SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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August 29, 2024

Leslie Palmer, Director
Safety Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

SUBJECT: SCE PSPS Post Event Report – August 06, 2024 to August 17, 2024

Dear Director Palmer:

As required by Resolution ESRB-8 and in accordance with Ordering Paragraph 1 of California Public Utilities Commission (CPUC) Decision (D.) 19-05-042, Southern California Edison Company (SCE) respectfully submits a post-event report for the PSPS event initiated on August 6, 2024 and concluded on August 17, 2024.

This report has been verified by an SCE officer in accordance with Rule 1.11 of the Commission's Rules of Practice and Procedure.

If you have any questions, please do not hesitate to call.

Sincerely,

Signed by:
43FB0E5D64B845D...
/s/ Adam Smith

Adam Smith
Director, Regulatory Relations

cc: ESRB_ComplianceFilings@cpuc.ca.gov

Southern California Edison
Public Safety Power Shutoff (PSPS) Post-Event Report
August 08, 2024

Filed with: The California Public Utilities Commission
Submitted to: Director of the Safety and Enforcement Division
Dated: August 30, 2024

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Introduction

SCE submits this post-event report to demonstrate its compliance with California Public Utilities Commission's (CPUC or Commission) PSPS guidelines including Resolution ESRB-8, PSPS Order Instituting Rulemaking (OIR) Phase 1 (Decision (D.) 19-05-042), Phase 2 (D.20-05-051), Phase 3 (D.21-06-034) and PSPS Order Instituting Investigation (OII) (D.21-06-014). [1]

This report addresses the de-energization event that started on August 06, 2024, at 12:00 p.m. and ended on August 17, 2024, at 10:00 p.m. This resulted in 21 customers being de-energized in Kern, Los Angeles, and San Bernardino counties during this event. This report explains SCE's decision to call, sustain, and conclude the de-energization event, and provides detailed information to facilitate the Commission's evaluation of SCE's compliance with applicable PSPS guidelines.

SCE recognizes de-energizations pose significant challenges and hardships for our customers and the public safety partners that provide services to the affected communities. SCE's decision to activate its PSPS protocol is based on consideration and weighing of multiple factors, including forecasted weather, fuel conditions, infrastructure vulnerabilities, and potential impacts of PSPS on public safety partners and the communities we serve.

SCE is committed to continuously improving its PSPS processes and welcomes input from customers, public safety partners, community representatives, and local governments on ways to minimize the impact of PSPS events.

[1] This PSPS post-event report is based on the best information and data available as of the filing deadline for the report. SCE continues to gather, analyze, and validate some of the underlying data, and will supplement this report with updated information, as needed, in its annual post-season report. *See* D.21-06-014, Ordering Paragraph (OP) 66, p. 305 (directing SCE to "provide aggregate data . . . in an annual report, including aggregate data that may not have been available at the time the utility filed the 10-day post-event report").

Section 1. Executive Summary

At A Glance							
Total customers notified	**Total customers de-energized**	**List of counties in scope**	**List of counties de-energized**	**Total distribution circuits in scope**	**Total distribution circuits de-energized**	**# of damage/ hazards found**	**Community resource centers (including CCVs)**
2977	**21**	**Inyo, Kern, Los Angeles, Mono, San Bernardino, and Santa Barbara**	**Kern, Los Angeles, and San Bernardino**	**12**	**2**	**0**	**8**

1. Brief description of the PSPS event starting from the time when the utility's Emergency Operation Center is activated until service to all customers have been restored.

This event spanned four Period of Concerns (POCs) as a result of evolving weather forecasts. This resulted in 21 customers being de-energized in Kern, Los Angeles, and San Bernardino counties during this event. A summary of the timeline for this event is provided below.

Period of Concern #1
August 6, 2024: SCE's meteorologists identified the potential for dangerous fire weather conditions in Los Angeles and Kern counties. In response to this forecasted fire weather, SCE activated its dedicated PSPS Incident Management Team (IMT) on August 6, 2024 at 12:00 pm to manage this event and began sending advance notifications of potential PSPS to Public Safety Partners, Critical Facilities and Infrastructure customers, and other customers in scope.

August 7, 2024: SCE's meteorologists identified additional fire weather concerns for Los Angeles and Kern counties, which extended the first POC from 6:00 p.m. to 9:00 p.m. on August 9, 2024.

August 8, 2024: A wind advisory was issued by National Weather service for portions of Kern County and portions of Los Angeles County. SCE de-energized customers in Kern and Los Angeles counties during this POC at 2:35 p.m.

August 9, 2024: SCE ended the first POC at 3:00pm because the Geographic Area Coordination Center (GACC) Preparedness Level changed resulting in an increase to FPI thresholds in areas previously in scope. On the same day, SCE's Meteorologist identified an additional period of dangerous fire weather conditions in portions of Los Angeles County and issued a new POC from 3:00 p.m. on August 11, 2024 to 9:00 p.m. on August 12, 2024.

Period of Concern #2
August 11, 2024: SCE's Meteorologist identified additional areas of dangerous fire weather conditions in Kern County bringing this county back into scope. This new area in Kern County also had a POC lasting through 9:00 p.m. on August 12, 2024.

August 12, 2024: SCE's meteorologist identified additional dangerous fire weather conditions in Kern County extending the POC to 6:00 p.m. on August 14, 2024. A wind advisory was issued by National Weather service for portions of Kern County for August 12, 2024.

August 13, 2024: SCE's meteorologist identified a new area in Santa Barbara County experiencing dangerous fire weather conditions due to sundowner winds and issued a new POC from 6:00 p.m. to 11:59 p.m. for August 15, 2024. SCE's meteorologists also noted an improvement in the forecast for Kern County, removing that area from scope on August 13 but keeping that area in scope for the POC ending on August 14.

August 14, 2024: Fire weather conditions did not ultimately materialize, and SCE did not de-energize any customer during the second POC. Subsequently, SCE's Meteorologist identified additional periods of dangerous fire weather conditions in Los Angeles County and issued a new POC from 3:00 p.m. on August 16 to 9:00 p.m. August 17, 2024.

Period of Concern #3
August 15, 2024: SCE's Meteorologist identified an expanded area of dangerous fire weather conditions in the Sierras due to onshore winds bringing Mono County into scope. Additionally, a wind advisory was issued by National Weather Service for portions of Santa Barbara County for August 15th. Fire weather conditions did not ultimately materialize, and SCE did not de-energize any customer during this POC.

Period of Concern #4
August 16, 2024: SCE's Meteorologist identified an expansion of dangerous fire weather conditions in Mono County. A Red Flag Warning was issued by National Weather service for Mono County.

August 17, 2024: SCE's Meteorologist identified an expansion of dangerous fire weather conditions in Inyo County bringing this county into scope. Additionally, real-time conditions observed on a single circuit in the San Bernardino Mountains exceeded PSPS conditions resulting in San Bernardino County being brought into PSPS scope. Ultimately, SCE de-energized the circuit in San Bernardino County. This PSPS event concluded on August 17, 2024 at 10:00 p.m. after fire weather conditions were no longer forecasted to impact the SCE service area and the IMT de-mobilized.

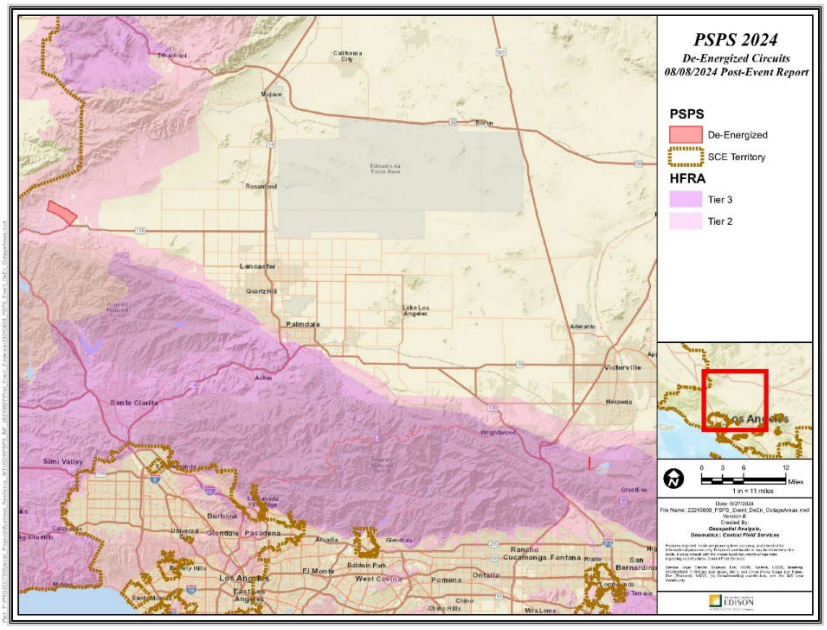
1. **A table including the maximum number of customers notified and actually de-energized; number of counties de-energized; number of tribes de-energized; number of Medical Baseline customers de-energized; number of transmission and distribution circuits de- energized; damage/hazard count; number of critical facilities and infrastructure de-energized.**

Table 1: PSPS Event Summary[2]

PSPS Event Summary										
Total Customers			De-energized				Number of Circuits			Damage/Hazard Count
PSPS Notified	De-energized	Cancelled	MBL Customers	Number of Counties	Number of Tribes	Critical Facilities and Infrastucture	Transmission De-energized	Distribution Circuits in Scope	Distribution Circuits De-energized	
2977	21	2957	0	3	0	9	0	12	2	0

[2] "PSPS Notified" metric in Table 1 reflects the total number of unique customers that were sent a pre-event notification of potential de-energization during the PSPS event. "Cancelled" metric in Table 1 reflects the total number of unique customers that were sent a pre-event notification of potential de-energization, but not ultimately de-energized (regardless of whether those customers received a cancellation notice). Please see Section 5 of this report regarding missed notifications and cancellation notice metrics.

2. A PDF map depicting the de-energized area(s)



Section 2. Decision-Making Process

1. **A table showing factors considered in the decision to shut off power for each circuit de-energized, including sustained and gust wind speeds, temperature, humidity, and moisture in the vicinity of the de-energized circuits.**[3]

Table 2: Factors Considered in Decision to De-Energize [4]

Factors Considered in Decision to De-Energize									
Circuit De-energized	Sustained Wind Speed			Gust Wind Speed			Fire Potential Index (FPI)		Firecast Output Ratio
	Activation Threshold	De-energization Threshold	Actual	Activation Threshold	De-energization Threshold	Actual	Threshold	Actual	
TEJON	31	31	30.48	46	46	39.53	12	12.885	211.55703
PENSTOCK	40	40	37.79	58	58	50.05	12	13.2	88.486958

[3] SCE calculates a Fire Potential Index (FPI) rating for each circuit in scope for de-energization. FPI estimates the likelihood of a spark turning into a major wildfire. FPI uses a whole-number scale with a range from 1 to 17; categorized as normal (1-11), elevated (12-14) and extreme (15+). FPI inputs include wind speed, dewpoint depression (which is a measure of how dry the air is), and various fuel moisture parameters, as detailed in Section 2-2 of this report. Other variables, such as temperature and humidity, while potential contributors to fire spread, are not direct inputs into the FPI calculation. Temperature and humidity are accounted for indirectly through the inclusion of dewpoint depression in the FPI rating. Because temperature, humidity, and moisture are not distinct "factors considered" in SCE's de-energization decisions, they are not reported separately, but are reflected in the actual FPI rating for each de-energized circuit, as shown in Table 2.

[4] Actual sustained and gust wind speeds in Table 2 are recorded at the time the decision was made to begin the de-energization process and do not reflect peak wind and gust speeds observed during the Period of Concern (which could be higher). De-energization of a circuit generally occurs when either sustained wind de-energization threshold or gust wind de-energization threshold is met, in tandem with the circuit's FPI threshold.

2. **Decision criteria and detailed thresholds leading to de-energization including the latest forecasted weather parameters versus actual weather. Also include a PSPS decision-making diagram(s)/flowchart(s) or equivalent along with narrative description.**

SCE uses preset wind and gust thresholds for dangerous wind conditions that create increased fire potential (including wind speeds, humidity, fuel moisture levels and other factors as the basis for PSPS decision-making, as described in SCE's technical paper).[5] De-energization thresholds are determined separately for each circuit to prioritize circuits for de-energization based on the specific risks of the event. This is particularly important for large events where many circuits must be evaluated simultaneously. In addition, escalating weather conditions and operational complexities are considered when making de-energization decisions.

These thresholds are set for each of the circuits in SCE-designated high fire risk areas (HFRAs) and are continuously reviewed to calibrate the risk of significant events against the potential for harm to customers from the loss of power.

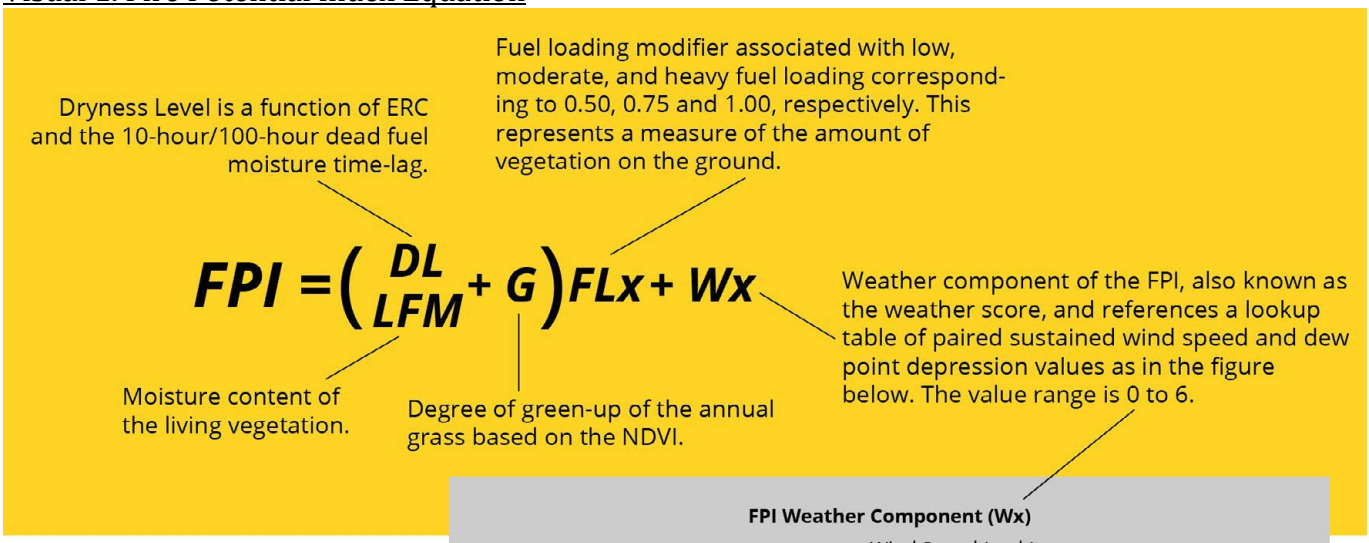
All circuits have an activation threshold, defined by the Fire Potential Index (FPI), and sustained and gust wind speeds at which they are considered at risk. Activation thresholds are computed for each circuit for the season.

FPI is calculated using the following inputs:

- Wind speed—Sustained wind velocity at 6 meters above ground level.
- Dew point depression—The dryness of the air as represented by the difference between air temperature and dew point temperature at 2 meters above ground level.
- Energy release component (ERC) — "The available energy (BTU) per unit area (square foot) within the flaming front at the head of a fire … reflects the contribution of all live and dead fuels to potential fire intensity." [6]
- 10-hour dead fuel moisture—A measure of the amount of moisture in ¼-inch diameter dead fuels, such as small twigs and sticks.
- 100-hour dead fuel moisture—A measure of the amount of moisture in 1- to 3-inch diameter dead fuels, i.e., dead, woody material such as small branches.
- Live fuel moisture—A measure of the amount of moisture in living vegetation.
- Normalized Difference Vegetation Index (NDVI)— "… used to quantify vegetation greenness and is useful in understanding vegetation density and assessing changes in plant health." [7]

[5] SCE's detailed technical paper, Quantitative and Qualitative Factors for PSPS Decision-Making, can be found at https://download.newsroom.edison.com/create_memory_file/?f_id=609d61cbb3aed37d0f3d5f6a&content_verified=True and in Attachment B of this report.
[6] U.S. Department of Agriculture. n.d. "Energy Release Component (ERC) Fact Sheet." Forest Service. Accessed April 14, 2021. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5339121.pdf.
[7] U.S. Department of the Interior. n.d. Landsat Normalized Difference Vegetation Index. Accessed May 15, 2024. https://www.usgs.gov/core-science-systems/nli/landsat/landsat-normalized-difference-vegetation-index?qt-science_support_page_related_con=0#qt-science_support_page_related_con.

