOC's Utility Incident Commander, the CRC Coordinator and on-site CRC representative will initiate activation protocols in accordance with SDG&E's CRC Concept of Operations document. CRC-related customer communications are handled through the appropriate EOC section.

A. Siting of Community Resource Centers

SDG&E established its Community Resource Center program in 2018, following customer feedback indicating additional resources were lacking during a PSPS. Residents requested information and the ability to charge cell phones so they could stay in communication. SDG&E embarked upon identifying ideal locations that satisfied the needs of the most PSPS vulnerable customers utilizing the following criteria:

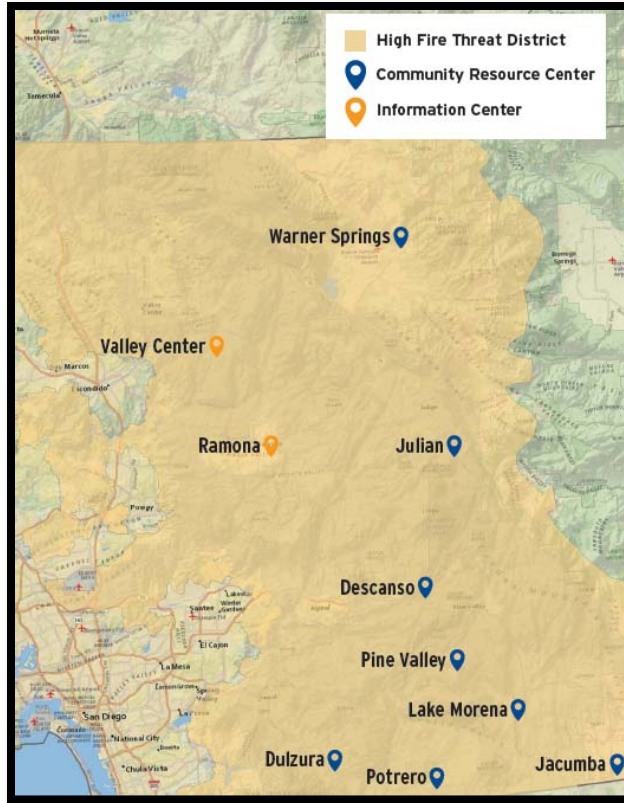
- Community historical PSPS impacts
- Community location to nearest available resources
- Physical site characteristics
 - Adequate space for the community served
 - Proper egress routes and safety considerations
 - Facility electrical configuration can support a backup generator
 - ADA compliance/accessibility
- Located in the High Fire Threat District (Tiers 2 or 3)
- Availability of community support
- Ability to operate during the required hours

Pending satisfaction of the above requirements, SDG&E initiates full site inspection and CRC design.

Following the 2018 pilot year of the CRCs, SDG&E enhanced the program through incorporating feedback received from residents. For example, one of the initial sites was re-located based on community input. SDG&E also learned that residents in Tier 3 of the HFTD were often reliant on well-water and needed access to water for their large animals. As a result, SDG&E now offers water buffalos.

The map and table below provide the location of SDG&E's eight CRCs and two information centers.¹

¹ Community Information Centers (CIC) differ from CRCs in that they provide information only and no additional resources. Specifically, CICs do not offer the same resources as they are located in communities that are not experiencing an active PSPS event and are intended to offer surrounding area outage updates only.



Site	Address
Dulzura Community Development Center	1136 Community Building Road, Dulzura, CA 91917
Descanso County Library	9545 River Dr, Descanso, CA
Jacumba Highlands Community Center	44645 Old Highway 80, Jacumba
Julian – Whispering Winds Catholic Camp	17606 Harrison Park Road, Julian, CA
Lake Morena Community Church	29765 Oak Drive, Campo, CA 91906
Pine Valley Improvement Club	28890 Old Highway 80, Pine Valley, CA 91962
Potrero Community Center	24550 Highway 94, Potrero, CA 91963
Warner Springs Community Resource Center	30950 CA-79, Warner Springs, CA 92086
Valley Center Branch Library (CIC)	29200 Cole Grade Rd, Valley Center, CA 92082
Ramona Branch Library (CIC)	1275 Main Street, Ramona, CA 92065

Each site is located at a fixed facility designed to comply with local electrical code and safety considerations, which includes appropriate permitting with the local authority having jurisdiction. Prior to breaking ground, SDG&E enters into an agreement with the facility owner or customer of record. The agreement illustrates the roles and responsibilities of each party, resources provided, maintenance requirements, compensation, construction terms, and liability. Once fully executed, construction begins until the site is fully operational, leveraging electrical equipment capable of safely disconnecting the facility from the utility grid to facilitate a portable backup generator and eliminate the risk of a back-feed scenario. In some instances, a facility may already possess a permanently installed backup generator, in which case SDG&E would enter into an agreement strictly for participation, compensation, liability, roles and responsibilities.

In July 2020, SDG&E met with various stakeholder groups through webinars, e-mails, and virtual conference calls and solicited feedback regarding CRC siting. The stakeholder input was minimal, with only one recommendation to consider alternate sites to serve the Southern Orange County region.

