2020 Public Safety Power Shutoff (PSPS) Post Event Report Review San Diego Gas & Electric Company (SDG&E)

Introduction and Recommendations:

In 2020, SDG&E initiated a total of seven PSPS events. In one case, SDG&E combined three events into a single post event report. As a result, SDG&E submitted five post event reports to the California Public Utilities Commission (CPUC). The CPUC's Safety and Enforcement Division (SED) reviewed the submitted reports to evaluate SDG&E's compliance with the reporting requirements under Resolution ESRB-8, Decision (D.) 19-05-042 and (D) 20-05-051. The findings in this Post Event Report Review are based on the information presented in the post event reports and the public comments.

Table 1 - SDG&E PSPS Summary

Report #	Dates	Total Customers Notified	Total Customers De-energized	Medical Baseline Customers De-energized	Number of Counties De-energized	Number of Tribes De-energized
1	Sep. 8-9	16,761	49	6	1	0
2	Sep. 28-29	741	0	0	0	0
3	Oct. 26-27	21,481	4,373	211	2	3
4	Nov. 26 to Dec. 9	98,607	74,127	4,780	1	17
5	Dec. 23-24	31,444	6,797	477	2	10

data source: SDG&E 2020 PSPS post event reports and SDG&E's responses to SED's data requests.

SED has found several issues and concerns, and recommends SDG&E take corrective actions to comply with the guideline requirements.

Compliance Review:

The results of the review are presented below in the order the existing guidelines were published.

I. Resolution ESRB-8 Requirements:

1. *A notification to the Director of SED provided no later than 12 hours after the power shut-off.*

   For all the events, SDG&E sent notifications to the Director of SED within 12 hours after the power shut-off.

2. *IOUs shall submit a report to the Director of SED within 10 business days after each de-energization event, as well as after high-threat events where the IOU provided notifications to local government, agencies, and customers of possible de-energization though no de-energization occurred*

SDG&E submitted most of the reports on time except for the November 26 - December 9 report. The report submitted to the Director of SED on December 23, 2020 covered three weather events. SDG&E combined the three events into one reporting without prior approval from SED. SDG&E did not meet the report deadline for two of the three events. See details below:

Table 2

Weather events	Event concluded	Report due dates	SDG&E's filing dates	Days Overdue
Nov. 26 - Nov. 28	Nov. 28	Dec. 11	Dec. 23	12
Dec. 2 – Dec. 5	Dec. 5	Dec. 18	Dec. 23	5
Dec. 6 – Dec. 9	Dec. 9	Dec. 23	Dec. 23	On time

3. *The report should include:*

a. an explanation of the decision to shut off power;

SDG&E reported that the decision to initiate a PSPS event was made at SDG&E's Emergency Operations Center (EOC). The EOC is staffed by a cross-functional team of electric operations, safety, meteorology, engineering, customer service, external affairs, communications, and other personnel, as well as a designated Utility Incident Commander (UIC). SDG&E considered multiple factors when making the decision to de-energize. In addition to local weather conditions, SDG&E closely monitored and took into consideration wildfire activity throughout the state and the availability of fire suppression resources to the region. Based on the information obtained and assessment, SDG&E determined if de-energization should be initiated for the events.

For SED's evaluation, refer to Section II. 2. a. (evaluation of D.19-05-042 – Phase I Guidelines).

b. all factors considered in the decision to shut off power, including wind speed, temperature, humidity, and moisture in the vicinity of the de-energized circuits;

SDG&E considered various factors in the decision to shut off power including:

- Forecasted wind speed
- Red Flag Warnings issued by the NWS
- SDG&E's Fire Potential Index (FPI)
- Santa Ana Wildfire Threat Index (SAWTI)
- Live Fuel Moisture values
- The potential impact to customers with access and functional needs, including the number of Medical Baseline (MBL) customers
- A review of active outages on SDG&E's system
- Wildfire activity across the state and availability of fire-suppression resources