Visual 1. Fire Potential Index Equation[8]



FPI Weather Component (Wx)

Dew Point Depression	Wind Speed (mph) <=5	6-10	11-16	17-22	23-28	>=29
>=50	2	3	3	4	5	6
40-49	2	2	3	3	4	5
30-39	1	2	2	3	3	4
20-29	1	1	2	2	3	3
10-19	0	0	1	1	1	1
<10	0	0	0	0	0	0

Initially, SCE set the FPI threshold to 12 for all circuits in SCE's high fire risk areas. Starting on Sept. 1, 2021, SCE raised the FPI to 13 for most areas and most events based on a risk analysis of historical fire data. [9] Exceptions where the FPI threshold continued to be set at 12 include:

- Fire Climate Zone 1 (FCZ1) (Coastal region) — The threshold for FCZ1 is staying at 12 because probability calculations indicated a significantly higher ignition risk factor at an FPI threshold of 13 for this FCZ than for the other FCZs (2, 3, 4, 9 and 10). (Figure 2)

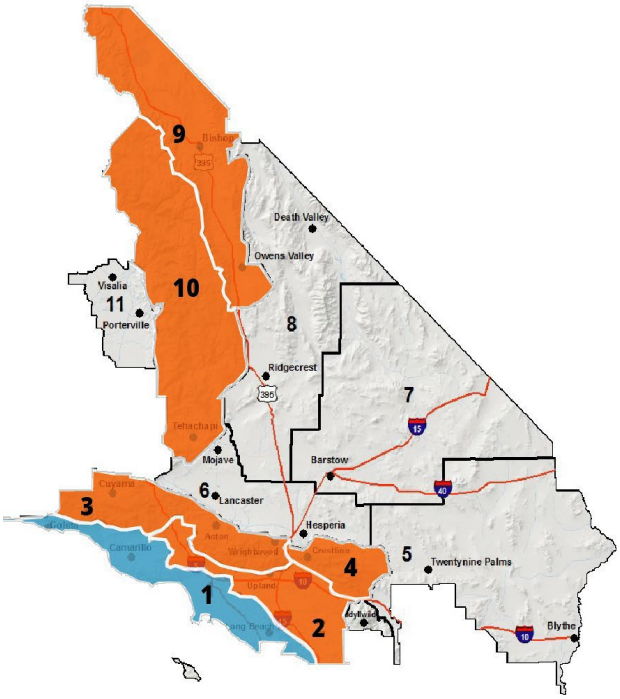
- Geographic Area Coordination Center (GACC) preparedness level of 4 or 5 — The GACC coordinates multiple federal, state, and regional fire suppression resources. It provides daily fire preparedness levels on a scale of 1-5. A high score signals that there is significant resource drawdown which could negatively impact fire response.

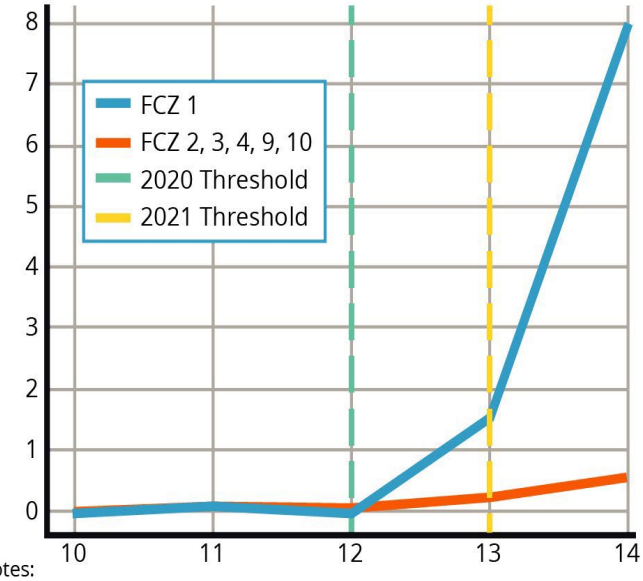
[8] For more information on SCE's Fire Potential Index, including the insertion of the Live Fuel Moisture variable, please see SCE's 2023-2025 Wildfire Mitigation Plan, *available at* https://www.sce.com/sites/default/files/AEM/Wildfire%20Mitigation%20Plan/2023-2025/SCE%202023%20WMP%20R2-clean.pdf, pp. 512-516)

[9] Short, Karen C. 2017. Spatial wildfire occurrence data for the United States, 1992-2015 [FPA_FOD_20170508]. 4th Edition. Fort Collins, CO: Forest Service Research Data Archive https://doi.org/10.2737/RDS-2013-0009.4 Supplemented with 2016-2017 ignition data supplied directly by CalFIRE via email.

- Circuits located in an active Fire Science Area of Concern (AOC) — AOCs are areas within FCZs that are at high risk for fire with significant community impact. This designation is based on factors that are part of FPI, as well as egress, fire history and fire consequence. Further details about AOCs can be found in SCE's Wildfire Mitigation Plan. [10]

Visual 2. Probability of Wind-Driven Fires at 10,000 Acres at FPI 12 and 13[11]





Notes:
1. Based on an analysis of fire data from 1992-2017.
2. FPI is calculated as a whole number (there are no fractional FPI values).
3. Fires of less than 10,000 acres are not represented on this graph.

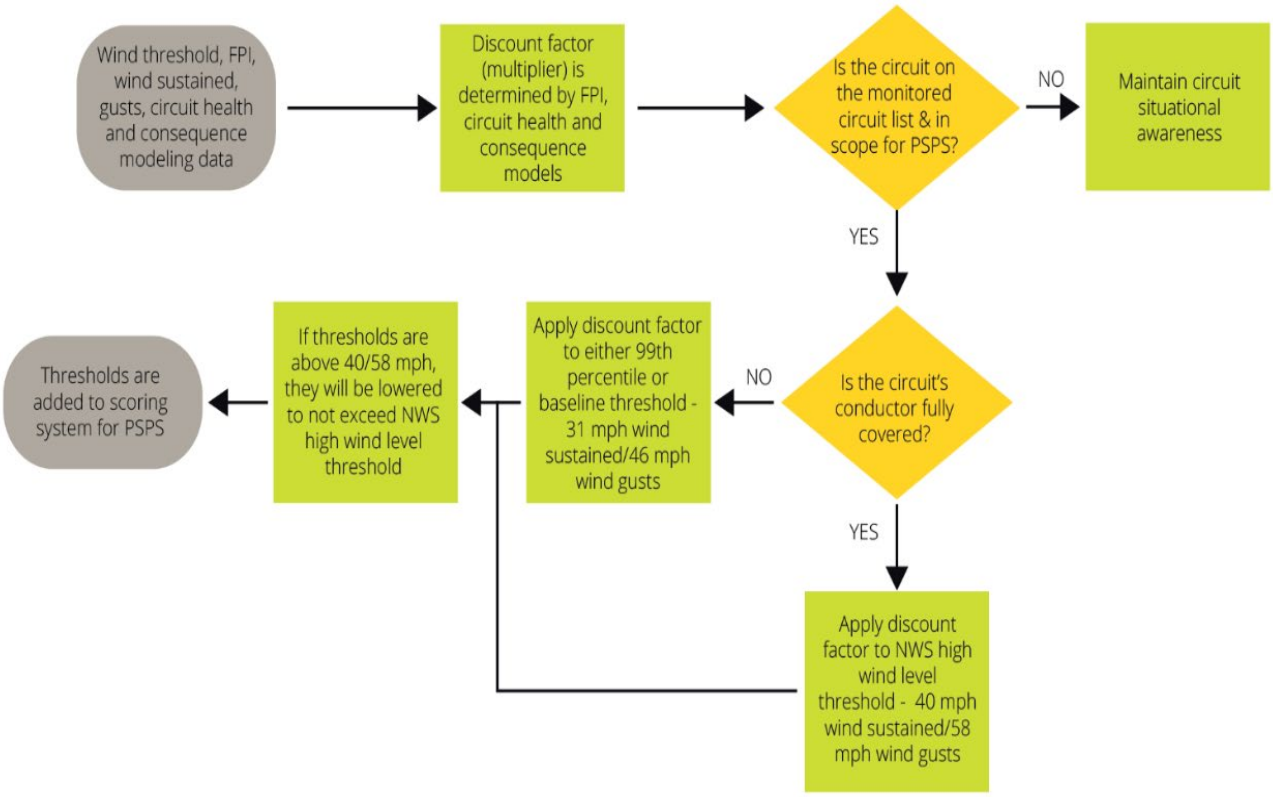
In 2023, SCE identified certain remote and isolated areas (less than 1% of SCE's high fire risk area) where an FPI threshold of 11 may be appropriate to mitigate additional fire risk created by unique factors such as extremely limited egress and constrained fire suppression capability. SCE does not anticipate a significant increase in PSPS events as a result of lowering the FPI threshold in these areas.

For each PSPS event, every circuit also has a de-energization threshold. De-energization thresholds are determined separately for each circuit to prioritize circuits for de-energization based on the specific risks of the event. This is particularly important for large events where many circuits must be evaluated simultaneously. There are a handful of circuits that have legacy thresholds below the NWS advisory level because they have a history of local circuit outages at lower wind speeds.

De-energization thresholds account for circuit health, including any issues identified through patrols, and are also informed by a consequence score for each specific high fire risk area. The consequence score estimates the impact of an ignition on communities. The higher the score, the greater the risk to a particular location from wildfires. SCE's process for calculating de-energization thresholds is outlined below.

[10] SCE's 2023-2025 Wildfire Mitigation Plan Update dated April 2, 2024.
[11] Based on back cast FPI calculation.

Visual 3. PSPS Decision-Making Flowchart/Diagram



If actual conditions suggest more risk, or in complex, large-scale events when many circuits are under consideration for shutoffs, the de-energization thresholds may be lowered (discounted), meaning power on a circuit will be turned off at lower wind speeds. This step prioritizes the circuits that represent the highest risk to be evaluated for de-energization before circuits at lower risk. During the large-scale and dynamic PSPS event, the Incident Commander, in consultation with Operations and SCE meteorologists, has the option to authorize de-energizations.

Conversely, de-energization thresholds are raised for segments or circuits that have had covered conductor installed. The de-energization threshold for segments with covered conductor is 40 mph sustained/58 mph gusts, which aligns with the NWS high wind warning level for windspeeds at which infrastructure damage may occur.

During this event, we made the proactive decision to de-energize a segment of the Penstock circuit before it met the de-energization criteria. Initially, this circuit was not within the Period of Concern, but due to rapidly changing weather conditions, it quickly came into scope.

During this time, an operational analysis indicated there were no customers on this circuit segment, which allowed us to take pre-emptive action without expecting it to affect service to any customers. Given this information, the team determined it was best to pre-emptively de-energize the circuit ahead of meeting the specified criteria noted above in Table 2 to further mitigate potential wildfire hazards.

However, it was later determined via discussions with field resources that a customer was indeed on the circuit but was not accurately reflected in operational systems of record. While the decision was made with the best available information at the time, we are now reviewing our processes to prevent similar situations in the future. A record correction request has been submitted and is currently in process.

The thresholds for the circuits in scope for potential de-energization during this event were set as follows:

Table 3: Circuit Thresholds

Circuit Thresholds					
Circuit	FPI Threshold Rating	Wind Speed Activation Thresholds		De-Energization Thresholds	
		Sustained Wind	Gust Wind	Sustained Wind	Gust Wind
TEJON	12	31	46	31	46
PENSTOCK	12	40	58	40	58

Forecasted versus actual weather parameters for this event were as follows:

- Wind: Wind gusts of 35 to 55 mph were forecast for Inyo, Kern, Los Angeles, Mono, Santa Barbara and San Bernardino counties during this event, with isolated areas of higher gusts up to 65 mph in Santa Barbara County. Peak observed wind speeds in areas of concern were 41 mph sustained and 55 mph gusts during this event.

- Relative humidity: Relative humidity during this event was forecast to be between 5% and 25% across Inyo, Kern, Los Angeles, Mono, and Santa Barbara Counties concurrent with the strong winds. Actual observed relative humidity ranged from 4% to 22% during this event. As discussed in Section 2-1 above, relative humidity is just one of many variables that inform SCE's FPI ratings.

- During this event, we made the proactive decision to de-energize a segment of the Penstock circuit before it met the de-energization criteria. Initially, this circuit was not within the Period of Concern, but due to rapidly changing weather conditions, it quickly came into scope.

The thresholds used were appropriate for this event and functioned as intended. To further refine the thresholds, SCE gathers data from the post-event patrols conducted after every event and records any evidence of damage to SCE infrastructure during de-energization. These damage data points are incorporated into SCE's machine learning models which are used to predict the probability of failure for SCE assets. This model along with fire consequence modelling is the basis for SCE's Wildfire Mitigation Plan.

Probability of failure does not directly affect SCE's PSPS de-energization thresholds. SCE's PSPS de-energization thresholds are determined with the fundamental consideration that a fire in high wind conditions is not an acceptable risk for SCE, our customers, or our communities. Also, failing to find damage in a post-event patrol does not mean that the de-energization did not prevent a fire or that the thresholds were too high; wind-blown debris could result in faults that could be the source of an ignition if the lines were energized, but this is not observable in a post-event patrol if the debris subsequently blew out of the line.

3. A thorough and detailed description of the quantitative and qualitative factors SCE considered in calling, sustaining, or curtailing each de-energization event including any fire risk or PSPS risk modeling results, and a specification of the factors that led to the conclusion of the de-energization event.

SCE's PSPS decisions are based on quantitative analyses while accounting for qualitative factors such as societal and emergency management impacts. SCE utilizes proactive de-energization as a measure of last resort when all other alternatives to de-energization have been exhausted. The decision to de-energize customers during this PSPS event was based on considering and weighing the quantitative and qualitative factors detailed below:

- Consultation with the GACC regarding the potential for elevated fire weather within the SCE service territory during the Periods of Concern. The GACC agreed with SCE's forecast of elevated fire weather potential for areas of concern.

- Ongoing assessments before the Period of Concern from SCE's in-house meteorologists using high-resolution weather models to determine the potential scope of the PSPS event, as well as real time weather data from SCE weather stations and publicly available weather stations during the Period of Concern to inform actual de-energization decisions.

- Fire spread modeling to identify areas having the greatest potential for significant fire activity. Results of this modeling by SCE identified the potential for fire in the:

    - Three thousand (3,000) to eight thousand (8,000)-acre range in Los Angeles County during the Periods of Concern.
    - One thousand (1,000) to five thousand (5,000)-acre range in Kern County during the Periods of Concern.
    - One thousand (1,000) to four thousand (4,000)-acre range in Los Angeles and San Bernardino Counties (northwest of Wrightwood) during the Periods of Concern.
    - One thousand (1,000) to three thousand (3,000)-acre range in Santa Barbara County during the Periods of Concern.
    - One thousand (1,000) to seven thousand (7,000)-acre range in Mono and Inyo Counties during the Periods of Concern.

- Observed weather parameters for this PSPS event, including sustained and/or gust wind speeds and FPI ratings for the circuits in scope relative to the preset thresholds for this event. De-energization thresholds were reached or exceeded for 1 circuit during this event as detailed in Table 2: Factors Considered in De-Energization in Section 2-1. *See* also Section 2-2 for additional details.

- National Weather Service-issued watches and warnings for areas of concern in SCE service territory. Red Flag Warnings were issued for Mono County and wind advisories were issued for Los Angeles, Kern, and Santa Barbara counties during this PSPS event.

SCE considered the following factors when deciding to conclude this de-energization event:

- Weather modeling for the areas of concern. SCE's meteorologists indicated elevated fire weather conditions would continue to abate below wind and FPI thresholds throughout the night on August 17 due to forecasted decreasing wind speeds and FPI.

- Observed wind speeds and FPI ratings. Observed wind and FPI ratings for all circuits in scope no longer met de-energization threshold criteria as of 5:22 p.m. on August 17, 2024.

4. An explanation of how the utility determined that the benefit of de-energization outweighed potential public safety risks, and analysis of the risks of de-energization against not de-energizing. The utility must identify and quantify customer, resident, and the general public risks and harms from de-energization and clearly explain risk models, risk assessment processes, and how the power disruptions to customers, residents, and the general public is weighed against the benefits of a proactive de-energization.

SCE assesses and compares potential public safety risks associated with proactive de-energization (PSPS risk) and simulated wildfire risk (PSPS benefit in avoiding a wildfire) for all circuits in scope for the Period of Concern, using its PSPS In-Event Risk Comparison Tool. [12] Inputs into this tool include, among other factors, in-event weather, wildfire simulations, and circuit specific data. The results of these circuit specific assessments are displayed in the Central Data Platform and used by Incident Commanders to inform de-energization decisions, in conjunction with other relevant quantitative and qualitative factors described in Section 2 of this report. Incident Commanders consider these assessments in making de-energization decisions to ensure the wildfire risk (PSPS benefit in avoiding a wildfire) outweighs the risk associated with PSPS for each circuit in scope.

The circuit-specific criteria and data used in this assessment, include:

- **For PSPS Risk**: Customers served, estimated population, and the relative ranking of the circuits in scope by the percentage of Access and Functional Needs (AFN) and Non-Residential Critical Infrastructure (NRCI) customers.

- **For Wildfire Risk**: Wildfire simulations (using Technosylva FireRisk[13] modeling) for potential ignitions based on dynamic, in-event weather and wind conditions in proximity to the circuits in scope for de-energization. These conditions are used to determine the extent of an estimated fire footprint (or fire shed). Within that fire shed, the risk of a wildfire is calculated based on the number of structures, population, and acres potentially threatened within the impacted area.

The resulting outputs of the PSPS In Event Risk Comparison Tool are used to calculate potential Safety, Financial, and Reliability impacts (or attributes) of: (1) a wildfire and (2) a proactive de-energization event, as summarized in the table below:

[12] SCE will continue to refine the PSPS In-Event Risk Comparison Tool based on real-time experience, additional data, modeling enhancements, and ongoing benchmarking with other IOUs. Estimates and assumptions described herein are based on risk models reflecting current industry best practices (such as FireRisk (formally FireCast) and are subject to being updated as the modeling improves.

[13] Technosylva is a suite of wildfire simulation models or tools. While relying on a similar underlying fire propagation engine, each model is designed to support a unique use case. FireRisk (formally FireCast) is specifically designed to forecast ignition risk associated with electric utility assets over a 7-day horizon based on expected short-term weather conditions.