SDG&E has additional meetings and working groups scheduled with other stakeholders in the coming weeks to continue gathering feedback regarding this CRC Plan and will incorporate such feedback in the day-to-day operations of this program or future expansion.

B. Accessibility of Community Resource Centers

SDG&E reviews each site for Americans with Disabilities Act (ADA) compliance and requests site owners confirm compliance. Community Resource Centers serve a variety of customer needs, so it is critical that each site is reviewed each year for ADA compliance and/or enhancements that might make the site useful to the widest range of customers and needs. Considering SDG&E's CRC program leverages customer-owned facilities, SDG&E communicates accessibility requirements through customer agreements.

C. Resources to Serve Community Members

In order to determine the resource needs of the community being served, SDG&E leveraged feedback from its impacted communities townhall discussions. The common themes were outage updates, cell phone charging, and air conditioning. Based upon these discussions and feedback received during 2019 PSPS CRC activations, SDG&E added additional resources to its CRCs. Below describes the full and current list of resources available at SDG&E's CRCs.

- Up-to-date outage information
- Bottled water
- Light snacks
- Bulk water truck delivery (for larger quantities of water for animals/pets)
- Ice (both block and cubed)
- Restrooms

- Cell phone charging stations
- Brick and mortar facility fully powered via a portable backup generator
 - This enables standard 120V charging via facility electric outlets for medical or other devices requiring power

SDG&E continues to evaluate the effectiveness of the resources offered through feedback forms available at activated CRCs. The above list reflects new items incorporated as a result of direct feedback.

D. COVID-19 Pandemic Adjustments

The CRC program has developed a comprehensive COVID-19 plan that may exercise two phases of health and safety precautions depending upon the nature of the event and prevailing guidelines. This section summarizes the plan at a high level:

Phase 1 – Strict social distancing measures with added security involvement and routine deep cleaning of all commonly touched surfaces. Employees and CRC partners will use proper personal protective equipment (PPE) such as face coverings and gloves. Routine temperature checks for anyone entering a CRC will be required at entryways. Strict time limits will be implemented to eliminate any congregating or social gathering.

Phase 2 – If conditions warrant more stringent health and safety precautions that would render Phase 1 precautions futile, CRCs would transition to drive-thru events. No entry to the CRC building would be allowed except for building owners and SDG&E employees. Care packages would be pre-assembled and handed to vehicles in a drive-thru fashion. All PPE identified in Phase 1 will be leveraged here as well.

Appendix B
Electric Vehicle Plan

San Diego Gas & Electric Company's Backup Generation Plan Regarding Electric Vehicle Charging Networks

August 4, 2020



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I. Introduction

In accordance with California Public Utilities Commission (Commission or CPUC) Decision (D.) 20-05-051, San Diego Gas & Electric Company (SDG&E) submits this backup generation plan regarding electric vehicle (EV) charging networks.¹ Specifically, SDG&E discusses potential solutions for EV Service Providers so they can implement backup generation for their key EV charging stations.

To prepare this plan, SDG&E conducted outreach with EV charging network providers in SDG&E's service territory to exchange information, discussed their backup generation plans to date and into the future, and gathered their input. SDG&E has also researched various backup generation technology solutions that could be implemented at key charging locations for use during future de-energization events, and more information about these solutions is contained within this plan.

While the electric utilities are not responsible for providing or procuring backup generation for such facilities,² EV charging network providers are welcome to consult and collaborate with SDG&E in the future on issues related to procurement and deployment of backup generation solutions, and their interconnection to the grid.

¹ D.20-05-051, Appendix A at p. 7.