For SED's evaluation of the decision, refer to Section II. 2. a. (evaluation of D.19-05-042 – Phase I Guidelines

c. the time, place, and duration of the shut-off event;

SDG&E reported the time, place, and duration of the shut-off events.

d. the number of affected customers, broken down by residential, medical baseline, commercial/industrial, and other;

SDG&E provided the total number of impacted customer meters broken down by residential meters, medical baseline accounts, commercial/industrial meters, self-identified vulnerable accounts[1], and PSPS critical facility meters.

e. any wind-related damage to IOU's overhead power-line facilities in the areas where power is shut off;

[1] This was a term used by SDG&E as they did not specify if these are individual accounts or individual customers.

Among the five post event reports, SDG&E reported in the following two events, there were wind-related damages to its overhead power-line facilities

- November 26 – December 9
- December 23 – December 24

f. a description of the notice to customers and any other mitigation provided by IOU;

SDG&E reported it notified potentially impacted customers via outbound dialer, email, and personal phone calls. SDG&E also shared information on its websites (SDGEnews.com and SDGE.com), its social media channels of Twitter, Facebook, and Instagram, and with local, state, and national news media outlets.

For SED's evaluation of the customer notifications, see Section II.2.b and Section II.2.c. (evaluation of D.19-05-042 – Phase I Guidelines)

SDG&E reported the following mitigations:

- portable backup battery units
- generator installation
- sectionalization

g. any other matters that IOU believes are relevant to the Commission's assessment of the reasonableness of IOU's decision to shut off power.

SDG&E reported other matters in the following two reports:

- September 8 – September 9 Potential CAISO-directed load curtailments on Sept. 5–7 due to widespread excessive heat throughout the region. In addition, SDG&E worked with first responders and San Diego County Office of Emergency Services to provide assistance to first responders and communities.
- November 26 to December 9
  Positive customer communications regarding the successful establishment of the temporary configuration for the microgrids

h. The local communities' representatives the IOU contacted prior to de-energization, the date on which they were contacted, and whether the areas affected by the de-energization are classified as Zone 1, Tier 2, or Tier 3 as per the definition in General Order 95, Rule 21.2-D.

SDG&E reported the organization and representative titles who were notified or contacted, the date and time the organizations and representatives were notified, and Tier classification of the areas affected.

i. If an IOU is not able to provide customers with notice at least 2 hours prior to the de-energization event, the IOU shall provide an explanation in its report.

For SED's assessment, see Section II. 2. c. (evaluation of D.19-05-042 – Phase I Guidelines)

j. The IOU shall summarize the number and nature of complaints received as the result of the de-energization event and include claims that are filed against the IOU because of de-energization.

SDG&E provided the numbers of complaints and claims in each report, which is summarized in Table 3 below. Examples of the complaints are expressing unhappiness over the occurrence of PSPS events, the length and frequency of outages in their area, not being notified in advance of the event, and not being provided generators. The nature of the claims is mostly related to food loss.

Table 3

Dates	Number of Complaints	Number of Claims
Sep. 8-9	2	2
Sep. 28-29	0	0
Oct .26-27	0	2
Nov. 26-Dec. 9	60	326
Dec. 23-24	4	3
Total	66	333

k. The IOU shall provide detailed description of the steps it took to restore power.

SDG&E provided a detailed description of the steps it took to restore power for each event, which were typically:

- Meteorology forecasted winds have peaked and are trending downward;
- Approval by Unit Incident Commander (UIC) to start patrols;

- Full patrol of the de-energized distribution circuit or transmission tie-line to inspect for damages;
- Electric Troubleshooter, observers and/or line crews on-site during re-energization process at key locations;
- Contract fire-fighting resources on-site during re-energization process;
- Check and ensure all personnel are in the clear before re-energization;
- Approval by UIC and Deputy Operations Chief—Electric prior to restoring the circuit/tie-line/device;
- Electric Distribution Operations/Electric Grid Operations directs switching to reenergize the line/segment and notifies EOC of time of re-energization.

l. The IOU shall identify the address of each community assistance location during a de-energization event, describe the location (in a building, a trailer, etc.), describe the assistance available at each location, and give the days and hours that it was open.