Risk Attribute	Wildfire Consequences	PSPS Consequences
Safety	SCE calculates the estimated number of fatalities and serious injuries based on a forecast of impacted population within the Technosylva wildfire consequence simulation. This number, in turn, is converted into the Safety index.	SCE leverages epidemiological studies and information drawn from past widespread power outage events including the 2003 Northeast Blackout, the 2011 Southwest Blackout, and the IOUs' 2019 PSPS post-event reports.[14] The resulting estimates of fatalities and serious injuries per customer minutes interrupted (CMI) are intended to approximate potential safety consequences due to the power outage, such as illnesses resulting from food spoilage or exacerbation of existing underlying health conditions. SCE enhanced the PSPS safety attribute through the application of a circuit-specific AFN/NRCI multiplier. This multiplier represents the relative ranking of each circuit based on the number of AFN and NRCI customers on the circuit.
Reliability	SCE assumes 24 hours without power per customer on each circuit in scope due to wildfire. This duration was used to maintain consistency with Technosylva 24-hour fire propagation simulation, as well as the PSPS impact duration.	SCE estimates the total customer minutes interrupted (CMI) due to proactive de-energization on a circuit. It is the product of the number of customers on a circuit and the total number of minutes of estimated interruption. SCE assumes 1,440 CMI per customer (24 hours x 60 minutes) to represent de-energization over a 24-hour period.
Financial	SCE calculates the financial impact of wildfire by assigning a dollar value to the buildings and acres within the fire shed potentially threatened by wildfire. For buildings, SCE uses a system average replacement value assumption. For acres, SCE uses assumed costs of suppression and restoration.[15]	SCE conservatively assumes $250[16] per customer, per de-energization event to quantify potential financial losses for the purpose of comparing PSPS risk to wildfire risk. The figure represents potential customer losses, such as lost revenue/income, food spoilage, cost of alternative accommodations, and equipment/property damage. This value is based on a Value of Lost Load (VoLL), which is a widely accepted industry methodology to estimate a customer's willingness to accept compensation for service interruption. VoLL is dependent on many factors, including the type of customer, the duration of the outage, the time of year, the number of interruptions a customer has experienced. SCE's VoLL estimate is consistent with academic and internal studies to estimate VoLL for a single-family residential customer for a 24-hour period.

[14] *See, e.g.,* Anderson, G.B., Bell, M.B (2012). Lights Out: Impact of the August 2003 Power Outage on Mortality in New York, NY, *Epidemiology* 23(2) 189-193. doi: 10.1097/EDE.0b013e318245c61c.
[15] Suppression costs are based on a five-year average of California's reported wildfire suppression costs from 2016-2020. Restoration costs are assumed to be $1,227/acre based on research papers published by the Bureau of Land Management.
[16] SCE utilizes $250 per customer, per de-energization event to approximate potential financial losses on average, recognizing that some customers may experience no financial impact, while other customers' losses may exceed $250. The $250 value is a conservative assumption used for the limited purpose of estimating the potential financial consequences of PSPS as one of

The resulting natural unit consequences for PSPS and wildfire risk are converted to unit-less risk scores —one for PSPS risks and one for wildfire risks[17] using SCE Multi-Attribute Risk Score (MARS) framework.

The use of a unit-less risk score allows SCE to compare the resulting risk scores to each other by dividing the wildfire risk score (*i.e.*, the potential benefit of PSPS) by the PSPS risk score (*i.e.*, the potential public harm of PSPS). The calculation results in an easily interpretable benefit/risk ratio for each circuit in scope.

If the resulting ratio is equal to 1, wildfire and PSPS risk are equal to one another. If the ratio is greater than one, wildfire risk exceeds PSPS risk (the higher the resulting number, the more the wildfire risk outweighs the PSPS risk). If the ratio is less than 1, PSPS risk outweighs the wildfire risk.

The table below displays circuit-specific inputs—including the number of customers on a circuit, AFN/NRCI multiplier, number of acres and buildings potentially threatened— all of which are used to calculate the PSPS and wildfire risk scores (shown in columns titled "PSPS Risk" and "Wildfire Risk") These risk scores are then compared in the last column (highlighted in yellow) titled "FireRisk Output Ratio," which shows the ratios of wildfire risk (corresponding to potential benefit of PSPS) to PSPS risk (corresponding to potential public harm from PSPS) for each circuit in scope. All ratios in the "FireRisk Output Ratio" column for are greater than 1, meaning that the wildfire risk exceeded PSPS risk for all circuits in scope. These results were presented to the Incident Commanders in advance of de-energization to inform PSPS decision-making.

Table 4: PSPS Risk vs. Benefit Comparison Tool

PSPS Risk vs. Benefit Comparison Tool										
Circuit	All Customers	Population	AFN/NRCI Multiplier	24 Hour CMI (24 x 60)	Firecast Acres	Firecast Buildings	Firecast Population	PSPS Risk (24 hr Impact-PSPS Model)	Wildfire Risk (24hr Impact-PSPS Model)	Firecast Output Ratio
TEJON	496	1488	1.2441228	1440	7180.8	272	142	0.000104968	0.022206651	211.55703
PENSTOCK	1949	5847	1.32160113	1440	5548.5	203	333	0.000414785	0.016879644	40.694882

many inputs into SCE's PSPS In-Event Risk Comparison Tool. It is not an acknowledgment that any given customer has or will incur losses in this amount, and SCE reserves the right to argue otherwise in litigation and other claim resolution contexts, as well as in CPUC regulatory proceedings.

[17] MARS is SCE's version of Multi-Attribute Value Function (MAVF). The MAVF was developed as part of the Safety Model Assessment (S-MAP) proceeding and is used in the utilities' 2018 Risk Assessment Mitigation Phase (RAMP) Report (I.18-11006, pp. 1-28) filings to compare risks and mitigation alternatives. SCE has improved its MARS framework since first developing it for the 2018 RAMP. SCE MARS 2.0 attributes, units, weights, ranges, and scales are shown below, and are further described in SCE's 2022 RAMP report See A.21-05-13, Chapter 2 – Risk Model and RSE Methodology.

Attribute	Unit	Weight	Range	Scaling
Safety	Index	50%	0 – 100	Linear
Reliability	CMI	25%	0 – 2 billion	Linear
Financial	$	25%	0 – 5 billion	Linear

For this de-energization event, the results of the PSPS Risk vs. Benefit Comparison Tool supported SCE's decision to de-energize, indicating that all circuits de-energized during this event[18] had a PSPS benefit/risk ratio greater than 1. Thus, the estimated benefit of PSPS outweighed the estimated risk of PSPS for this event.

5. Explanation of alternatives to de-energization and other wildfire mitigation measures in de-energized areas; PSPS last resort analysis.

SCE deploys a suite of wildfire mitigation measures aimed at reducing the probability of ignitions associated with electrical infrastructure in high fire risk areas without resorting to PSPS. These activities include grid hardening measures such as installation of covered conductor, repair, or replacement of equipment on poles (e.g., crossarms, transformers), and installation of protective devices (e.g., fast acting fuses and relay settings).[19] In addition, SCE has implemented operational practices including enhanced inspections, vegetation management, and fire climate zone operating restrictions[20] in high fire risk areas. Certain protective measures such as fast curve settings and fire climate zone operating restrictions are applied to a majority of high fire risk circuits and are typically in effect for the duration of the fire season; others such as covered conductor are permanent and in place year-round. SCE's PSPS windspeed thresholds account for circuits or isolatable circuit segments that are fully hardened with covered conductor, thereby potentially limiting the duration and number of customers affected by PSPS during fire weather events. However, during severe fire weather conditions (dry and windy), there is a heightened risk of ignitions primarily due to wind-driven foreign objects or airborne vegetation coming into contact with SCE's equipment. Under these circumstances, the deployment of the above-described less disruptive measures may not sufficiently mitigate wildfire and public safety risk, and PSPS is necessary as a last resort mitigation measure to prevent ignitions that may lead to significant wildfires.

Leading up to and during a PSPS event, SCE utilizes real-time weather station data and, if available, information from field observers on the ground for enhanced situational awareness to forecast and monitor prevailing environmental conditions (e.g., wind gusts) that can lead to potential damage from airborne vegetation or flying debris, to inform de-energization decisions. For circuits that are in scope, SCE also conducts pre-patrols and visually inspects the entire length of each circuit or circuit segment to identify any imminent hazards or equipment vulnerabilities that require immediate remediation and provide additional up-to-date intelligence on field conditions. If such concerns are discovered on a circuit in scope, they are addressed before the impending wind event, if possible.

SCE makes every effort to limit the scope, duration, and impact of PSPS for as many customers as possible. This includes adjusting wind speed thresholds higher for circuits or segments that have covered conductor installed and leveraging sectionalization equipment to switch some customers to

[18] The table showing the results of the PSPS Risk vs. Benefit Comparison Tool includes ratios for all de-energized circuits for this event, all of which indicate the benefit of wildfire avoidance (achieved through PSPS or other mitigation measures) exceeded PSPS risk. As noted above, the results of the Tool are among many quantitative and qualitative factors considered by SCE in its PSPS decision-making process.

[19] Fast curve settings reduce fault energy release by increasing the speed with which a protective relay reacts to most fault currents. Fast curve settings can reduce heating, arcing, and sparking for many faults compared to conventional protection equipment settings. More details are in SCE's 2023-2025 Wildfire Mitigation Plan Update, initiative SH-6.

[20] SCE's System Operating Bulletin No. 322 includes provisions for enabling fast curve settings on distribution line reclosers and circuit breakers, recloser blocking, line patrols and requirements for personnel to be physically present when operating air-break switching devices.

adjacent circuits not impacted by PSPS or otherwise remove them from scope. Starting with the initial weather (wind and relative humidity) and fuel moisture forecasts for the Period of Concern, SCE evaluates its current system configurations for downstream circuits, i.e., circuits receiving power from another circuit that is forecast to exceed de-energization thresholds. SCE seeks to identify any circuit segment or subset of customers that could safely be transferred from a circuit that is expected to exceed thresholds to another adjacent circuit that is not. See Section 10: Mitigation to Reduce Impact for additional details.

Based on weather forecast data, fire weather modeling information, and results of the PSPS Risk vs. Benefit Comparison Tool, SCE determined that the above-described precautionary measures alone would not sufficiently reduce the risk to public safety, and PSPS was necessary for some of the circuits and customers in scope.

Section 3. De-Energized Time, Place, Duration and Customers

1. **The summary of time, place, and duration of the event, broken down by phase if applicable.**

   This PSPS event began when SCE activated its Emergency Operations Center on August 6, 2024, at 12:00 p.m. and ended for all circuits in scope on August 17, 2024 at 10:00 p.m. This event encompassed impacted circuits in Inyo, Kern, Los Angeles, Mono, Santa Barbara, and San Bernardino Counties. *See,* also Section 1-1 above for additional information.

2. **A zipped geodatabase file that includes PSPS event polygons of de-energized areas. The file should include items that are required in Section 3.3.**

   A zipped geodatabase file that includes all information in Section 3.3 is included with this filing.

3. **A list of circuits de-energized, with the following information for each circuit. This information should be provided in both a PDF and excel spreadsheet.**

   The following table details the specified information for each circuit de-energized during this PSPS event and has also been included in the required PSPS Event Data Workbook filed with this report.

   - County
   - De-energization date/time
   - Restoration date/time[21]
   - "All Clear" declaration date/time[22]
   - General Order (GO) 95, Rule 21.2-D Zone 1, Tier 2, or Tier 3 classification or non-High Fire

[21] Table 5 reflects de-energization data at the circuit level (rather than segment level) and shows first de-energization date/time and final restoration date/time for each circuit. During this event, SCE deployed segmentation to limit de-energization to specific circuit segments in the areas of concern.

[22] SCE understands "All Clear" declaration date/time for each circuit in scope to refer to: (1) approval by the Incident Commander to begin patrols and restoration of power for any de-energized circuit or circuit segment, or (2) a final decision to remove a circuit or circuit segment from scope after the Period of Concern is over for that circuit or segment on the monitored circuit list that was not de-energized during the PSPS event.

Threat District

- Total customers de-energized[23]
- Residential customers de-energized
- Commercial/Industrial customers de-energized
- Medical Baseline (MBL) customers de-energized
- AFN other than MBL customers de-energized[24]
- Other Customers
- Distribution or transmission classification

Table 5: Circuits De-Energized [25]

Circuits De-Energized									
County	Circuit Name	De-energization Date	De-energization Time (2400)	All Clear Declaration Date	All Clear Declaration Time (2400)	Restoration Date	Restoration Time (2400)	GO 95, Tier HFTD Tier(s) 1,2,3	Distribution / Transmission Classification
KERN / LOS ANGELES	TEJON	08/08/24	14:35	08/09/24	11:30	8/9/2024	13:07	Non HFRA, T2	Distribution
SAN BERNARDINO	PENSTOCK	08/17/24	13:14	08/17/24	17:22	08/18/24	12:21	Non HFRA, T3, T2	Distribution

Circuits De-Energized (cont.)								
County	Circuit Name	Residential Customers De-energized	Commercial / Industrial customers De-energized	Medical Baseline customers De-energized	AFN other than MBL customers De-energized	Total customers De-energized	GO 95, Tier HFTD Tier(s) 1,2,3	Other Customers
KERN / LOS ANGELES	TEJON	7	13	0	0	20	Non HFRA, T2	0
SAN BERNARDINO	PENSTOCK	0	1	0	0	1	Non HFRA, T3, T2	0

[23] Whenever possible, SCE employs circuit-switching operations and/or sectionalization devices to minimize the number of customers in scope for proactive de-energization. As a result, some customers on a circuit in scope may briefly lose power while SCE switches them to an energized adjacent circuit or when SCE uses sectionalization devices to isolate portions of a circuit that can remain safely energized from de-energized segments of that same circuit or an adjacent circuit. The reported count of "total customers de-energized" does not include customers who experience a brief (30 minutes or less) power interruption during such switching and/or sectionalization operations, but who are not otherwise impacted by the proactive de-energization.

[24] SCE maintains extensive data on customer populations that are included in the AFN definition referenced in CPUC decisions, with a focus on identifying AFN customers particularly vulnerable during PSPS events. In addition to AFN customers who have self-certified as sensitive (not enrolled in the MBL program), SCE identifies and tracks for PSPS reporting purposes the following categories of "AFN other than MBL customers": senior citizens (65 and older), hearing-impaired, vision-impaired (communications provided in large font or Braille), income-qualified (enrolled in CARE or FERA), and non-English speakers. SCE also reports on impacted customers that provide shelter to the homeless population, as these entities are included among critical facilities and infrastructure.

[25] The sum of (i) residential customers de-energized, (ii) commercial/industrial customers de-energized, and (iii) other customers equals the total number of customers de-energized per circuit for this event. The count of "Residential Customers De-energized" includes sub-categories of" "Medical Baseline customers De-energized" and "AFN other than MBL customers De-energized."

Section 4. Damage and Hazards to Overhead Facilities

1. **Description of all found wind-related damages or hazards to the utility's overhead facilities in the areas where power is shut off.**

   N/A. No wind related damages or hazards were identified related to this de-energization event.

2. **A table showing circuit name and structure identifier (if applicable) for each damage or hazard, county that each damage or hazard is located in, whether the damage or hazard is in a High Fire Threat District (HFTD) or non-HFTD and the type of damage/hazard.[26]**

   Table 6: Damage and Hazards

   N/A. No damages/hazards were identified during this event.

3. **A zipped geodatabase file that includes the PSPS event damage and hazard points. The file should include fields that are in the table above.**

   A zipped geodatabase file that provides all information in Section 3.3 is included with this filing.

4. **A PDF map identifying the location of each damage or hazard.**

   N/A. No damages/hazards were identified during this event.

Section 5. Notification

1. **A description of the notice to public safety partners, local/tribal governments, paratransit agencies that may serve all the known transit or paratransit dependent persons that may need access to a community resource center, multi-family building account holders/building managers in the AFN community[27], and all customers, including the means by which utilities provide notice to customers of the locations/hours/services available for CRCs, and where to access electricity during the hours the CRC is closed.**

   SCE includes paratransit agencies that may be de-energized in its PSPS notifications and classifies these agencies overall as critical facilities and infrastructure to ensure they receive priority notifications. All multi-family building SCE account holders receive customer notifications. In its customer notification, SCE directs potentially impacted customers to www.sce.com/psps for information related to the location, hours, and services available at Community Resource Centers. Instructions on where customers can access electricity during the hours the centers are closed have been made available on the SCE website. Please see the table below for a description of the types of notices provided during this de-

[26] Hazards are conditions discovered during restoration patrolling or operations that might have caused damages or posed an electrical arcing or ignition risk had PSPS not been executed.
[27] SCE generally notifies multi-family building account holders along with other customers of record in scope for a potential de-energization. SCE does not currently have a way to identify which multi-family building account holders have residents in their buildings who may be members of the AFN community. SCE conducts PSPS-related outreach via flyers and trade publications to increase awareness of PSPS among building/property managers who are not account holders. SCE also instituted an address-level alert program, which allows non-SCE account holders (such as building/property managers) to sign up for PSPS alerts for specific addresses.

energization event.

Notification Descriptions		
Type of Notification	**Recipients**	**Description[28]**
Advance Initial or Initial	Public Safety Partners and Critical Facilities & Infrastructure Customers (including local and Tribal governments, Community Choice Aggregators, hospitals, water/wastewater and telecommunications providers, CBOs and paratransit agencies serving the AFN community).	Initial notification of potential PSPS event when circuits are first identified for potential de-energization (72-48 hours before potential de-energization)
	Other Customers (including multi-family building account holders).	Initial notification of potential PSPS event (48-24 hours before potential de-energization).
Update	Public Safety Partners and Critical Facilities & Infrastructure Customers (including local and Tribal governments, Community Choice Aggregators, hospitals, water/wastewater and telecommunications providers, CBOs and paratransit agencies serving the AFN community).	PSPS event status update notification to alert for any changes or additions/deletions to current scope (timing varies and may also occur daily). Update notice to Public Safety Partners may also serve as cancellation notice if circuits are removed from scope.
	Other Customers (including multi-family building account holders).	
Expected	Public Safety Partners and all Critical Facilities & Infrastructure Customers (including local and Tribal governments, Community Choice Aggregators, hospitals, water/wastewater and telecommunications providers, CBOs and paratransit agencies serving the AFN community).	Power shutoff expected soon (1-4 hours before potential de-energization).
	Other Customers (including multi-family building account holders).	

[28] SCE makes every effort to adhere to the notification timelines required by the CPUC. However, notifications may be delayed in some circumstances Please see Table 9 for more information specific to this event.