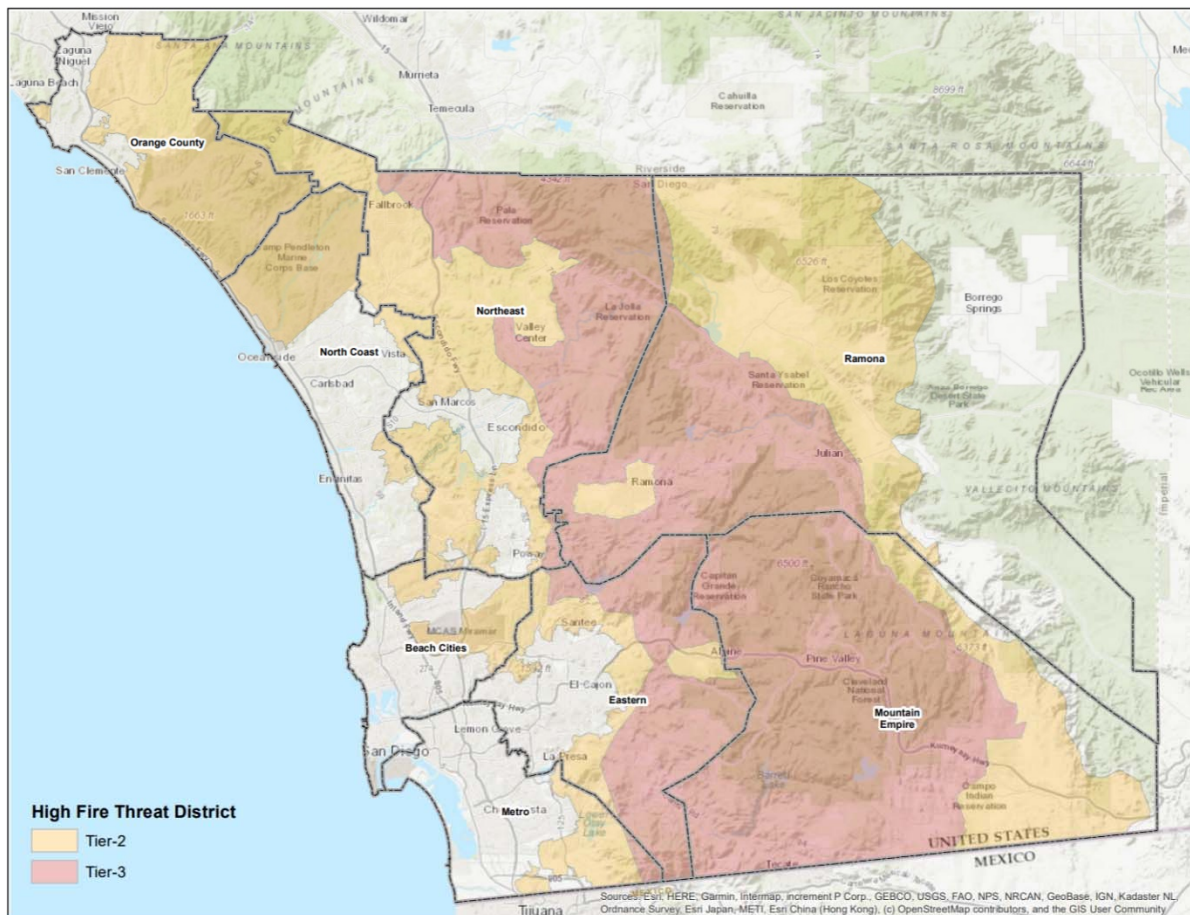
² D.20-05-051 at pp. 76-77.

II. Customer Impacts from Public Safety Power Shutoff Events

Customers who live within areas of the high fire threat district (HFTD), as defined by the maps on the CPUC's website,³ are more likely to experience a weather-caused de-energization event than customers outside of those areas. However, customers who do not live in the defined HFTD may also be impacted by outages due to the design and interconnected nature of the electrical grid.

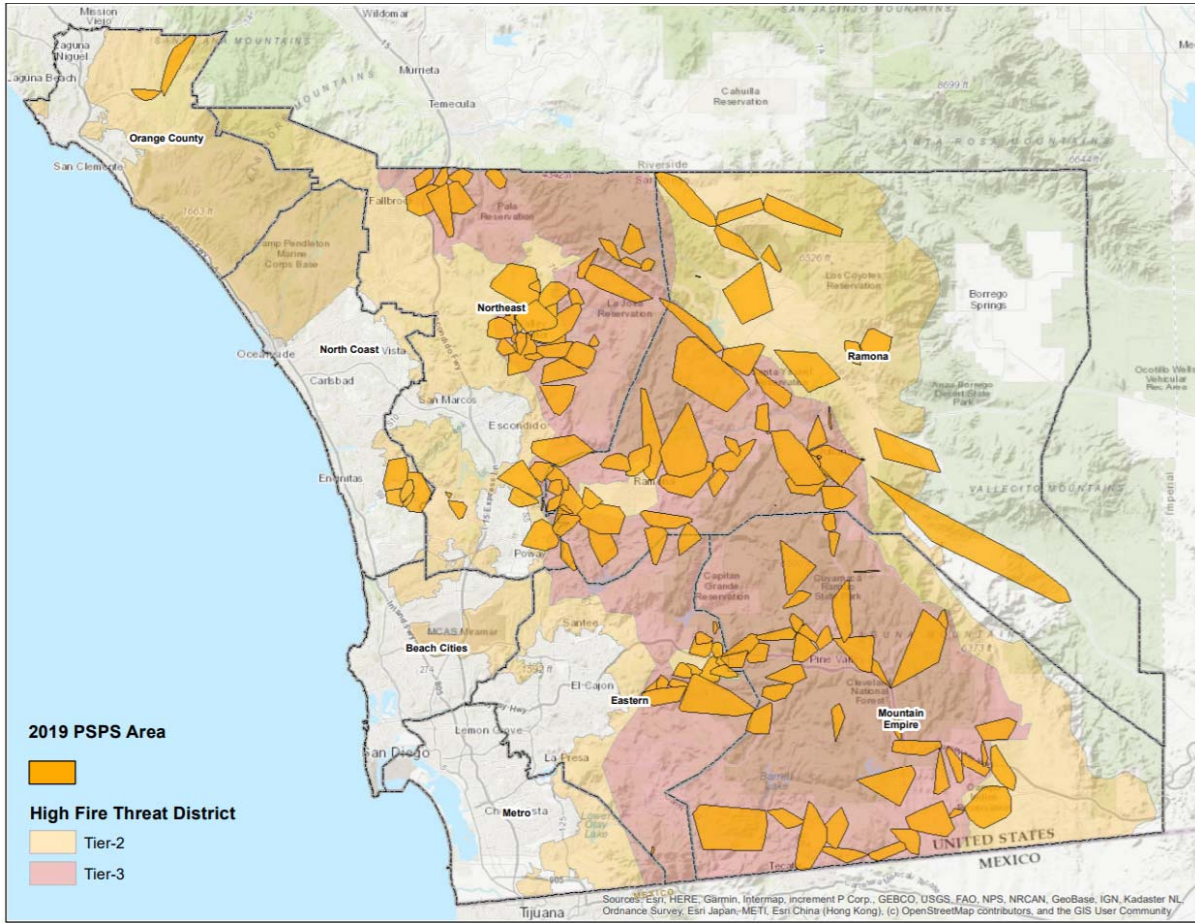
Figure 1 shows the Tier 2 (Elevated) and Tier 3 (Extreme) fire risk areas of the HFTD in the SDG&E Service Territory. Figure 2 contains the same map of the fire risk areas but with an overlay that identifies the extent of the 2019 PSPS events that occurred in SDG&E's service territory.