SDG&E reported the address, the location type, the assistance available, the days, and operation hours of each Community Resource Center (CRC). SDG&E offered the resources as "drive thru" services to maintain COVID-19 health protocols.

4. The IOU shall notify the Director of SED, as soon as practicable, once it decides to de-energize its facilities. If the notification was not prior to the de-energization event, the IOU shall explain why a pre-event notification was not possible. The notification shall include the area affected, an estimate of the number of customers affected, and an estimated restoration time. The IOU shall also notify the Director of SED of full restoration within 12 hours from the time the last service is restored.

Typically, SDG&E initially notified the Director of SED of a potential PSPS two to three days prior to the de-energization event. An update to the SED Director was also sent daily to include the area affected, an estimate of the number of customers affected and an estimated restoration time. SDG&E also sent the full restoration notice to the SED Director within 12 hours for the time the last service was restored.

II. D.19-05-042 – Phase 1 Guidelines

1. *In addition to submitting a report to the Director of the Commission's Safety and Enforcement Division within 10 business days of power restoration, electric investor-owned utilities must serve their de-*

energization report on the service lists of this proceeding and Rulemaking 18-10-007 or their successor proceedings. Service should include a link to the report on the utility's website and contact information to submit comments to the Director of the Safety and Enforcement Division.

SDG&E timely and properly served the reports except for the November 26 - December 9 report. SDG&E served the report on December 23, 2020. As the report covered multiple events, SDG&E missed the deadline for the following events. See details under Section I. 2.

- November 26 – November 28
- December 2 – December 5

2. *In addition to the reporting requirements in Resolution ESRB-8, the electric investor-owned utilities must provide the following information:*

   a. *Decision criteria leading to de-energization, including an evaluation of alternatives to de-energization that were considered and mitigation measures used to decrease the risk of utility-caused wildfire in the de-energized area;*

      1) SDG&E reported it considered various factors in calling a PSPS event. It has not developed a specific PSPS algorithm that lists, quantifies and calculates the weight of each factor that is incorporated into a PSPS. SDG&E has developed and published information regarding the factors and weights that go into the determination of the fire environment severity which is included in the FPI and SAWTI sections of SDG&E's 2020 Wildfire Mitigation Plan (WMP). However, the information included in the FPI and SAWTI sections of SDG&E's 2020 Wildfire Mitigation Plan is not event-specific. Before the specific PSPS algorithm is developed, SDG&E must provide sufficient details regarding decision criteria and threshold for each event, including the shut-off threshold/criteria for Fire Potential Index, wind speed or wind climatology percentile, live/dead fuel moisture values and temperature.

      2) SDG&E reported that once extreme fire risk weather conditions have materialized, alternatives to PSPS are limited. However, SDG&E did not provide the specific alternatives it considered for each event nor the evaluation of the alternatives.

   b. *A copy of all notifications, the timing of notifications, the methods of*

notifications and who made the notifications (the utility or local public safety partners);

Upon the review of SDG&E's notification description and Appendix 1: Customer Notifications – Detailed Communications, SED noted the following issues:

1) There were instances that SDG&E did not meet notification requirements, including no advance notifications or no de-energization initiation notifications. These include:
   - September 8 – September 9:
     i. No de-energization initiation notifications were sent to customers.
     ii. No restoration completion notifications to public safety partners.
     iii. No notifications were sent 1-4 hours prior for customers that would have occurred late at night or overnight.
   - October 26 – October 27:
     i. About 1,466 customers did not receive any advanced notifications as weather forecasts did not indicate conditions potentially warranting PSPS in the impacted areas.
   - November 26 – December 9:
     i. SDG&E only sent out the "overnight" notification. SDG&E did not send out the 1-4 hour imminent notifications to the customers.
     ii. SDG&E was not able to provide notification to 4,465 customers. SDG&E stated these missed notifications may be attributed to non-communicative SCADA switches, which require SDG&E's Electric Distribution Operations to de-energize upstream of the intended sectionalizing device. Additionally, wind speeds exceeded their thresholds for several circuits and SDG&E did not have crews readily available on-site to de-energize the devices manually as weather conditions materialized. Further, some devices were not included in SDG&E's potentially impacted circuit list because initial weather forecasts did not indicate areas of concern for those circuits.
   - December 23 – December 24:
     i. SDG&E only sent out the "overnight" notification. SDG&E did not send out the 1-4 hour imminent notifications to the customers.

ii. SDG&E was not able to provide notification to 1,765 customers. SDG&E stated these missed notifications may be attributed to non-communicative SCADA switches, which require SDG&E's Electric Distribution Operations to de-energize upstream of the intended sectionalizing device. Additionally, wind speeds exceeded their thresholds for several circuits and SDG&E did not have crews readily available on-site to de-energize the devices manually as weather conditions materialized. Further, some devices were not included in SDG&E's potentially impacted circuit list because initial weather forecasts did not indicate areas of concern for those circuits.

2) SDG&E 's customer notifications did not contain the estimated start date and time, the estimated length of the de-energization event, and the estimated time of restoration.

c. *If the utility fails to provide advanced notification or notification according to the minimum timelines set forth in these Guidelines, an explanation of the circumstances that resulted in such failure*; SDG&E provides the following explanations for notifications not meeting the minimum timelines:

- The PSPS event occurred overnight. In order not to wake up the customers, SDG&E chose not to send out the imminent notifications;
- SDG&E's initially identified circuits for potential PSPS had been de-energized due to active fire;
- Clerical error which was fixed later;
- Unexpected weather change;
- Non-communicative switches which require SDG&E's Electric Distribution Operations to de-energize upstream of the intended sectionalizing device.

d. *A description and evaluation of engagement with local and state public safety partners in providing advanced education and outreach and notification during the de-energization event*;

SDG&E described its engagement with public safety partners including the in-person and virtual training, education, and tours during the pandemic. It also described daily briefings with state and local governments, outreach to multiple CBOs. In addition, SDG&E reported the specific engagement activities during the three weather

events. Immediately following the PSPS event, SDG&E distributed a one-question online survey requesting public safety partners to rate SDG&E's level of engagement with their organization before and during the PSPS events. SED noted SDG&E did not report it conducted the survey after the September 28-29 PSPS event although there was no actual power shut off during the event.

e. *For those customers where positive or affirmative notification was attempted, an accounting of the customers (which tariff and/or access and functional needs population designation), the number of notification attempts made, the timing of attempts, who made the notification attempt (utility or public safety partner) and the number of customers for whom positive notification was achieved*;

SDG&E reported that it successfully made affirmative notifications to medical baseline (MBL) customers who were not reached by phone. However, SDG&E did not report the number of notification attempts made to MBL customers and the timing of attempts.

f. *A description of how sectionalization, i.e. separating loads within a circuit, was considered and implemented and the extent to which it impacted the size and scope of the de-energization event*;

SDG&E reported it used sectionalization to mitigate customer impacts and performed offloading of customers on circuits in certain areas forecast to experience the most severe fire risk conditions. In addition, SDG&E utilized sectionalizing devices to send warning messages and notifications of potential PSPS impacts to specific customer groups.

g. *An explanation of how the utility determined that the benefit of de-energization outweighed potential public safety risks*;

SDG&E provided an explanation that the benefit of de-energization outweighed potential public safety risks. SDG&E stated it does not make the decision to de-energize lightly. Based on the best available information, SDG&E applies its judgment and experience to the situation at hand, with the safety of the communities and customers it serves, as well as its workforce, as top priority in the decision-making process.

h. *The timeline for power restoration (re-energization,) in addition to*

the steps taken to restore power as required in Resolution ESRB-8;