Shutoff	Public Safety Partners and Critical Facilities & Infrastructure Customers (including local and Tribal governments, Community Choice Aggregators, hospitals, water/wastewater and telecommunications providers, CBOs and paratransit agencies serving the AFN community). Other Customers (including multi-family building account holders).	Power has been shut off (when de-energization is initiated).
Prepare to Restore	Public Safety Partners and Critical Facilities & Infrastructure Customers (including local and Tribal governments, Community Choice Aggregators, hospitals, water/wastewater and telecommunications providers, CBOs and paratransit agencies serving the AFN community). Other Customers (including multi-family building account holders).	Inspection/patrols of de-energized circuits for PSPS restoration has begun and power will be restored shortly.
Restored No Longer in Scope	Public Safety Partners and Critical Facilities & Infrastructure (including local and Tribal governments, Community Choice Aggregators, hospitals, water/wastewater and telecommunications providers, CBOs and paratransit agencies serving the AFN community). Other Customers (including multi-family building account holders).	Power has been restored and no longer in scope for this event.
Event Avoided **Cancellation**	Critical Facilities & Infrastructure (including Community Choice Aggregators, hospitals, water/wastewater, and telecommunications providers). Other Customers (including multi-family building account holders).	PSPS event cancelled-no de-energization expected.

2. **Notification timeline including prior to de-energization, initiation, restoration, and cancellation, if applicable. The timeline should include the required minimum timeline and approximate time notifications were sent**.

   Throughout the PSPS event, SCE made significant effort to notify public safety partners, local/tribal governments, critical facilities and infrastructure, and customers in accordance with the minimum timelines set forth by the CPUC weather and other factors permitting. Table 07: Notification Timeline in Attachment C: PSPS Event Data Workbook describes the notifications SCE sent for this event, including approximate time notifications were sent to local/tribal governments, public safety partners, critical facilities and infrastructure, and other customers prior to potential de-energization and after the decision to cancel the de-energization or remove from scope.

3. **For those customers where positive or affirmative notification was attempted, use the following table to report the 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. "Notification attempts made" and "Successful positive notification" must include the unique number of customer counts. When the actual notification attempts made is less than the numberof customers that need positive notifications, the utilities must explain the reason. In addition, the utilities must explain the reasonof any unsuccessful positive notifications.**

Table 8: Positive Notification[29]

Positive Notification					
Category	Total Number of Customers	Timing of Attempts	Notification Attempts	Successful Positive Notification	Who made the notification
Medical Baseline	124	DAILY	143	124	SCE
Self Certified	13	DAILY	18	13	SCE

[29] The "Total Number of Customers" metric reflects the total number of MBL and Self-Certified customers in scope for the PSPS event. The "Notification Attempts" metric reflects the count of MBL and Self-Certified customers – both in scope and de-energized – whom SCE attempted to notify prior to de-energization. Notification attempts include automated notification, secondary verification by Consumer Affairs and escalated contact attempts, up to and including door rings, if necessary, to confirm successful delivery of notifications to Medical Baseline and Self-Certified customers. The "Successful Positive Notification" metric reflects the number of unique MBL and Self-Certified customers – both in scope and de-energized – who were successfully notified of the PSPS event prior to de-energization or anticipated de-energization.

4. **A copy or scripts of all notifications with a list of all languages that each type of notification was provided in, the timing of notifications, the methods of notifications and who made the notifications (utility or public safety partners).**

   Scripts of all notifications that SCE sends are attached hereto in Attachment A: Public Safety Partner/Customer Notification Scripts. SCE performs all primary customer notifications and encourages public safety partners to amplify PSPS messages on their platforms as appropriate. SCE offers all notifications in the following languages: English, Spanish, Cantonese, Mandarin, Vietnamese, Tagalog, and Korean, Khmer, Armenian, Farsi, Arabic, Japanese, Russian, Punjabi, Thai, Hmong, Portuguese, Hindi, French, German, Mixteco (indigenous - spoken only), Zapoteco (indigenous - spoken only), and Purapecha (indigenous - spoken only).

5. **If the utility fails to provide notifications according to the minimum timelines set forth in D.19-05-042 and D.21-06-034, use the following table to report a breakdown of the notification failure and an explanation of what caused the failure.**

   Throughout the PSPS event, SCE made significant effort to notify public safety partners, local/tribal governments, critical facilities and infrastructure, and customers in accordance with the minimum timelines set forth by the CPUC in PSPS Phase 1 Guidelines (D.19-05-042), weather and other factors permitting. Any missed notifications during the event are included in the following table.

   Table 9: Breakdown of Notification Failure

Breakdown of Notification Failures			
Notifications sent to	**Notification Failure Description**	**Number of Entities or Customer Counts**	**Explanation**
Public Safety Partners excluding Critical Facilities and Infrastructure	**Entities who did not receive 48-to 72-hour advance notification.**	0	
	Entities who did not receive 1–4-hour imminent notification.	0	
	Entities who did not receive any notifications before de-energization.	0	
	Entities who were not notified immediately before re-energization.	0	
	Entities who did not receive cancellation notification within two hours of the decision to cancel.	0	
Critical Facilities and Infrastructure	**Facilities who did not receive 48–72-hour advance notification.**	1	Missing authorized campaign
	Facilities who did not receive 1-4 hour of imminent notifications.	1	Missing authorized campaign

Breakdown of Notification Failures			
Notifications sent to	**Notification Failure Description**	**Number of Entities or Customer Counts**	**Explanation**
	Facilities who did not receive any notifications before de-energization.	1	Missing authorized campaign
	Facilities who were not notified at de-energization initiation.	1	Missing authorized campaign
	Facilities who were not notified immediately before re- energization.	1	Missing authorized campaign
	Facilities who were not notified when re-energization is complete.	1	Missing authorized campaign
	Facilities who did not receive cancellation notification within two hours of the decision to cancel.	0	
All other affected customers	**Customers who did not receive 24–48-hour advance notifications.**	0	
	Customers who did not receive 1–4-hour imminent notifications.	0	
	Customers who did not receive any notifications before de-energization.	0	
	Customers who were not notified at de-energization initiation.	0	
	Customers who were not notified immediately before re-energization.	0	
	Customers who were not notified when re-energization is complete.	0	
	Customers who did not receive cancellation notification within two hours of the decision to cancel.	0	

6. Explain how the utility will correct the notification failures.

SCE proactively analyzes and identifies source data quality issues, which, while not unique to PSPS, impact it and have led to notification failures. SCE will continue to address and resolve these issues, prioritizing High Fire Risk Areas. These efforts are expected to significantly reduce notification failures caused by data related errors.

7. **Enumerate and explain the cause of any false communications citing the sources of changing data.**

Missed/Insufficient Notification:

During this event, we made the proactive decision to de-energize a segment of the Penstock circuit before it met the de-energization criteria. Initially, this circuit was not within the Period of Concern, but due to rapidly changing weather conditions, it quickly came into scope.

During this time, an operational analysis indicated there were no customers on this circuit segment, which allowed us to take pre-emptive action without expecting it to affect service to any customers. Given this information, the team determined it was best to pre-emptively de-energize the circuit ahead of meeting the specified criteria noted above in Table 2 to further mitigate potential wildfire hazards.

However, it was later determined via discussions with field resources that a customer was indeed on the circuit but was not accurately reflected in operational systems of record. While the decision was made with the best available information at the time, we are now reviewing our processes to prevent similar situations in the future. A record correction request has been submitted and is currently in process.

Incorrect Notification:

Due to a source data issue, not unique to PSPS, two (2) customers, which were not in scope, erroneously received Initial and Update notices for this PSPS event due to a mapping error. SCE identified and corrected the mapping error during the event, and no further communications were sent to these customers.

Cancellation Notification:

SCE sent cancellation notices to 2,957 customers that were notified of potential de-energization but not ultimately de-energized during this event. SCE notifies customers on circuits in scope for potential de-energization ahead of the Period of Concern based on its assessment of the likelihood that winds will exceed PSPS thresholds. De-energization was not necessary for these customers because forecast fire weather conditions did not materialize in those areas, and the customers were notified of the cancellation after being removed from scope.

Section 6. Local and State Public Safety Partner Engagement

1. **List the organization names of public safety partners including, but not limited to, local governments, tribal representatives, first responders, emergency management, and critical facilities and infrastructure the utility contacted prior to de-energization, the date and time on which they were contacted, and whether the areas affectedby the de-energization are classified as Zone 1, Tier 2, or Tier 3 as per the definition in CPUC General Order 95, Rule 21.2-D.**

Please see Table 10: Public Safety Partners Contacted in Attachment C: PSPS Event Data Workbook for a list of local public safety partners that received notifications related to this event.

2. **List the names of all entities invited to the utility's Emergency Operations Center for a PSPS event, the method used to make this invitation, and whether a different form of communication was preferred by any entity invited to the utility's emergency operation center.**

   SCE extends a daily invitation for agency representatives to its Emergency Operations Center (currently virtual only) during agency coordination calls with public safety partners and critical infrastructure providers, as applicable during PSPS events. SCE also shares daily situational reports from these calls with all impacted public safety partners and critical infrastructure providers that includes contact information for requesting/receiving an agency representative to the Emergency Operations Center. No entities invited to the virtual Emergency Operations Center preferred a different form of communication during this event. Please see Table 11: Entities Invited to the Emergency Operations Center in Attachment C: PSPS Event Data Workbook for a list of agencies invited to the daily coordination calls.

3. **A statement verifying the availability to public safety partners of accurate and timely geospatial information, and real time updates to the GIS shapefiles in preparation for an imminent PSPS event and during a PSPS event.**

   SCE provided geospatial information and real-time updates to GIS shapefiles via the SCE Representational State Transfer Service (REST) to public safety partners before and during the PSPS event. SCE also made this information available to customers at www.sce.com/psps and provided this information to public safety partners on its Public Safety Partner Portal (Portal).

4. **A description and evaluation of engagement with local and state public safety partners in providing advanced outreach and notification during the PSPS event.**

   SCE submitted the CalOES Notification form via the State Dashboard beginning on August 6, 2024, 12:38pm. SCE conducted daily operational briefings with State and local public safety partners, as well as critical infrastructure entities, for the duration of this PSPS event to provide critical incident updates and a forum for resolving issues. See Table 10: Public Safety Partners Contacted in Attachment C: PSPS Event Data Workbook details a list of local public safety partners that received notifications related to this event.

   Impacted State and County emergency management agencies and critical infrastructure customers are polled at the close of each event to provide feedback, however only six partners responded to this survey. Of the six respondents, two rated the engagement as fair, another two rated as good, and the last two participants rated the engagement as excellent.

5. Specific engagement with local communities regarding the notification and support provided to the AFN community.

SCE provided notification of this PSPS high-threat event to the 211 California Networks, Regional Centers, Independent Living Centers, and American Red Cross chapters that serve their respective counties. SCE initiated contact and remained in constant communications with the Community-Based Organizations (CBOs) serving Impacted Counties on August, 6, 2024 to alert them to potential PSPS outages in those areas. SCE also provided 24-hour contact information to these agencies if they needed to escalate any unidentified community issues. In partnership with the CBOs in each area of concern, SCE offered services to customers for this PSPS event such as warm meal delivery or restaurant vouchers, transportation to CRC locations, and/or temporary accommodations.

6. Provide the following information on backup power (including mobile backup power) with the name and email address of a utility contact for customers for each of the following topics:

a) Description of the backup generators available for critical facility and infrastructure customers before and during the PSPS.

SCE maintains 10 mobile generators for use by critical facilities and infrastructure customers during PSPS events, as needed. SCE has contracts with vendors to lease additional units during emergency events when the need arises for critical care customers.

b) The capacity and estimated maximum duration of operation of the backup generators available for critical facility and infrastructure customers before and during the PSPS.

The generators SCE maintains for PSPS events are rated at 25-100 KW and have an estimated maximum duration of operation of 24-36 hours with a continuous fuel plan to ensure there is no interruption of power while the generators are deployed for usage.

c) The total number of backup generators provided to critical facility and infrastructure customer's site immediately beforeand during the PSPS.

One critical facility requested backup generation for this event. The facility was the Kern Valley Hospital in Mountain Mesa. The facility has on-site generation, but it currently does not work. The facility also has battery backup which would provide power for four hours (according to the facility manager). SCE provided four backup generators to support the facility (one 1MW generator, two 70 kW generators, and one 40kVa Belly tank generator).

d) How the utility deployed this backup generation to the critical facility and infrastructure customer's site.

SCE deployed the generators and staged them near the hookup locations. SCE did not connect them to the hook up locations at the request of the facility manager. SCE was informed that if de-energization occurred, the hospital would rely on battery backup until an SCE troubleman is able to connect and power on generators to power the hospital and support facilities.

e) An explanation of how the utility prioritized how to distribute available backup generation.

No prioritization was necessary as this was the only request for backup generation.

f) Identify the critical facility and infrastructure customers that received backup generation.

The facility requesting backup generation was Kern Valley Hospital in Mountain Mesa, CA (near Lake Isabella).

Any questions related to the information under this item may be directed to SCE at the following e-mail address: SCECEDCustomerSupport@sce.com[30]

Section 7. Complaints and Claims

1. **The number and nature of complaints received as the result of the de-energization event and claims that are filed against the utility because of de-energization. The utility must completely report all the informal and formal complaints, meaning any expression of grief, pain, or dissatisfaction, from various sources, filed either with CPUC or receivedby the utility as a result of the PSPS event.**

There were 2 reported complaints and zero claims associated with this PSPS event. SCE will include any complaints or claims related to this PSPS event received after the filing of date of this report in its annual post-season report.

[30] Although there is no designated contact person for questions, this e-mail inbox is monitored by SCE's Customer Engagement Division.

Table 12: Count and Nature of Complaints Received

Count and Nature of Complaints Received	
Nature of Complaints	**Number of Complaints**
PSPS Frequency/Duration Including, but not limited to complaints regarding the frequency and/or duration of PSPS events, Including delays in restoring power, scope of PSPS and dynamic of weather conditions.	0
Safety/Health Concern Including, but not limited to complaints regarding difficulties experienced by AFN/MBL populations, traffic accidents due to non-operating traffic lights, inability to get medical help, well water or access to clean water, inability to keep property cool/warm during outage raising health concern	0
Communications/Notifications Including, but not limited to complaints regarding lack of notice, excessive notices, confusing notice, false alarm notice, problems with getting up-to-date information, inaccurate information provided, not being able to get information in the prevalent languages and/or information accessibility, complaints about website, Public Safety Partner Portal, REST/DAM sites (as applicable)	0
Outreach/Assistance Including, but not limited to complaints regarding community resource centers, community crew vehicles, backup power, hotel vouchers, other assistance provided by utility to mitigate impact of PSPS	0
General PSPS Dissatisfaction/Other Including, but not limited to complaints about being without power during PSPS event and related hardships such as food loss, income loss, inability to work/attend school, plus any PSPS-related complaints that do not fall into any other category.	2
Total	**2**

Table 13: Count and Type of Claims Received

N/A There were no claims for this event.

Section 8. Power Restoration Timeline

1. **A detailed explanation of the steps the utility took to restore power, including the timeline for power restoration, broken down by phase if applicable.**

SCE began the re-energization process after fire weather conditions subsided, there was no further threat of fire weather forecasted for the areas of concern, and the Incident Commander approved restoration operations. SCE had pre-positioned qualified restoration personnel to reduce restoration patrol times and customer outage duration. All circuit restoration during this event was guided by safety considerations, including safety risks associated with patrolling certain circuits at night.

20 customers on the Tejon circuit were re-energized on August 9th by 1:07 p.m. The Incident Commander made the decision to restore these customers based on a recommendation from Operations and input from Weather Services due to observed improvement in weather and fuel conditions.

On August 17th at 5:22 p.m., the Penstock circuit was initially released for air patrol and restoration by the Incident Commander but deemed unsafe to patrol due to limited visibility. This delayed restoration until air patrol could be safely conducted during the daylight hours. One customer on the Penstock circuit was restored on August 18th at 12:21 p.m.

2. **For any circuits that require more than 24 hours to restore, the utility shall use the following table to explain why it was unable to restore each circuit within this timeframe.**

Table 14: Circuits Requiring More Than 24 Hours to Restore

N/A. No circuits required more than 24 hours to restore.

Section 9. Community Resource Centers

1. **Using the following table, report information including the address of each location during a de-energization event, the location (in a building, a trailer, etc.), the assistance available at each location, the days, and hours that it was open, and attendance (i.e., number of visitors).**

Table 15: Community Resource Centers

Community Resource Centers				
Address	**Location Type**	**Describe the assistance available**	**Hours of Operations[1] (Date / Time)**	**Number of Visitors**
Lake Hughes Community Center 17520 Elizabeth Lake Rd. Lake Hughes, CA 93532	CRC - Indoor	Small portable device charging (such as a cell phone, laptop, and small medical devices), water, chairs, seasonal cooling, PSPS information, water, snacks, ice or ice vouchers, ADA compliant restrooms and customer Resiliency Kits.	8/8 - 8/9 8:00 AM – 4:00 PM	40
Frazier Mountain Park parking lot 3801 Park Drive Frazier Park, CA 93225	CCV	Small portable device charging (such as a cell phone, laptop, and small medical devices), water, chairs, seasonal cooling, PSPS information, water, snacks, ice or ice vouchers, ADA compliant restrooms and customer Resiliency Kits.	8/8 - 8/9 8:00 AM – 4:00 PM	10
Kern Valley Hospital 6412 Laurel Ave. Mountain Mesa, CA 93240	CRC – Indoor	Small portable device charging (such as a cell phone, laptop, and small medical devices), water, chairs, seasonal cooling, PSPS information, water, snacks, ice or ice vouchers, ADA compliant restrooms and customer Resiliency Kits.	8/11 3:00 PM -10:00 PM 8/12 1:00 PM – 9:00 PM	0

Community Resource Centers				
Address	**Location Type**	**Describe the assistance available**	**Hours of Operations[1] (Date / Time)**	**Number of Visitors**
Crystal Airport 32810 165th Street East Llano, CA 93544	CCV	Small portable device charging (such as a cell phone, laptop, and small medical devices), water, chairs, seasonal cooling, PSPS information, water, snacks, ice or ice vouchers, ADA compliant restrooms, handheld fans, and customer Resiliency Kits.	8/12 10:00 AM – 12:00 PM	0
Kern Valley Hospital 6412 Laurel Ave. Mountain Mesa, CA 93240	CRC-Indoor	Small portable device charging (such as a cell phone, laptop, and small medical devices), water, chairs, seasonal cooling, PSPS information, water, snacks, ice or ice vouchers, ADA compliant restrooms and customer Resiliency Kits.	8/14 10:00 AM – 6:00 PM	6
Crystal Airport 32810 165th Street East Llano, CA 93544	CCV	Small portable device charging (such as a cell phone, laptop, and small medical devices), water, chairs, seasonal cooling, PSPS information, water, snacks, ice or ice vouchers, ADA compliant restrooms, handheld fans, and customer Resiliency Kits.	8/16 1:00 PM – 10:00 PM 8/17 10:00 AM – 8:00 PM	6
Lee Vining Community Center 296 Mattly Ave. Lee Vining, CA 93541	CRC-Indoor	Small portable device charging (such as a cell phone, laptop, and small medical devices), water, chairs, seasonal cooling, PSPS information, water, snacks, ice or ice vouchers, ADA compliant restrooms and customer Resiliency Kits.	8/17 8:00 AM – 8:00 PM	0
Crowley Lake Community Center 482 S. Landing Road#474 Mammoth Lakes, CA 93546	CRC-Indoor	Small portable device charging (such as a cell phone, laptop, and small medical devices), water, chairs, seasonal cooling, PSPS information, water, snacks, ice or ice vouchers, ADA compliant restrooms and customer Resiliency Kits.	8/17 8:00 AM – 8:00 PM	1

2. Any deviations and explanations from the CRC requirement including operation hours, ADA accessibility, and equipment.

SCE deployed eight teams to provide community assistance to a total of eight sites in Kern, Los Angeles, and Mono counties; two of the sites (Kern Valley Hospital in Mono County and Crystal Airport in Los Angeles County) were repeat sites. This event had multiple Period of Concerns (POCs), each with different ending times. As a result, SCE closed the customer sites within one hour of the conclusion of the POC because the POC had ended, and all customer load was restored, or no customers were de-energized in the area during the event.