Figure 1
SDG&E High Fire Threat District Map
(Created July 2020)



³ See CPUC website <https://www.cpuc.ca.gov/FireThreatMaps/>

Figure 2
SDG&E High Fire Threat District Map with 2019 PSPS Area Outages
(Created July 2020)



Although the number of de-energization events are expected to lessen as more of SDG&E’s Wildfire Mitigation Plan activities are carried out,⁴ PSPS outages will continue to be an important tool used to mitigate wildfire risk during severe weather and high fire potential events.

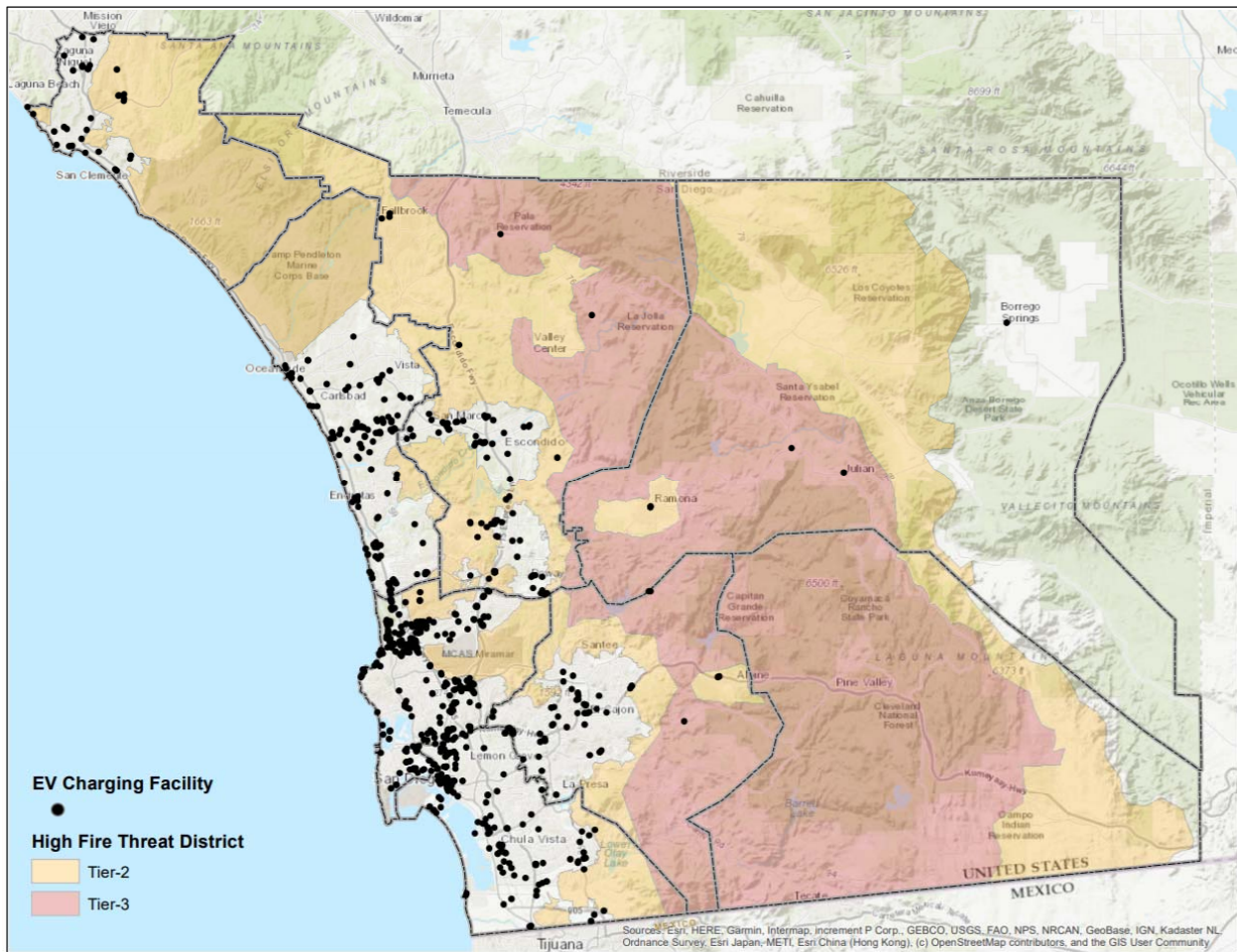
Because of SDG&E’s work over the last several years improving the distribution electric system, there are now additional electrical sectionalizing devices installed that can be operated remotely when required that can help minimize the footprint of outages. In addition, SDG&E has also expanded the real-time weather information network by installing more stations, cameras and software tools that help to provide a better view of current conditions in the field, especially in the HFTD areas. This allows SDG&E to gather more real-time weather information and use it to make better and more informed decisions about the necessity and duration of PSPS outages.