SDG&E reported the date and time of "Authorization to Patrol" as well as circuit restoration date and time for all events.

i. *Lessons learned from the de-energization event*;

SDG&E reported lessons learned. The topics of the lessons learned are related to the conciseness of its PSPS notification message to avoid confusion with other emergency notifications, EOC shift changes should be timed to avoid peak PSPS condition, timing of customer message, communication with public safety partners at 72-hours, upgrades to circuit sorting criteria on PSPS dashboard, efficient way of quickly notifying key staff, , coordination of platform sync time, communication with CalOES, lack of staff resource, time crunch to prepare accurate PSPS report and additional public safety partner contacts.

j. *Any recommended updates to the guidelines adopted in Resolution ESRB-8 and this decision*.

SDG&E provided the following recommendations to the guidelines:

1. SDG&E requested clarification on false negative and false positive communications included in D.20-05-051.
2. SDG&E recommended that CRCs be activated within 12 hours of implementation of a PSPS event, where the duration is forecasted to exceed 24 hours.
3. SDG&E recommended excluding the customer count detail in the 72-hour prior notification. Instead, SDG&E suggests this information be provided beginning at the 48-hour prior mark.
4. SDG&E urged the CPUC to consider revising the currently mandated operational hours of the CRC activation to better align with actual usage and public need, which SDG&E believes is opening at 8 am and closing at 8 pm. SDG&E stated it has supporting evidence that PSPS impacted communities rarely use CRC resources between the hours of 8 pm – 10 pm. Of the 3,086 vehicles that visited SDG&E's CRCs between November 26 – December 9, less than 1% visited a CRC during that timeframe. In total, 16 cars visited between 8 pm – 8:30 pm, while only one car visited after 9 pm.

III. D.20-05-051 – Phase 2 Guidelines

1. *CRCs shall be operable at least 8 AM-10 PM during an active de-energization event, with actual hours of operation to be determined by the local government in cases in which early closure of a facility is required due to inability to access a facility until 10 PM.*

   SDG&E reported the CRC operating hours were 8 am – 10 pm.

2. *Each electric investor-owned utility shall ensure that electric service to impacted service points is restored as soon as possible and within 24 hours from the termination of the de-energization event, unless it is unsafe to do so.* (D.20-05-051 at 6).

   SDG&E reports it was able to restore power within 24 hours of permission by the UIC to patrol for all events except one event. During the November 26 – December 9 multiple events, SDG&E was not able to safely re-energize one device within 24 hours of permission by the UIC to patrol. A portion of this circuit, affecting 146 customers, was restored after 24 hours due to the need for helicopter patrol. SDG&E explained that the helicopter assigned to this circuit was not able to fly due to unexpected mechanical issues and there was not enough daylight time to safely perform patrols using another helicopter.

3. *Each electric investor-owned utility shall enumerate and explain the cause of any false communications in its post event reports by citing the sources of changing data.*

   SDG&E requests the CPUC's clarification on false communications. Nevertheless, SDG&E reported certain information based on its understanding. However, such false communication was not completely reported. SDG&E reported instances of the lack of advance notifications to customers whose power was shut off and certain explanation. See Section II. 2. c for details. For situations when customers were notified of de-energization but ended up no power shutoff, SDG&E did not enumerate nor explain the cause.

4. *Each electric investor-owned utility shall report on all potential or active de-energization events in its post event reports. These reports shall include a thorough and detailed description of the quantitative and qualitative factors it considered in calling, sustaining, or curtailing each de-energization event (including information regarding why the de-energization event was a last resort option) and a specification of the*

factors that led to the conclusion of the de-energization event.

SDG&E reported some qualitative and quantitative factors it considered in deciding the PSPS. SDG&E must develop a more thorough and robust data driven decision-making process, including comparing the predetermined threshold with forecast value and with the actual value for the quantitative attributes in the PSPS decision-making process and why the PSPS was a last resort option.