During PSPS events, SCE occasionally adjusts its usual CRC operating hours of 8:00 a.m. to 10:00 p.m. This is done to better align with the Periods of Concern and provide suitable customer support to address community needs or to cease customer support when circuits have been re-energized and are no longer in need of assistance. During the first POC of the event, SCE activated a CRC in Los Angeles County and deployed a CCV to Kern County; both of these customer support sites closed at 4:00 p.m. on August 9th because the POC ended at 3:00 p.m. and all customer load had been restored.

SCE activated a CRC in Kern County and CCV in Los Angeles County during the second POC of the event. The CCV deployed to Crystal Airport in Los County on August 12th was demobilized at noon of the same day because the POC was removed from scope shortly after the site was activated. The CRC at Kern Valley Hospital opened at 3:00 p.m. on August 11th and closed at 10:00 p.m. on August 12th because the POC had passed, and no customers had been de-energized during this POC.

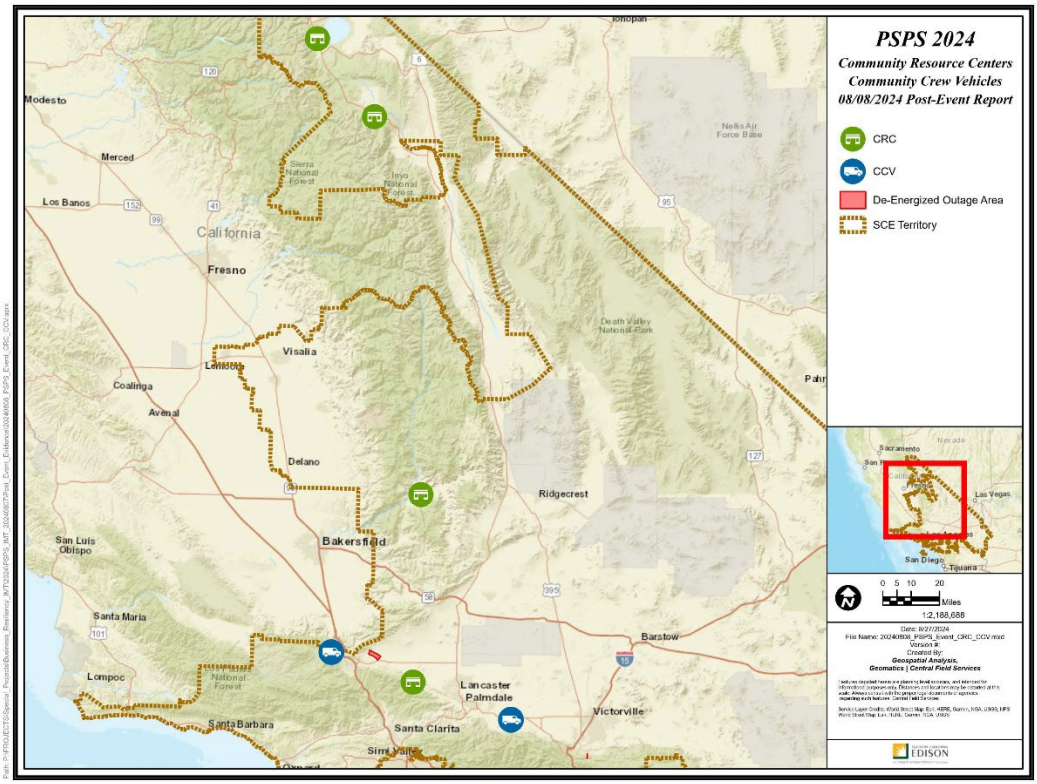
SCE did not deploy customer support resources to Kern County on August 13th because SCE's meteorologists also noted an improvement in the forecast for Kern County, removing that area from scope on August 13 but keeping that area in scope for the POC ending on August 14. SCE reopened the CRC at Kern Valley Hospital on August 14th to coincide with the third POC of this event and support customers under consideration for PSPS. This site closed at 7:00 p.m. on August 14th after the POC had ended and no customers were de-energized.

SCE did not deploy customer support resources to Santa Barbara County during the third POC because it only involved a single commercial customer.[31] SCE's Account Manager followed up with the commercial customer to ensure all needs were addressed.

The final POC of this event started on August 16th and extended through August 17th. SCE activated a CCV in Los Angeles County and two CRCs in Mono County. The CCV closed on August 17th at 8:00 p.m. after the POC had ended and no customers were de-energized. Similarly, the two CRCs in Mono County were demobilized on August 17th at 8:00 p.m. because the POC had passed, and no customers were de-energized.

[31] CRCs are for residential customers, and especially for AFN populations. D.20-05-051, Appendix 5, "Each electric investor-owned utility, through collaboration with relevant stakeholders in its service territory, shall finalize a community resource center (CRC) plan, 60 days after issuance of the Phase 2 final decision, based on local demographic data for meeting a variety of safety needs for access and functional needs and vulnerable populations."

3. A map identifying the location of each CRC and the de-energized areas.



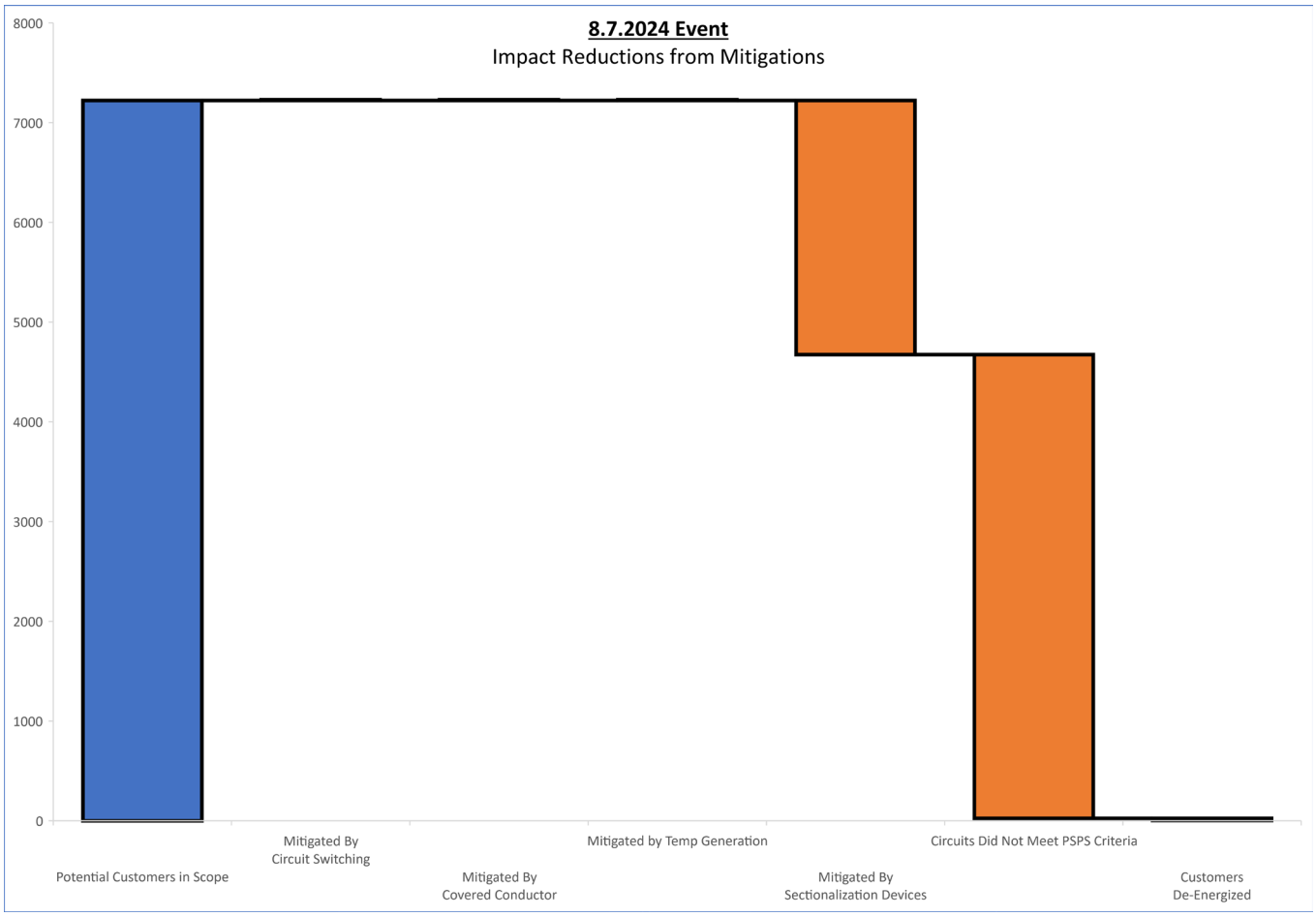
Section 10. Mitigation to Reduce Impact

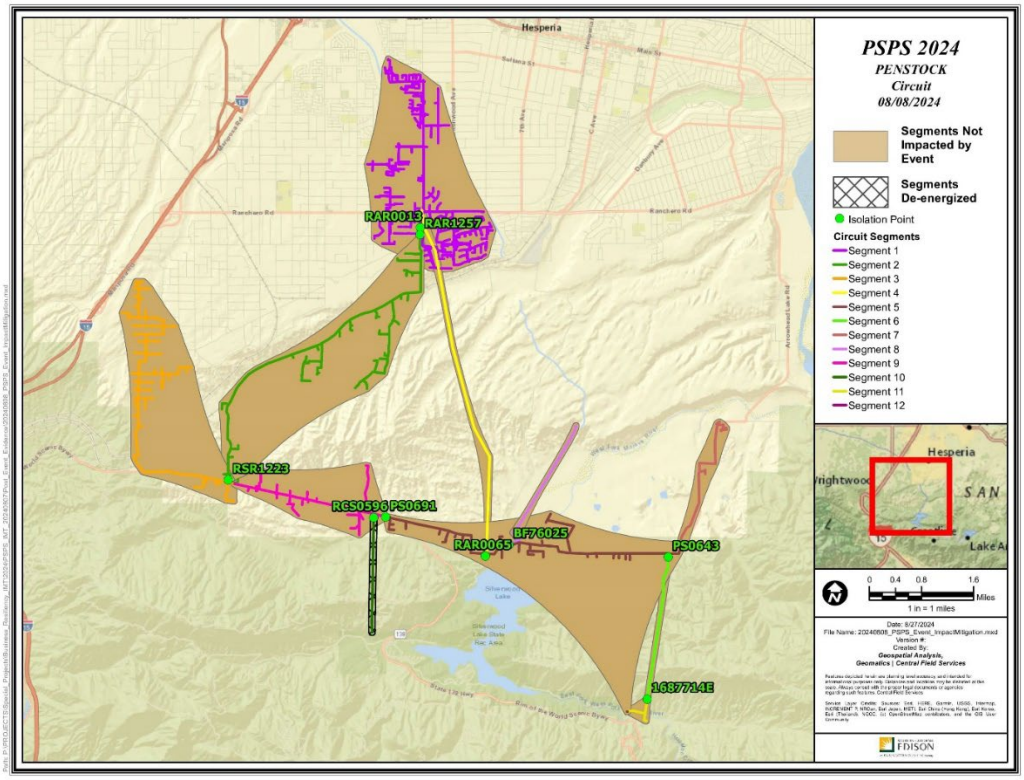
1. Mitigation actions and impacts including: sectionalization devices, temporary generation, microgrids,permanent backup generation, transmission switching, covered conductor, and any other grid hardening that mitigated the impact of the event.

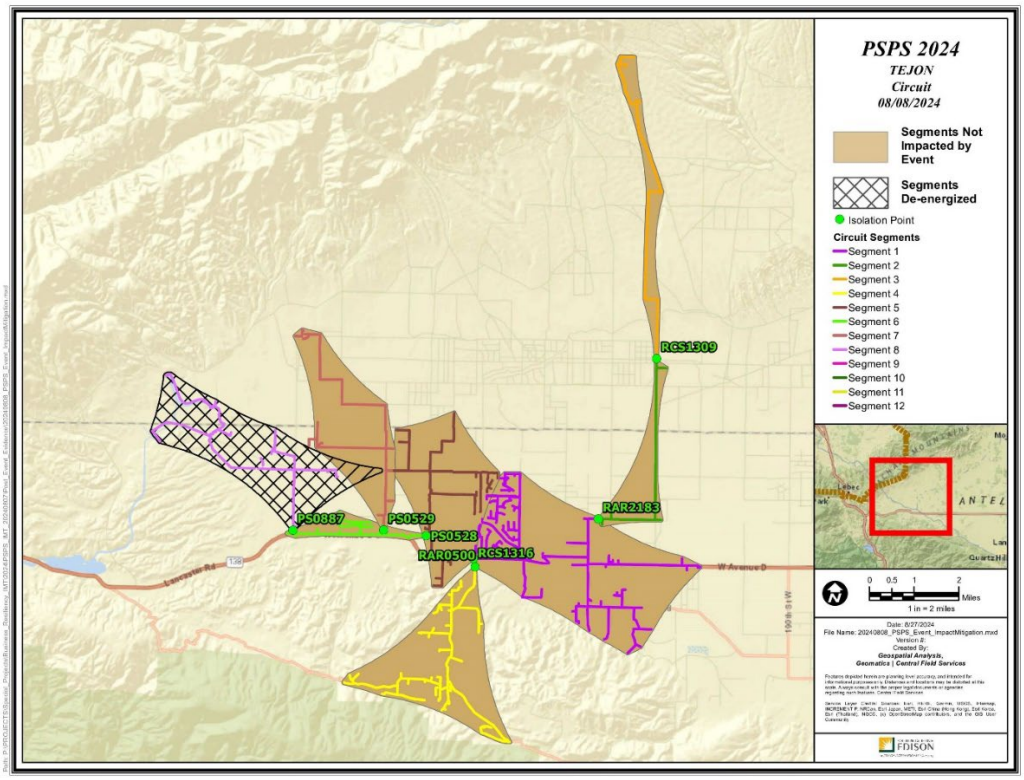
Prior to the Period of Concern, SCE used circuit playbooks to identify circuit switching for certain circuits in the event those circuits had to be de-energized. SCE was able to keep the power on for some customers on circuits ultimately de-energized due to the use of sectionalization devices. SCE was able to limit de-energization to 21 customers.

The waterfall graphs and maps below illustrate the impacts of SCE's mitigation measures over the course of the PSPS event where circuit switching, covered conductor, and/or sectionalization devices were successfully deployed to limit the scope of potential or actual de-energization.[32]

[32] "Circuits Did Not Meet PSPS Criteria" in the waterfall graph denotes customers on circuits in scope that were not ultimately de-energized. These customers were not switched to adjacent circuits, were not on circuits with covered conductor, and did not require the use of sectionalization devices.


8.7.2024 Event
Impact Reductions from Mitigations
8000
7000
6000
5000
4000
3000
2000
1000
0
Potential Customers in Scope
Mitigated By Circuit Switching
Mitigated By Covered Conductor
Mitigated by Temp Generation
Mitigated By Sectionalization Devices
Circuits Did Not Meet PSPS Criteria
Customers De-Energized


PSPS 2024
PENSTOCK
Circuit
08/08/2024
Segments Not Impacted by Event
Segments De-energized
Isolation Point
Circuit Segments
Segment 1
Segment 2
Segment 3
Segment 4
Segment 5
Segment 6
Segment 7
Segment 8
Segment 9
Segment 10
Segment 11
Segment 12
Hesperia
RAR0013
RAR1257
RSR1223
RCS0596
PS0691
RAR0065
BF76025
PS0643
1687714E
0 0.4 0.8 1.6 Miles
1 in = 1 miles


PSPS 2024
TEJON
Circuit
08/08/2024
Segments Not Impacted by Event
Segments De-energized
Isolation Point
Circuit Segments
Segment 1
Segment 2
Segment 3
Segment 4
Segment 5
Segment 6
Segment 7
Segment 8
Segment 9
Segment 10
Segment 11
Segment 12
RCS1309
RAR2183
PS0887
PS0529
PS0528
RAR0500
RCS1316
W Avenue D
0 0.5 1 2 Miles
1 in = 2 miles

Section 11. Lessons Learned

1. **Threshold analysis and the results of the utility's examination of whether its thresholds are adequate and correctly applied in the de-energized areas.**

   SCE believes our thresholds are adequate and correctly applied in de-energized areas as detailed in Attachment B - Quantitative and Qualitative Factors in PSPS Decision-Making Technical Paper.