⁴ See SDG&E 2020 wildfire mitigation plan: <https://www.sdge.com/2020-wildfire-mitigation-plan>

III. Electric Vehicle Charging Stations in the PSPS Impacted Areas

After analyzing the locations of the various public EV charging station locations in the region and plotting their location on the HFTD maps, SDG&E identified approximately 51 public EV charging stations in the Tier 2 HFTD, and approximately 7 EV charging stations in the Tier 3 HFTD.⁵ These charging stations are shown in Figure 3, along with other chargers in the region that are not within the PSPS impacted areas.

Figure 3
SDG&E High Fire Threat District Map Showing Public EV Chargers in the San Diego Region
(Created July 2020)



⁵ Data compiled from DOE Alternative Fuel Data Center accessed on June 17, 2020. See <https://afdc.energy.gov/stations/#/analyze?region=US-CA>

V. Backup Generation Plan for Electric Vehicle Service Providers

SDG&E continues to work to reduce the impacts of PSPS events to customers via its Wildfire Mitigation Plan and understands that access to functioning public charging infrastructure is critical for EV drivers during PSPS events. SDG&E has engaged in conversations with EV service providers (EVSP) regarding various backup generation solutions to safely connect and operate a backup power source for electric vehicle supply equipment (EVSE), and the operational and logistical challenges associated with retrofitting a backup power source into existing infrastructure.

SDG&E will provide guidance and support to any EVSPs that would like to learn more about installing backup generation equipment. In addition, any key learnings obtained from completed EVSP backup generation projects will be used to update this plan so that future work to reinforce electric vehicle charging networks during PSPS events can be better understood.

1. Plan Timeline and Deliverables

Since the issuance D.20-05-051, SDG&E has spent time conducting research and engaging in conversations with numerous stakeholders including EV charging network providers, such as Tesla, ChargePoint, Electrify America, and Greenlots, to develop its plan for EVSPs to use as reference for reinforcing key charging locations with backup generation.

SDG&E will continue to evaluate backup generation products and options for their safety and operational implications and will continue collaborating with EVSPs and collecting information about projects built in the field. This research and collaboration will continue to provide insightful information that will be used to update SDG&E's knowledge base that can be used with parties as inquiries are made regarding backup generation of EV charging stations.

2. Identifying Key Charging Locations

SDG&E downloaded the available data from the Department of Energy (DOE) Alternative Fuel Data Center to capture the known set of public EV charging stations in California. That data was then filtered to determine the location of charging stations that fall within SDG&E's HFTD.

After analyzing the locations of the various public EV charging station locations in the region, SDG&E has identified approximately 51 public EV charging stations in the Tier 2 HFTD, and approximately 7 EV charging stations in the Tier 3 HFTD that would be identified as key charging locations for EV drivers within the HFTD, as shown in Figure 3 above.

3. Various Backup Generation Solutions

SDG&E has evaluated different backup generation architectures and has identified three potential solution groups or types of EV charging backup generation that are described in this plan (basic, intermediate, and advanced). Since the EV Service Provider or Site Host would be performing the procurement and installation of the backup generation, all three potential options would be installed downstream of the EV Charging site billing meter. Below is an overall description of the three potential groups or types of backup generation options that EV Service Providers or Site Hosts could select, with some additional information about their pros and cons:

Basic Option:

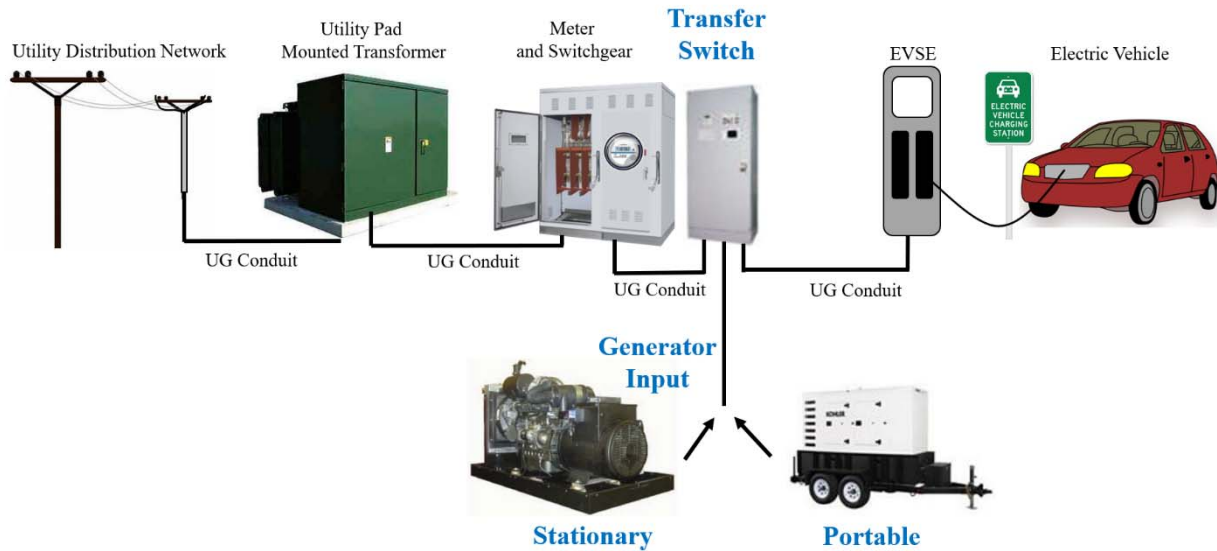
This option consists of a diesel or natural gas generator, stationary (permanently mounted), or mounted on a portable trailer near the EV charging stations. The generator would only provide backup power to the EV charging stations in case of an outage. The transfer switch usually has adjustments for the length of elapsed outage time before sending the generator a “start” command, and also for the amount of time after utility power is restored before the load will switch back to utility power (to ensure a stable utility power supply). A typical transfer switch setting would send a signal to start the generator after a utility outage of 20-30 seconds, and transfer back to utility power 30 minutes after utility power is restored and stable.

When the generator is running, it would be electrically isolated from the grid for safety purposes. Many of the generators available use diesel fuel, but there are also some natural gas generators available as well (which would require a nearby source of natural gas at the installation site). Biodiesel may also be a potential source of fuel for this option, although at a higher cost.

As depicted in Figure 4 below, the Basic option would require the installation of a transfer switch in line between the existing meter / switchgear cabinet and the EVSE. In addition, the stationary or portable fossil-fueled generator set would also be attached to the transfer switch. The generator would usually be sized according to the maximum power level of the EV charging stations that are present at the site, but in the case of several large DC Fast chargers, it may not be practical to serve the charging load at full power. For safety and simplicity, the generator would never be allowed to back feed the utility grid; it would only power the EVSE in case of a utility outage via the transfer switch. This is called “isolated operation” because it is never connected to the upstream distribution grid.

As part of this plan, upon request, SDG&E will work with site hosts to analyze historical EV charging load at their sites (including maximum demand and other parameters), to help site hosts determine the appropriate size of backup generation needed. Please see Section 4 for additional requirements and information.

Figure 5
Basic Backup Generation Architecture for EV Charging



Pros for the Basic Option: Least expensive, only a simple utility application is required to be submitted because there is no energy being exported to the grid, reliable solution (technology is tried and true)

Cons for the Basic Option: Fossil fuel required (emissions generated), requires regular maintenance to ensure engine will start when needed, permanently mounted option requires dedicated space, APCD permit required, APCD logging required, APCD limits on run time, EV charger outage required to switch back to utility power, some cars won't automatically start charging again if connected when power is interrupted

Intermediate Option:

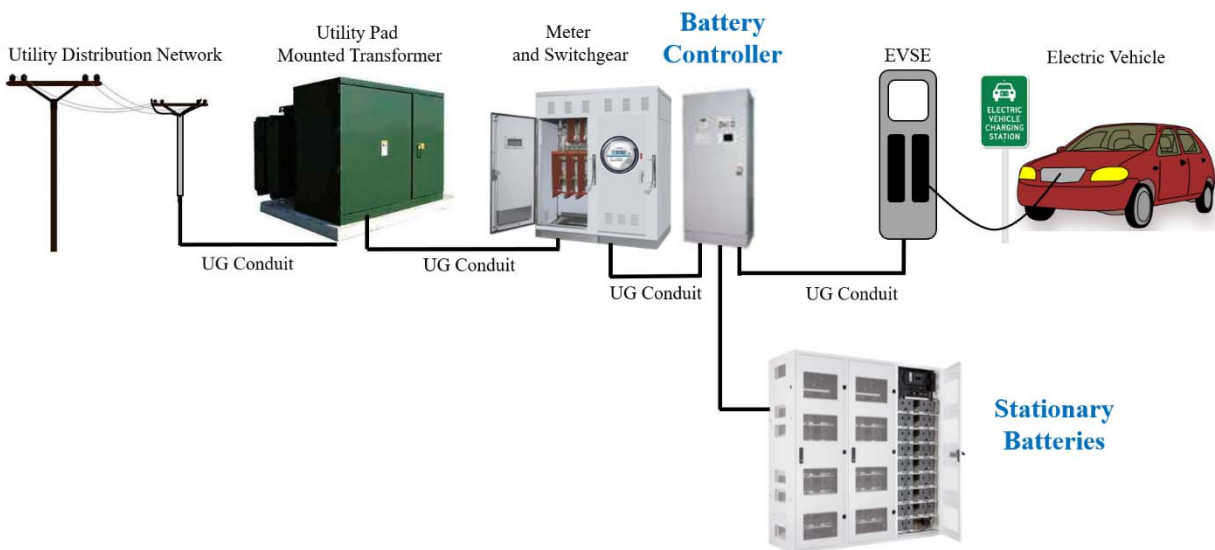
This option consists of a stationary battery system and would usually be mounted permanently near the EV charging stations, although some portable battery options could be considered if the required connectivity and is pre-installed.

The further the battery system is installed away from the EV charging stations, the more expensive the installation will be due to longer trenching and wiring costs. In this option, the battery would be charged by the grid and would serve as a backup to the EV charging stations in case of a grid outage. The battery could also be used to shave charging station peak power during regular grid operation to mitigate demand, but the battery controller would not allow energy to back feed to the grid. Depending on the architecture of the particular solution, this option could employ “Momentary Parallel” grid operation, or “Isolated Operation” from the upstream distribution grid.

As part of this option, the energy and power ratings of the battery pack need to be strategically sized for proper backup operation and demand mitigation. For example, if the storage battery runs out of energy and full power is drawn by the charging stations, demand mitigation for the billing period won't be achieved. As with the Basic option, SDG&E will be available to work with site hosts to analyze historical EV charging load at their sites (including maximum demand and other parameters), to help site hosts determine the appropriate size of battery storage solution needed to achieve their goals.

When installing a battery storage solution, it is imperative that a properly designed cooling system be specified as part of the system design. A controller for the battery and an automatic transfer switch would oversee the operation of the battery and is typically installed in a cabinet near the existing meter / switchgear cabinet and the EVSE. For safety reasons and to make the installation simpler and less expensive, the battery would never be allowed to back feed the utility grid; it would only power the EVSE and supporting communications equipment. Please see Section 4 for additional requirements and information.

Figure 6
Intermediate Backup Generation Architecture for EV Charging



Pros for the Intermediate Option: No fossil fuels or APCD requirements, SGIP incentive may be available (depending on utility / installation location and status of funding), can be used to mitigate peak demand from charging stations

Cons for the Intermediate Option: More expensive than Basic option, requires more complex and expensive controller(s) than the Basic option, batteries typically cost more than an equivalent generator, batteries have a finite lifespan, batteries store limited energy and can run out if not sized appropriately or if outage is long, batteries must be kept cool and monitored to avoid failure.

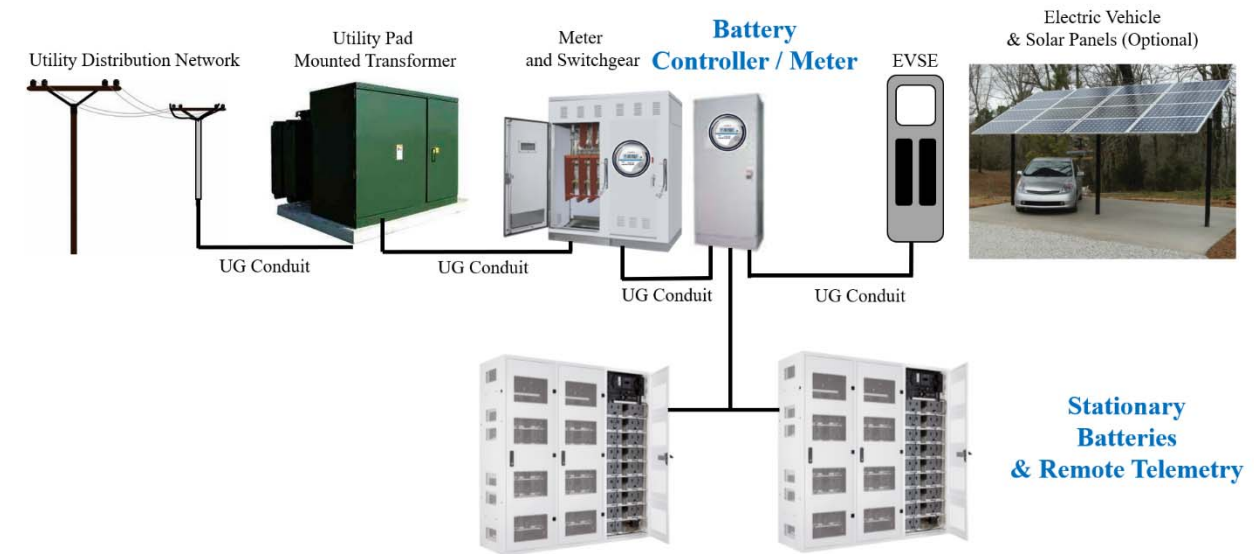
Advanced Option:

This option consists of a larger battery system than the Intermediate option above, and it would also be mounted as close to the EV charging stations as possible. The battery would be charged by the grid and would be able to not only serve as a backup to the EV charging stations and provide demand mitigation, but would also be able to interface with the grid and sell ancillary services through an aggregator or to the California Independent System Operator (CAISO).⁷ Due to participation in the CAISO markets, the battery in these installations would most likely be larger than the size of the battery used to just back up the charging stations (as in the Intermediate option). This option would be connected so as to provide “parallel operation” with the upstream distribution grid.