2. **Any lessons learned that will lead to future improvement for the utility.**

Lessons Learned		
Issue	**Discussion**	**Resolution**
Customer did not receive notifications for this event due to a customer-to-circuit connectivity discrepancy.	Source data error resulted missed notifications to a single customer on the Penstock circuit.	Continue to validate customer-to-circuit connectivity and other source data.

Section 12. Other Relevant Information

1. This section includes any other relevant information determined by the utility.

N/A

Attachment A-Public Safety Partner and Customer Notification Scripts

Template language for all notifications (after notification language)

Our Emergency Operations Center is open and our IMT is activated. Contact information is provided below.

Message cadence: The SCE Liaison Officer provides a rolling three-day advance warning of potential PSPS events, when possible, and sends update notifications every day. We will also notify you with time-sensitive shutoff and restoration information at the circuit level. Sudden weather changes may impact SCE's ability to provide advanced notice: a shutoff could occur sooner than anticipated.

Spreadsheet content: All circuits currently on the watch list in your county are listed in the attached spreadsheet. As we get closer to the event and the weather forecast becomes more exact, additional circuits could be added or removed from our watch lists. Definitions are on the second tab of the spreadsheet.

Not all circuits on the watch list will have their power shut off. We are working to reduce the number of customers affected and weather patterns might change.

Customers on the affected circuits are being notified if they are within two days of the period of concern, or if there has been a change to their status.

Outage maps and other detailed information are available at the following locations:

- Maps showing PSPS boundaries and locations of about Community Resource Centers and Community Crew Vehicles: https://www.sce.com/outage-center/check-outage-status
- Public Safety Partner Portal (for registered users)
  - Email publicsafetyportal@sce.com to request access.
- REST service (web-based password-protected access to GIS layers)
  - SCERestInfo@sce.com to request access.

SCE Contact Information for Public Officials only (DO NOT share with the public)

- **First Responders and Emergency Managers:**
  - Phone: Business Resiliency Duty Manager 24/7 hotline: (800) 674-4478
  - Email: Business Resiliency Duty Manager/emergencies: BusinessResiliencyDutyManager@sce.com **Note: Only monitored during emergency activations.**
- **Government/tribal officials:**
  - Phone Liaison (government relations) 24/7 hotline: 800-737-9811. **Note: Only monitored during emergency activations.**
  - Email SCELiaisonOfficer@sce.com. **Note: Only monitored during emergency activations.**
- **Access and Functional Needs issues:**
  - Phone AFN Liaison Officer 24/7 hotline: 888-588-5552. **Only monitored during emergency activations.**
  - Email: AFNIMT@sce.com. **Note: Only monitored during emergency activations.**

Information available for the general public:

- **SCE Contact Information for the Public: (Please share via web and social media).**
  - Outage specific customer service issues: 800-611-1911
  - Billing and service inquiries: 800-684-8123

- Maps showing PSPS boundaries and locations of about Community Resource Centers and Community Crew Vehicles: https://www.sce.com/outage-center/check-outage-status
- General information on PSPS: www.sce.com/psps

- De-energization and restoration policies: sce.com/pspsdecisionmaking
- Information on emergency preparedness, customer notifications, customer programs and other resources: www.sce.com/wildfire
- Seven-day PSPS forecasts https://www.sce.com/wildfire/weather-awareness
- Fire and weather detection map https://www.sce.com/wildfire/situational-awareness

Advanced Initial (72-hour) LNO Notification (Advanced Initial)

Notification Subject Line and Message

Advanced Initial Notice for PSPS Event starting [start POC DATE] in [COUNTY NAME] as of [current date] [current time] .

COMMENTS:

Public Safety Power Shutoff initial notification for official use: Due to projected fire weather conditions, we may need to shut off power in high fire risk areas in COUNTY NAME. Please refer to the attached spreadsheet for status and periods of concern for specific circuits.

Recommended Language to Share with the Public: SCE has informed us they may be calling for a Public Safety Power Shutoff impacting (insert organization name) on (insert date). SCE will notify all customers who may be affected, including Critical Care and Medical Baseline customers. For more info: sce.com/psps

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Updated Conditions (Update) Notification

Notification Subject Line and Message:

SCE Update/Initial Notice for PSPS Event starting [start POC DATE] in [COUNTY NAME] as of [current date] [current time] .

COMMENTS:

Public Safety Power Shut-Off update notification for official use:
Due to projected fire weather conditions, we may need to shut off power in high fire risk areas, in COUNTY NAME. Please refer to the attached spreadsheet for status and periods of concern for specific circuits.

Recommended Language to Share with the Public: SCE has informed us there may be a Public Safety Power Shutoff impacting (insert organization name) on (insert date). SCE will notify all customers who may be affected, including Critical Care and Medical Baseline customers. For more info: sce.com/psps

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Expected De-Energize Notification (previously: Imminent De-Energization) (PSPS Expected)

Notification Subject Line and Message:

SCE Expected Shutoff Notice for [CIRCUIT NAME] Circuit for PSPS Event starting [start POC DATE] in [COUNTY NAME] as of [current date] [current time] .

Public Safety Power Shutoff update notification for official use: SCE may need to shut off power in the next 4 hours to reduce the risk of wildfire ignition. Areas that may be impacted include:

- **Circuit: [CIRCUIT name]**
- **County:**
- **Segment: [if listed]**
- **Incorporated City of:**

- **Unincorporated County Area:**
- COMMENTS:

Shutoffs may occur earlier or later depending on actual weather conditions. This notice expires after 4 hours; however, the listed circuit(s) will remain on the watch list and will be subject to PSPS until the conclusion of this weather event.

Recommended Language to Share with the Public: SCE has informed us they are likely to call a Public Safety Power Shutoff impacting (insert organization name) within the next four hours. SCE will notify all customers who may be affected. For more info: sce.com/psps

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PSPS Shutoff Notification (De-energization notification)

Notification Subject Line and Message:

SCE PSPS Shutoff Notice for [CIRCUIT NAME] Circuit for PSPS Event starting [start POC DATE] in [COUNTY NAME] as of [current date] [current time] .

Public Safety Power Shutoff update notification for official use: SCE is shutting off power to reduce the risk of wildfire ignition.

Impacted circuits and locations are:

- **Circuit: [CIRCUIT name]**
- **County: [COUNTY NAME].**
- **Segment:**
- **Incorporated City of: [Incorporated City]**
- **Unincorporated County Area: [unincorporated area description]**
- **Comment:**

When the weather improves, crews will inspect and repair the lines and restore power. Typically, this can take up to 8 hours. Updates to restoration information will be posted on www.sce.com/psps and on the Public Safety Partner Portal.

Recommended Language to Share with the Public: SCE has begun a Public Safety Power Shutoff. SCE notified customers who may be affected, including Critical Care and Medical Baseline customers. For more information visit sce.com/psps

(Preparation for Restoration)

Notification Subject Line and Message:

Preparation for Restoration [CIRCUIT NAME] Circuit Shutoff Notice for [CIRCUIT NAME] Circuit for PSPS Event starting [start POC DATE] in [COUNTY NAME] as of [current date] [current time] .

Public Safety Power Shutoff update notification for official use: SCE crews are inspecting the following circuits or circuit segments to restore power as soon as it is safe to do so:

- **Circuit: [CIRCUIT name]**
- **Segment(s):** *if entered in Foundry*
- **Incorporated City: [incorporated city]**
- **Unincorporated County Area: [unincorporated area description]**
- **Comments:**

Typically, power is restored in up to 8 hours. Exceptions include circuits requiring daylight for inspection and circuits that need repair. Restoration may be done in segments, meaning some parts of the circuit will be restored before others. Updates will be posted on www.sce.com/psps and the Public Safety Partner Portal.

Recommended Language to Share with the Public: SCE has begun patrolling circuits for damage before turning the power back on. It typically takes up to 8 hrs. to restore power once the patrol begins. Restoration can be delayed if damage is found, or aerial patrol is needed. For more info visit sce.com/psps

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Restore Notification (formerly: RE-ENERGIZE) Restoration Notification

Notification Subject Line and Message:

Important: SCE Restoration Notice for PSPS Event on [CIRCUIT NAME] Circuit Shutoff Notice for [CIRCUIT NAME] Circuit for PSPS Event starting [start POC DATE] in [COUNTY NAME] as of [current date] [current time] .

Public Safety Power Shutoff update notification for official use:

SCE crews have restored power on the following circuit or circuit segments:

- **Circuit: [CIRCUIT name]**
- **Segment(s):** *if entered in Foundry*
- **Incorporated City: [incorporated city]**
- **Unincorporated County Area: [unincorporated area description]**
- **Comment:**

Recommended Language to Share with the Public: SCE has begun turning power back on to circuits. Some areas may be restored sooner than others. For more info visit sce.com/psps

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Event Concluded Notification

Notification Subject Line and Message:

SCE PSPS Event Concluded in [COUNTY NAME].

Public Safety Power Shutoff update notification for official use:

If customers were de-energized, power has been restored and the PSPS event has concluded.

Recommended Language to Share with the Public: *The public safety power shutoff in your area has concluded. If your power is still out, please visit sce.com/outages for more information.*

Any circuit that was identified for potential PSPS is All Clear and will not be de-energized for this event

Notification Subject Line and Message:

SCE PSPS Event Concluded Notice for Shutoff Notice for PSPS Event starting [start POC DATE] in [COUNTY NAME] as of [current date] [current time] .

Public Safety Power Shutoff update notification for official use:

The PSPS event has concluded, however some customers in [county name] remain without power.

Repairs and restoration for these customers will be handled by SCE's regular grid operations:

- **Circuit:**
- **Segments:**
- **Incorporated City of:**
- **Unincorporated County Area:**
- **Reason for continued outage:**

Cancelation no longer in scope

Description:

Sent within two hours after a circuit no longer in scope for PSPS

Text Language: Important: SCE PSPS Cancellation {Circuit(s)} Circuit in {County} CO. Please see your inbox for more details.

Notification Subject Line and Message:

PSPS Cancellation for circuit(s) in County Name.

Public Safety Power Shutoff update notification for official use: Due to improved conditions SCE is no longer planning to shut off power in the next for the circuit listed below.

- **Circuit: [CIRCUIT name]**
- **County:**
- **Segment: [if listed]**
- **Incorporated City of:**
- **Unincorporated County Area:**

Language to share with the public: Some customers in our area are no longer in scope for public safety power shutoffs. Check sce.com/outages for more information. **Cancelation no longer in scope**

Description:

Sent 2 withing two hours after a circuit no longer in scope for immediate PSPS but remains in scope

Notification Subject Line and Message:

PSPS Cancellation for the circuit(s County Name.

Public Safety Power Shutoff update notification for official use: Due to improved conditions SCE is no longer planning to shut off power for the circuit listed below.

SCE PSPS Update: However, because high winds are still forecast through ^End Day of week^ ^morning/afternoon/evening^ we might have to shut off power again.

- **Circuit: [CIRCUIT name]**
- **County:**
- **Segment: [if listed]**
- **Incorporated City of:**
- **Unincorporated County Area:**

Shutoffs may occur earlier or later depending on actual weather conditions.

This notice expires after 4 hours; however, the listed circuit(s) will remain on the watch list and will be subject to PSPS until the conclusion of this weather event.

SCE has opened its Emergency Operations Center. Contact information is provided below.

Customers on the affected circuits are being notified. Information about Community Resource Centers and Community Crew Vehicles is available at sce.com/psps.

PSPS Variable Notification Templates
6/13/2024

1 | Advanced Initial [Typically 72 Hours Prior]

[Only for Public Safety Partners (Telecom/Water-Wastewater) and Critical Infrastructure]

TEXT/SMS

SCE Advanced PSPS Alert: High winds and fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End Day of week^ ^morning/afternoon/ evening^. We may have to shut off power. We are working to reduce the number of customers affected, and weather patterns might change, so not all notified customers will have their power shut off. For the latest updates, visit publicsafetyportal.sce.com, contact your assigned SCE account representative, or call 1-800-611-1911.

VOICE

SCE Advanced Public Safety Power Shutoff Alert: High winds and fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End Day of week^ ^morning/afternoon/ evening^. We may have to shut off power. We are working to reduce the number of customers affected, and weather patterns might change, so not all notified customers will have their power shut off. For the latest updates visit publicsafetyportal dot SCE dot com, contact your assigned SCE account representative, or call 1-800-611-1911

EMAIL
Subject: SCE Public Safety Power Shutoff (PSPS) Advanced Initial Alert
From: do_not_reply@scewebservices.com Southern California Edison

High winds and fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End Day of week^ ^morning/afternoon/evening^. We may need to shut off power to decrease the risk of dangerous wildfires. We are working to reduce the number of customers affected, and weather patterns might change, so not all notified customers will have their power shut off.

This alert applies to the following address(es):
Customer Address
Service Account
Meter Number
Rate

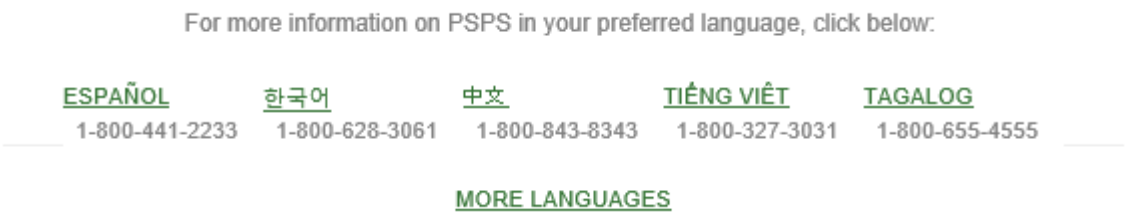
For the latest updates and availability of community resources, visit https://publicsafetyportal.sce.com/ if you are registered, contact your assigned SCE account representative, or call 1-800-611-1911.

2 | Initial Notification [48 HOURS BEFORE] ALERT

TEXT/SMS
SCE PSPS Alert: High winds and fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End Day of week^ ^morning/afternoon/evening^. We may have to shut off your power to decrease risk during this time. We are working to reduce the number of customers affected and will keep you updated. Visit sce.com/psps for the latest information. For downed power lines, call 911. View in more languages: www.sce.com/PSPSInitial

VOICE
SCE Public Safety Power Shutoff Alert. To continue in English, press 1. [Spanish press 2], all other languages press 3…. High winds and fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End Day of week^ ^morning/afternoon/ evening^. We may have to shut off your power to decrease risk of dangerous wildfires. We are working to reduce the number of customers affected and will keep you updated. Visit SCE dot com slash psps for the latest information. If you see a downed power line call 911.

EMAIL
***Subject*:** SCE Public Safety Power Shutoff Alert
From: do_not_reply@scewebservices.com Southern California Edison



High winds and dangerous fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End Day of week^ ^morning/afternoon/evening^. We may have to shut off your power to decrease risk of dangerous wildfires. We are working to reduce the number of customers whose power will be shutoff and will keep you updated. For the latest updates, outage map, and information about customer care services, visit sce.com/psps.

Thank you for your patience as we work to keep your community safe!

This alert applies to the following address(es):
Customer Address
Service Account
Meter Number
Rate

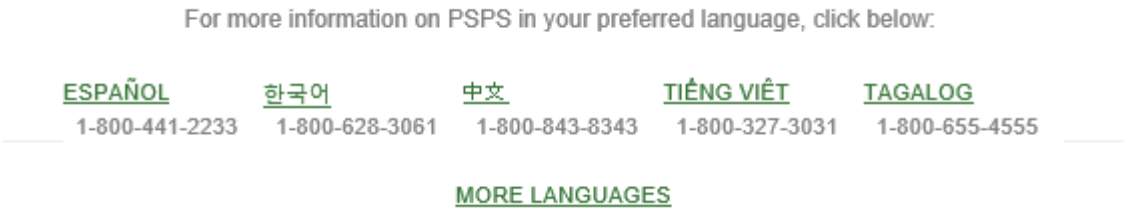
- For information about preparing for a power outage, visit sce.com/safety/family/emergency-tips.
- REMEMBER: If you see a downed power line call 911 first, and then notify SCE at 1-800-611-1911.

3 | Update Notification [24 HOURS BEFORE] WARNING

TEXT/SMS
SCE PSPS Warning: High winds and fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End Day of week^ ^morning/afternoon/evening^. We may have to shut off your power to decrease risk of wildfires. We are working to reduce the number of customers affected and will keep you updated. Visit sce.com/psps for the latest information and availability of community resources. For downed power lines, call 911. View in more languages: www.sce.com/PSPSUpdate

VOICE
SCE Public Safety Power Shutoff warning. To continue in English, press 1. [Spanish press 2], all other languages press 3…. High winds and dangerous fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End Day of week^ ^morning/afternoon/ evening^. We may have to shut off your power to decrease risk of wildfires. We are working to reduce the number of customers whose power will be shutoff and will keep you updated. Visit SCE dot com slash psps for the latest information and availability of community resources. If you see a downed power line call 911.

EMAIL
***Subject*:** SCE Public Safety Power Shutoff (PSPS) Warning
From: do_not_reply@scewebservices.com Southern California Edison



High winds and dangerous fire conditions are forecast from ^Day of week^ ^morning/afternoon/evening^ through ^End day of week^ ^morning/afternoon/evening^. We may have to shut off your power to decrease risk of dangerous wildfires. We are working to reduce the number of customers whose power will be shut off and will keep you updated. For the latest updates, outage map, and availability of community resources, visit sce.com/psps.

This alert applies to the following address(es):
Customer Address
Service Account
Meter Number
Rate

- For information about preparing for a power outage, visit sce.com/safety/family/emergency-tips.
- REMEMBER: If you see a downed power line, call 911 first, and then notify SCE at 1-800-611-1911.

Thank you for your patience as we work to keep your community safe!