Optionally, solar panels could also be added to help keep the battery charged and to provide shade to EVs that are using the charging stations, but this does add to the cost of the installation.

Due to the potential sale/export of energy, additional metering/telemetry would be required for this option, depending on the size of the systems installed and functionality required. Please see Section 4 for additional requirements and information.

**Figure 7
Advanced Backup Generation Architecture for EV Charging**



⁷ https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf

Pros for the Advanced Option: No fossil fuels or APCD requirements, SGIP incentive may be available (depending on status of funding), can be used to mitigate peak demand on charging stations, can export energy for sale to the CAISO market and earn revenue, solar generation may help sustain more charging sessions during PSPS events

Cons for the Advanced Option: Same as the Intermediate option, more expensive than the Basic or Intermediate options, requires more complex controller, management software, and telemetry for market participation, more complex utility connection process, additional safety requirements for utility connection

4. Additional Considerations for Backup Generation Options

Physical Space Constraints

Many of the charging station installations require a pre-defined physical space, obtained either by lease agreement, or owned by the site host and installed into defined parking areas. Adding a stationary backup generation or battery storage solution will require additional physical space (depending on the type of solution) and could interfere with existing parking and other installed electrical equipment. Temporary space for a portable generator or battery storage solution must also be set aside for occasional use. In conversation, some EVSPs shared that they expected difficulties obtaining additional space for a backup generation solution, since site hosts have expressed that it may not provide enough perceived “bang for the buck.”

Air Pollution Control District Requirements for Fossil-Fueled Generators

For fossil-fueled backup generation systems, San Diego County’s Air Pollution Control District (APCD) has requirements and compliance programs that must be met.⁸ APCD has rules and regulations for standby engines, and compliance requirements, such as permitting,⁹ limiting the number of hours of operation per year, maintenance requirements, as well as operation and logging requirements. More information is available on APCD’s website.

Self-Generation Incentive Program

Installations of a battery storage solution to charge vehicles may be eligible to participate in the State of California Self-Generation Incentive Program (SGIP).¹⁰ The program is managed by the Center for Sustainable Energy (CSE). Funding is limited for this incentive program and varies by utility area, so EVSPs are encouraged to contact CSE for the latest and most up to date information.

⁸ APCD website https://www.sandiegocounty.gov/content/sdc/apcd/en/compliance-programs/stationary_engines.html

⁹ APCD permitting requirements https://www.sandiegocounty.gov/content/sdc/apcd/en/engineering/Permits/Engineering_Phase_2/Emergency_Engines.html

¹⁰ Self Generation Incentive Program website: <https://sites.energycenter.org/sgip>

Connecting Backup Generation Solutions - SDG&E Electric Rule 21

The parallel operation of a self-generation unit requires interconnection with SDG&E's distribution system. The first step in the interconnection process is to fill out the required documents that are a part of the Electric Rule 21 Package.¹¹ Interconnection, as well as operating and metering requirements are also described in SDG&E's Electric Rule 21 document,¹² which has been approved by the CPUC. All of the required information about connecting backup generation systems is contained on SDG&E's Rule 21 website,¹³ and SDG&E has a group that can help answer questions about Rule 21 and interconnection issues.

Land Rights When Installing Backup Generation Equipment

It is important to note that many of the existing public charging sites are on privately owned land with leasing arrangements in place. To deploy backup generation solutions at key public charging locations, the EVSP or site host will most likely have to re-open land rights negotiations with the property owner to get permission to construct and install a backup generation system.

Even if the property owner is willing to allow the backup generation system to be installed, SDG&E's experience is that property rights or leasing discussions take additional time to work their way through the legal process, so that must be built into the project schedule.

5. EVSP Input for the Plan

SDG&E conducted conversations with four EVSPs that operate charging stations in its service territory to gather information that would inform this plan, and appreciated the input provided. In general terms, only one EVSP has been installing backup batteries at selected charging locations in the region. In their particular case, the batteries will be used to backup charging stations and mitigate demand and will not be used initially to back feed the grid or participate in the CAISO market. No other EVSPs SDG&E spoke to have plans to install backup generators or batteries. Costs are a concern (comparing the charging revenue lost during an outage vs the cost to install the solution), as well as the space considerations for installing a backup generation solution and site host / owner concerns about the additional space required.

¹¹ <https://www.sdge.com/more-information/customer-generation/electric-rule-21#package>

¹² http://regarchive.sdge.com/tm2/pdf/ELEC_ELEC-RULES_ERULE21.pdf

¹³ <https://www.sdge.com/more-information/customer-generation/electric-rule-21>

VI. Conclusion

SDG&E strives to minimize the impacts of PSPS events to customers and recognizes the importance of access to functioning public charging infrastructure during PSPS events for electric vehicle customers.

SDG&E is committed to working with EVSPs to consult and provide guidance on the procurement and deployment of backup generation solutions for EV charging. This plan will be updated with lessons learned as various providers install backup generation systems and share information with SDG&E.