4 | CANCELLATION
(SENT AT ANY TIME WHEN CUSTOMER IS PERMANENTLY OUT OF SCOPE)

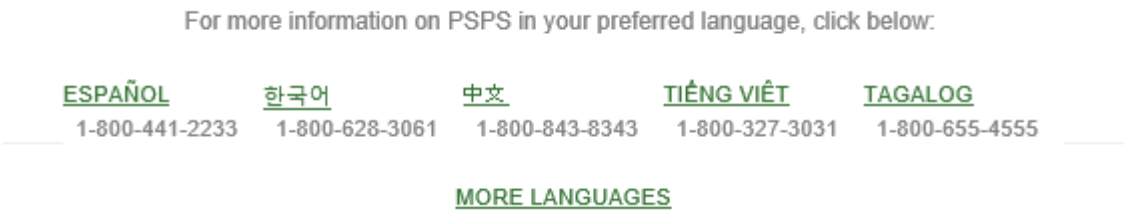
TEXT/SMS

SCE PSPS All-Clear: Due to improved weather, we did not shut off your power. We understand that planning around outages is inconvenient. Thanks for your patience as we work to keep our communities safe. If your power is off, please call 1-800-611-1911 or visit sce.com/psps. View in more languages: www.sce.com/PSPSAllClear

VOICE

SCE PSPS All-clear: To continue in English, press 1. [Spanish press 2], all other languages press 3…. Due to improved weather, we did not shut off your power. We understand that planning around outages is inconvenient. Thank you for your patience as we work to keep our communities safe. If your power is off, please call 1-800-611-1911 or visit SCE dot com slash psps.

EMAIL
Subject: SCE Public Safety Power Shutoff (PSPS) All-clear
From: do_not_reply@scewebservices.com Southern California Edison



Due to improved weather, we did not shut off your power. We understand that planning around outages is inconvenient. Thank you for your patience as we work to keep our communities safe.

This alert applies to the following address(es):
Customer Address
Service Account
Meter Number
Rate

If power is off, please call 1-800-611-1911 or visit sce.com/psps**.**
For more information about PSPS and wildfire safety, please visit sce.com/psps.

5| EXPECTED (1-4 HOURS BEFORE SHUTOFF WARNING)

TEXT/SMS

SCE PSPS Expected: It's likely we will shut off your power in the next 4 hours due to wind-driven fire conditions. Conditions could last through ^End Day of week^ ^morning /afternoon /evening^. We will notify you again if we shut power off. Weather could affect shutoff timing and wind-related outages may also occur. Visit sce.com/psps for the latest information and availability of community resources. For downed power lines, call 911. Thanks for your patience. View in more languages: www.sce.com/PSPSExpected

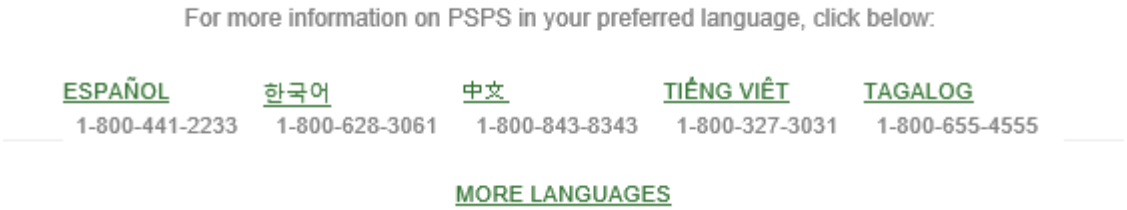
VOICE

SCE PSPS Expected. To continue in English, press 1. [Spanish press 2], all other languages press 3…. It's likely we will shut off your power in the next 4 hours due to wind-driven fire conditions in your area. Conditions could last through ^End Day of week^ ^morning /afternoon /evening^. We will notify you again if we shut off your power. Weather could affect shutoff timing and wind-related outages may also occur. Visit SCE dot com slash psps for the latest information and availability of community resources. If you see a downed power line, call 911. Thank you for your patience.

EMAIL

Subject: SCE Public Safety Power Shutoff (PSPS) Expected

From: do_not_reply@scewebservices.com Southern California Edison



It's likely we will shut off your power in the next 4 hours due to wind-driven fire conditions. Conditions could last through ^End Day of week^ ^morning /afternoon /evening^. We are working to reduce the number of customers affected. Weather could also affect shutoff timing and wind-related outages may occur. We will notify you again if we shut off your power. For the latest updates, outage map, and availability of community resources, visit sce.com/psps.

We appreciate your patience as we work to keep your community safe.

This alert applies to the following address(es):

Customer Address
Service Account
Meter Number
Rate

- For information about preparing for a power outage, visit sce.com/safety/family/emergency-tips
- REMEMBER: If you see a downed power line, call 911 first, and then notify SCE at 1-800-611-1911.

Thank you again for your continued patience as we work to keep your community safe!

6 | PSPS SHUTOFF
(SENT AT AUTHORIZATION TO DE-ENERGIZE)

SMS/TEXT
SCE PSPS Shutoff: We are shutting off your power due to wind-driven wildfire risk. High winds are forecast through ^End Day of week^ ^morning/ afternoon/ evening^. When weather improves, we will inspect our lines for damage before we restore power. This is expected to take up to 8 hours but could take longer if we need daylight for safe inspections or if we find damage. Visit sce.com/psps for the most up to date info on restoration timing and SCE community resources in your area. Remember to turn off/unplug appliances or equipment that could restart automatically. For downed

power lines, call 911. Thanks for your patience. View in more languages: www.sce.com/PSPSShutoff

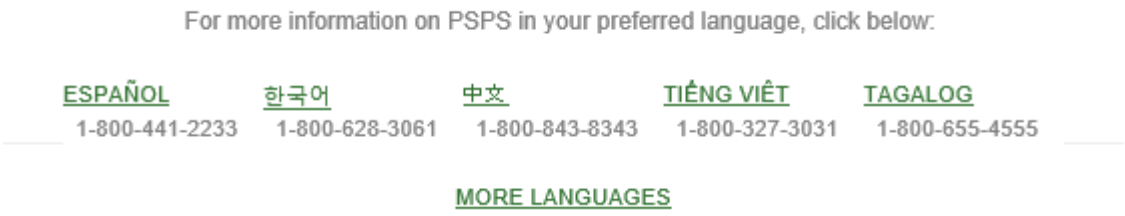
VOICE

SCE PSPS shutoff. To continue in English, press 1. [Spanish press 2], all other languages press 3…. We are shutting off your power due to current wind-driven wildfire risk. High winds are forecast through ^End Day of week^ ^morning/ afternoon/ evening^. When the weather improves, we will inspect our lines for damage before we restore power. This is expected to take up to 8 hours but could take longer if we need daylight for safe inspections or if we find damage. Remember to turn off or unplug appliances or equipment that could restart automatically. Visit SCE dot com slash psps for the latest information on restoration timing and SCE community resources in your neighborhood. If you see a downed power line, call 911. Thank you for your patience.

EMAIL

Subject: SCE Public Safety Power Shutoff (PSPS)

From: do_not_reply@scewebservices.com Southern California Edison



We are shutting off your power due to current high risk of wind-driven wildfire. High winds are forecast to last through ^End Day of week^ ^morning/ afternoon/ evening^. When the weather improves, we will inspect our lines for damage before we restore power. This is expected to take up to 8 hours but could take longer if we need daylight for safe inspections or if we find damage. We will update you as conditions change. Please remember to turn off or unplug appliances or equipment that may start automatically when power is restored.

Please visit sce.com/psps for the most up to date information, including outage map and restoration information, and availability of SCE community resources.

REMEMBER: If you see a downed power line, call 911 first, and then notify SCE at 1-800-611-1911. We understand this shutoff is inconvenient. We appreciate your continued patience as we work to keep your community safe.

This alert applies to the following address(es):

Customer Address
Service Account
Meter Number
Rate

7 | CONTINUED SHUTOFF - NEXT DAY SHUTOFF UPDATE (SENT IN THE AM TO OVERNIGHT OUTAGES)

SMS/TEXT
SCE Continued PSPS Shutoff: Thank you for your continued patience during this Public Safety Power Shutoff. High winds could continue through ^End Day of week^ ^morning /afternoon/ evening^. Before we restore power, we will inspect our lines for damage. This is expected to take up to 8 hours but could take longer if we need daylight for safe inspections or if we find damage. Visit sce.com/psps for the latest info on restoration and SCE community resources in your area. For downed power lines, call 911. View in more languages: www.sce.com/PSPSContinuedShutoff

VOICE

SCE Continued PSPS. To continue in English, press 1. [Spanish press 2], all other languages press 3…. Thank you for your continued patience during this Public Safety Power Shutoff. High winds are forecast to continue through ^End Day of week^ ^morning /afternoon/ evening^. Before we restore power, we will inspect our lines for damage. This is expected to take up to 8 hours but could take longer if we need daylight for safe inspections or if we find damage. Visit SCE dot com slash psps for the latest information on restoration and availability of community resources in your area. For downed power lines, call 911.

EMAIL

Subject: SCE Continued Public Safety Power Shutoff (PSPS)

From: do_not_reply@scewebservices.com Southern California Edison

For more information on PSPS in your preferred language, click below:

ESPAÑOL	한국어	中文	TIẾNG VIỆT	TAGALOG
1-800-441-2233	1-800-628-3061	1-800-843-8343	1-800-327-3031	1-800-655-4555

MORE LANGUAGES

Thank you for your continued patience during this Public Safety Power Shutoff. Wind-driven fire conditions could last through ^End Day of week^ ^morning /afternoon/ evening^. When the weather improves, we will inspect our lines for damage before we restore power. This is expected to take up to 8 hours but could take longer if we need daylight for safe inspections or if we find damage.

Visit sce.com/psps for the latest information on restoration and SCE community resources in your area. We understand that any outage is an inconvenience. Thank you again for your continued patience as we work to keep your community safe!

REMEMBER: If you see a downed power line, call 911 first, and then notify SCE at 1-800-611-1911.

This alert applies to the following address(es):

Customer Address
Service Account
Meter Number
Rate

8 | PREP RESTORE
SMS/TEXT
SCE PSPS Update: Winds have died down and we are starting to inspect our lines for damage. Restoration is expected to take up to 8 hours but could take longer if we need daylight for safe inspections or find damage. For updated restoration estimates in your area and for location of SCE community resources visit sce.com/psps. Please turn off/unplug appliances or equipment that could restart automatically and inspect your property for downed power lines. Call 911 if you find a downed line. We will alert you again when we restore power. View in more languages: www.sce.com/PSPSPrepRestore

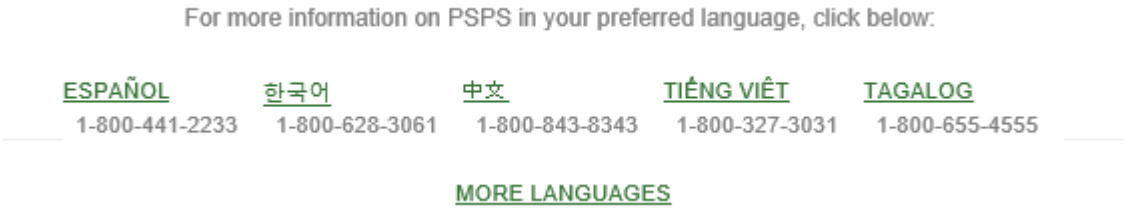
VOICE

SCE PSPS Update. To continue in English, press 1. [Spanish press 2], all other languages press 3…. Winds have died down and we are starting to inspect our lines for damage. Restoration is expected to take up to 8 hours but could be delayed if we need daylight for safe inspections or if we find damage. Please turn off or unplug any appliances or equipment that could restart automatically and inspect your property for downed power lines. Call 911 if you find a downed line. We will alert you again when we restore power. For updated restoration estimates in your area, and for location of SCE community resources visit SCE dot com slash psps

EMAIL

Subject: SCE Public Safety Power Shutoff Update

From: do_not_reply@scewebservices.com Southern California Edison



Winds have died down and we are starting to inspect our lines for damage. Restoration is expected to take up to 8 hours but could take longer if we need daylight for safe inspections or if we find damage. For updated restoration estimates in your area, and for location of SCE community resources visit sce.com/psps. We will alert you again when your power comes back on. Please turn off or unplug any appliances or equipment that could restart automatically and inspect your property for downed power lines. If you see a downed power line, stay away, and call 911 first, then report it to SCE at 1-800-611-1911.

We understand that Public Safety Power Shutoff events can be disruptive and thank you for your patience as we work to keep your community safe.

This alert applies to the following address(es):

Customer Address
Service Account
Meter Number
Rate

9 | RESTORED NO LONGER IN SCOPE (RESTORED & CANCELLATION [NO MORE RISK OF PSPS])

SMS/TEXT
SCE PSPS Ended: We have restored power in your area and ended the Public Safety Power Shutoff. If your power is still off, please call 1-800-611-1911 or visit sce.com/outage. We know that safety outages are inconvenient and thank you for your patience. View in more languages: www.sce.com/PSPSEnded

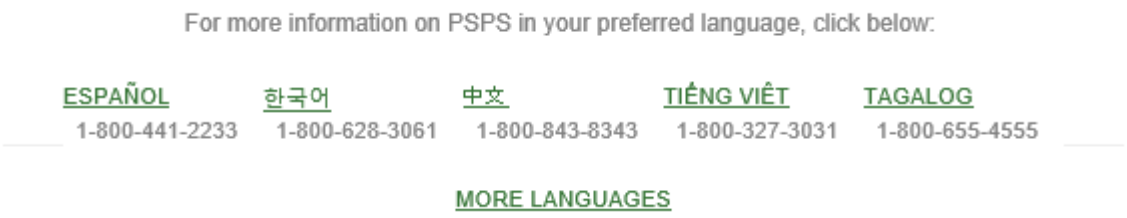
VOICE

SCE PSPS Ended... To continue in English, press 1. [Spanish press 2], all other languages press 3…. We have restored power in your area and ended the Public Safety Power Shutoff due to improved weather conditions. If your power is still off, please call 1-800-611-1911 or visit SCE dot com slash outage. We understand that safety outages are inconvenient and thank you for your patience.

EMAIL

Subject: SCE Public Safety Power Shutoff Ended: All Power Restored

From: do_not_reply@scewebservices.com Southern California Edison



We have restored power and ended the Public Safety Power Shutoff in your area due to improved weather conditions. If your power is still off, please call 1-800-611-1911 or visit sce.com/outage. We understand that safety outages are inconvenient and thank you for your patience.

This alert applies to the following address(es):

Customer Address
Service Account
Meter Number
Rate

For more information about PSPS and wildfire safety, please visit sce.com/psps.

10 | RESTORED IN SCOPE – RISK OF PSPS REMAINS

SMS/TEXT
SCE PSPS Update: Winds have improved enough for us to restore power in your area. However, because high winds are still forecast through ^End Day of week^ ^morning/afternoon/evening^ we might have to shut off power again. We will update you as weather conditions change. If your power is still off, please call 1-800-611-1911 or visit sce.com/psps. Thanks for your patience. View in more languages: www.sce.com/PSPSNotAllClear

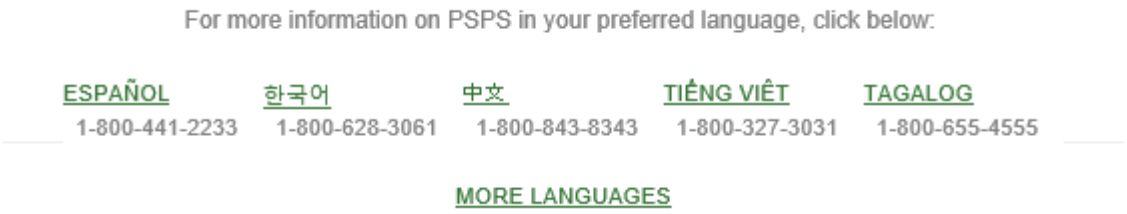
VOICE

SCE PSPS Update: To continue in English, press 1. [Spanish press 2], all other languages press 3…. Winds have improved enough for us to restore power in your area. However, because high winds are still forecast through ^End Day of week^ ^morning/afternoon/evening^ we may have to shut off your power again. We will keep you updated as weather conditions change. We understand that PSPS outages are inconvenient and thank you for your patience. If your power is still off, please call 1-800-611-1911 or visit SCE dot com slash psps.

EMAIL

Subject: SCE Public Safety Power Shutoff Update: Power restored; PSPS still in effect

From: do_not_reply@scewebservices.com Southern California Edison



Winds have improved enough for us to restore power in your area. However, because high winds are still forecast through ^End Day of week^ ^morning/afternoon/evening^ we may have to shut off your power again. We will keep you updated as weather conditions change. If your power is still off, please call 1-800-611-1911 or visit sce.com/psps.

We understand that safety outages are inconvenient and thank you for your continued patience.

This alert applies to the following address(es):

Customer Address
Service Account
Meter Number
Rate

For more information about PSPS and wildfire safety, please visit sce.com/psps.

Attachment B-Quantitative and Qualitative Factors in PSPS Decision-Making Technical Paper

QUANTITATIVE AND QUALITATIVE FACTORS FOR PSPS DECISION-MAKING

Revision: November 6, 2023

As the severity and frequency of wildfires in California continues to grow,[1] the state's utilities, including Southern California Edison, have implemented Public Safety Power Shutoffs (PSPS) to reduce the risk of electrical infrastructure igniting a significant wildfire. SCE's core objective is to keep customers safely energized, which is why PSPS remains a tool of last resort. We forecast with as much granularity as possible and then work to reduce the number of customers impacted.

Customer impacts are reduced by de-energizing only when necessary, based on real-time weather reporting; isolating only those circuits that present significant risk; moving customers between circuits (sectionalization) and turning off specific segments while keeping other segments of the same circuit energized (segmentation).

We use preset thresholds for dangerous wind speeds, low humidity and dry fuels as the basis of our decision-making. These thresholds are set for each of the circuits in high fire risk areas (HFRAs) and are continuously reviewed to calibrate the risk of significant events against the potential for harm to customers from the loss of power.

In 2021, based on an examination of 26 years of historical fire activity, SCE updated its thresholds for all but one fire climate zone within our service area.

Simultaneously, grid hardening efforts, including replacing bare wire with covered conductor (see box, right), are reducing ignition risk and thereby allowing SCE to raise thresholds on many of the circuits most frequently impacted in the 2019 and 2020 fire seasons.*

REDUCING THE NEED FOR PUBLIC SAFETY POWER SHUTOFFS

Concurrent with the work that SCE is doing to reduce the number of customer impacts from PSPS, we are increasing grid resiliency in high fire risk areas through grid hardening measures. The more resilient grid (described in our Wildfire Mitigation Plan) will help reduce the risk of utility equipment sparking significant wildfires and the need for PSPS.

Since 2018, SCE has replaced more than 2,000 circuit miles of bare wire with covered conductor, with additional miles in progress. Covered conductor should prevent ignitions associated with objects or vegetation contacting power lines or conductor-to-conductor contact.

Additional grid hardening activities since 2018 include the installation of 100 sectionalizing devices, more than 7,500 fire-resistant poles and more than 13,000 fast-acting fuses.

* For simplicity, we are referring to the last fire season as the "2020 fire season" although it includes the PSPS event from Jan. 12 to 21, 2021.

DECISION-MAKING

PSPS decisions are based on quantitative analyses while accounting for qualitative factors such as societal and emergency management impacts.

SCE makes PSPS decisions predominantly at the distribution grid level. Decision-making for transmission-level de-energization is not covered in this paper.

THRESHOLDS

All circuits have an **activation threshold**, defined by the Fire Potential Index (FPI) and the wind speed at which they are considered at risk. Activation thresholds are computed for each circuit for the season. For each PSPS event, every circuit also has a **de-energization threshold**. De-energization thresholds are determined separately for each circuit to prioritize circuits for de-energization based on the specific risks of the event. This is particularly important for large events where many circuits must be evaluated simultaneously. The baseline activation thresholds for each of the high fire risk area circuits are included in the online appendix.

SCE PSPS TERMINOLOGY

Consequence score: Used to quantify risk in decision-making

Incident commanders: All decision-making in PSPS events is authorized by an incident commander, who represents the company and undergoes continuous training in PSPS response.

Incident Management Team: SCE follows principles of the National Incident Management System and components of the Standardized Emergency Management System during PSPS events. This includes using an Incident Management Team structure to execute PSPS events.

In-Event Risk Calculation: A decision-making tool that assesses and compares potential public safety risk (PSPS risk) and the benefit of de-energization (wildfire risk) 24 hours out from the start of the period of concern.

In scope: Circuits at risk are deemed to be in scope when they are at risk for reaching event risk thresholds.

Monitored circuit list: Circuits in scope are listed and prioritized and each circuit has a specific time range for which it is forecasted to be of concern.

Period of concern: The forecasted period, including start and end time, as measured in three-hour time blocks.

REST Service (Representational state transfer): A software architecture we use to share GIS maps with public agencies.

FIRE POTENTIAL INDEX

FPI estimates the likelihood of a spark turning into a major wildfire. FPI uses a whole-number scale with a range from 1 to 17 and are categorized as normal (1-11), elevated (12-14) and extreme (15+). Historical FPI and state and federal fire data shows that the most severe fires in terms of number of acres damaged occur at the higher levels of FPI (FPI is calculated using the following inputs (Figure 1):

- **Wind speed**—Sustained wind velocity at 6 meters above ground level.
- **Dew point depression**—The dryness of the air as represented by the difference between air temperature and dew point temperature at 2 meters above ground level.
- **Energy release component (ERC)**—"The available energy (BTU) per unit area (square foot) within the flaming front at the head of a fire … reflects the contribution of all live and dead fuels to potential fire intensity."[2]
- **10-hour dead fuel moisture**—A measure of the amount of moisture in ¼-inch diameter dead fuels, such as small twigs and sticks.
- **100-hour dead fuel moisture**—A measure of the amount of moisture in 1-to 3-inch diameter dead fuels, i.e., dead, woody material such as small branches.
- **Live fuel moisture**—A measure of the amount of moisture in living vegetation.
- **Normalized Difference Vegetation Index (NDVI)**—"… used to quantify vegetation greenness and is useful in understanding vegetation density and assessing changes in plant health."[3]

Dryness Level is a function of ERC and the 10-hour/100-hour dead fuel moisture time-lag.

Fuel loading modifier associated with low, moderate, and heavy fuel loading corresponding to 0.50, 0.75 and 1.00, respectively. This represents a measure of the amount of vegetation on the ground.

$$FPI = \left(\frac{DL}{LFM} + G\right) FLx + Wx$$

Moisture content of the living vegetation.

Degree of green-up of the annual grass based on the NDVI.

Weather component of the FPI, also known as the weather score, and references a lookup table of paired sustained wind speed and dew point depression values as in the figure below. The value range is 0 to 6.

Figure 1: *Fire Potential Index Equation*[4]

FPI Weather Component (Wx)

Dew Point Depression	Wind Speed (mph) <=5	6-10	11-16	17-22	23-28	>=29
>=50	2	3	3	4	5	6
40-49	2	2	3	3	4	5
30-39	1	2	2	3	3	4
20-29	1	1	2	2	3	3
10-19	0	0	1	1	1	1
<10	0	0	0	0	0	0

The variables used to generate the FPI score come from the Weather Research and Forecasting (WRF) model[5], which has been customized for SCE to replicate our specific geography and weather conditions. Individual components of the FPI score are forecast hourly for each 2 km by 2 km grid cell. The model is run twice a day and provides an hourly forecast for five days forward. The forecasts associated with each of the FPI components for each grid cell are then summarized by circuit for three-hour intervals.

The forecasted FPI is further refined and calibrated by integrating model guidance from multiple public sources such as sampling from fire agencies and proprietary data. These refined FPI values are used to determine which circuits are forecast to breach PSPS thresholds during the event, and the values are recorded on SCE's monitored circuit list. In many cases, SCE's meteorologists and operations experts further refine these initial estimated FPI values in real time during the period of concern, based on actual weather observations.

Initially, SCE set the FPI threshold to 12 for all circuits in SCE's high fire risk areas. Starting on Sept. 1, 2021, SCE raised the FPI to 13 for most areas and most events based on a risk analysis of historical fire data.

Exceptions where the FPI threshold continued to be set at 12 include:

- **Fire Climate Zone 1 (FCZ1) (Coastal region) —** The threshold for FCZ1 is staying at 12 because probability calculations indicated a significantly higher ignition risk factor at an FPI threshold of 13 for this FCZ than for the other FCZs (2, 3, 4, 9 and 10). (Figure 2)

- **Geographic Area Coordination Center (GACC) preparedness level of 4 or 5 —** The GACC coordinates multiple federal, state, and regional fire suppression resources. It provides daily fire preparedness levels on a scale of 1-5. A high score signals that there is significant resource drawdown which could negatively impact fire response.

- **Circuits located in an active Fire Science Area of Concern (AOC) —** AOCs are areas within FCZs that are at high risk for fire with significant community impact. This designation is based on factors that are part of FPI, as well as egress, fire history and fire consequence. Further details about AOCs can be found in SCE's Wildfire Mitigation Plan.[7]

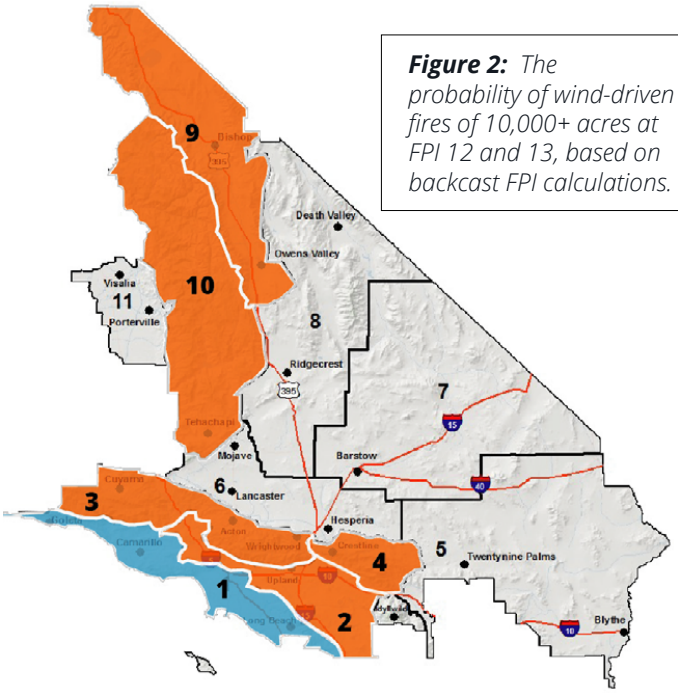
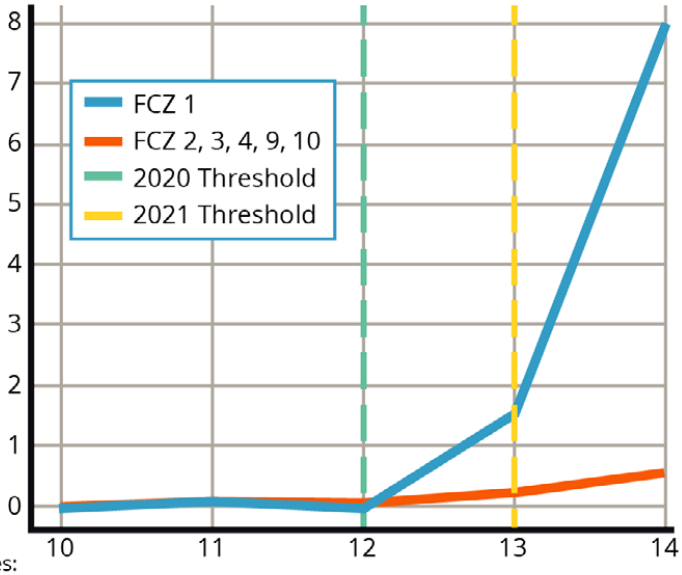


Figure 2: *The probability of wind-driven fires of 10,000+ acres at FPI 12 and 13, based on backcast FPI calculations.*



Notes:
1. Based on an analysis of fire data from 1992-2017.
2. FPI is calculated as a whole number (there are no fractional FPI values).
3. Fires of less than 10,000 acres are not represented on this graph.

In 2023, SCE identified certain remote and isolated areas (less than 1% of SCE's high fire risk area) where an FPI threshold of 11 may be appropriate to mitigate additional fire risk created by unique factors such as extremely limited egress and constrained fire suppression capability. SCE does not anticipate a significant increase in PSPS events as a result of lowering the FPI threshold in these areas.

WIND SPEED

SCE considers the lower of the National Weather Service's (NWS) wind advisory levels (defined as 31 mph sustained wind speed and 46 mph gust wind speed) or the 99th percentile of historical wind speeds to set activation thresholds for each circuit. The wind advisory level is chosen because debris or vegetation is likely to become airborne as described by the Beaufort Wind Scale,[8] while a circuit's 99th percentile wind speeds represent extreme and unusual wind activity for the area.* There are a handful of circuits that have legacy thresholds below the NWS advisory level because they have a history of local circuit outages at lower wind speeds.

CALCULATING DE-ENERGIZATION THRESHOLDS

De-energization thresholds account for circuit health, including any outstanding maintenance and issues identified through patrols,[9] and are also informed by a **consequence score** for each specific high fire risk area. The consequence score estimates the impact of an ignition on communities. The higher the score, the greater the risk to a particular location from wildfires. SCE's process for calculating de-energization thresholds is outlined in Figure 3 below.

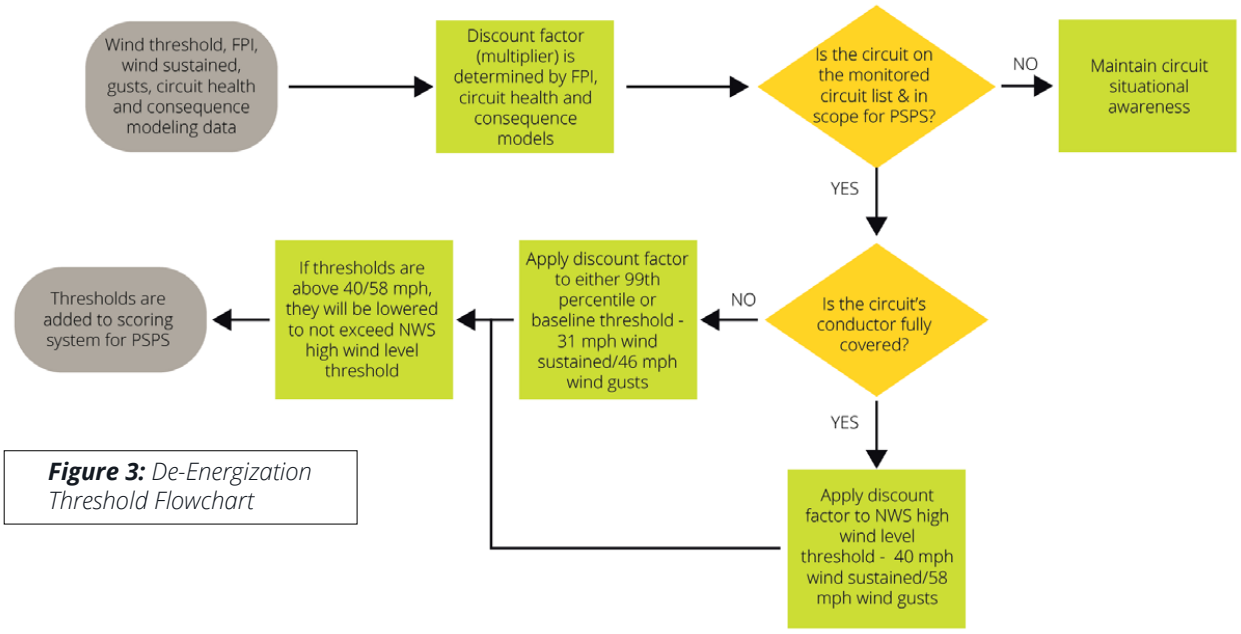


Figure 3: *De-Energization Threshold Flowchart*

If actual conditions suggest more risk, or in large-scale events when many circuits are under consideration for shutoffs, the de-energization thresholds may be lowered (discounted), meaning power on a circuit will be turned off at lower wind speeds. This step prioritizes the circuits that represent the highest risk to be evaluated for de-energization before circuits at lower risk.

* top 1% each year, based on 10 years of data

Conversely, de-energization thresholds are raised for segments or circuits that have had covered conductor installed. The de-energization threshold for segments with covered conductor is 40 mph sustained/58 mph gusts which aligns with the National Weather Service high wind warning level for windspeeds at which infrastructure damage may occur. Other factors, such as maintenance issues, could lower the thresholds for specific events.

TOOLS AND TECHNOLOGIES

To better inform PSPS decision-making, SCE has invested in tools, technologies and practices to improve forecasting. In 2020, two super computers produced twice-daily, high-resolution weather and fuel modeling forecasts for the more than 1,100 distribution circuits in SCE's high fire risk areas. (Two additional super computers and machine learning technology will improve forecasting accuracy in 2021.) The models resolve the complex flows that occur in California's mountainous topography.

PRE-PLANNING (PRIOR TO WILDFIRE SEASON)

PSPS preparedness activities take place year-round. Pre-planning work includes establishing circuit-specific FPI and wind speed thresholds for activation, reviewing circuits for fuel risk and developing process and tool enhancements, such as updating circuit switching plans for circuits in high fire risk areas.

CIRCUIT SEGMENT REVIEWS

We use an exception review process to remove circuit segments from consideration for PSPS when the wildfire risk is temporarily or permanently abated. An example would be a portion of a circuit traversing a recent burn scar where there is little or no vegetation remaining to pose an ignition risk. Circuit segment exceptions are identified when SCE begins preparing detailed designs for grid hardening activities or through specific feedback received from the field. This process is further informed by field teams who have current knowledge of changing conditions in specific areas.

A review team composed of SCE experts from PSPS operations, fire science and risk management evaluates each circuit segment's unique characteristics (e.g., construction type, outage history) and location characteristics (e.g., fuel quantity, fuel type, fuel dryness, fuel age and history of fires in the area) to assess the fire risks associated with that segment. Through the circuit exception review process, SCE has removed more than 31,000 customers on 26 circuits from consideration for PSPS in 2020 that had been at risk in 2019. We are continuing to review circuits to further reduce PSPS impacts as part of our PSPS Action Plan for 2021.

SWITCHING PLAN DEVELOPMENT

Every circuit in SCE's high fire risk area has ties to other circuits. This provides flexibility to potentially isolate customers from high fire risk areas to minimize customer impacts to the smallest extent possible. SCE develops switching plans to determine whether circuit segments could be transferred using field isolation devices. Individual circuits could have one or more switching plans to account for different weather conditions. These switching plans are used for all circuits under consideration in an event and customers can be switched both before and during events. Switching plans can be used in some situations to remove critical infrastructure from circuits under consideration for shutoff.

The switching plans include mapping the location of isolation devices, associated weather stations, mapping of any underground circuit sections and description of areas of the circuit where circuit exceptions may be applied where the conditions are not conducive to a fire start (e.g., area has covered conductor, paved roadways or no vegetation).

FUEL MOISTURE ANALYSIS

Live fuel moisture observations are obtained biweekly, year-round (weather permitting) to determine inputs for FPI calculations. Fifteen sites are sampled in four fire-prone geographic areas: the eastern Sierra (along Highway 395), the western Sierra, northern Los Angeles County and the Inland Empire (Figure 4).

Samples of native vegetation from each of the 15 sites are weighed, dried and then weighed again to determine the vegetation's moisture content. This field research targets the areas that have the greatest fire potential. The data from this fuel sampling program is used to develop and train machine-learning models to estimate live fuel moisture, which serves as one of the inputs into the FPI. SCE also uses the data to calibrate FPI by improving the accuracy of the high-resolution weather and fuel modeling output from weather vendor American Digital Systems.

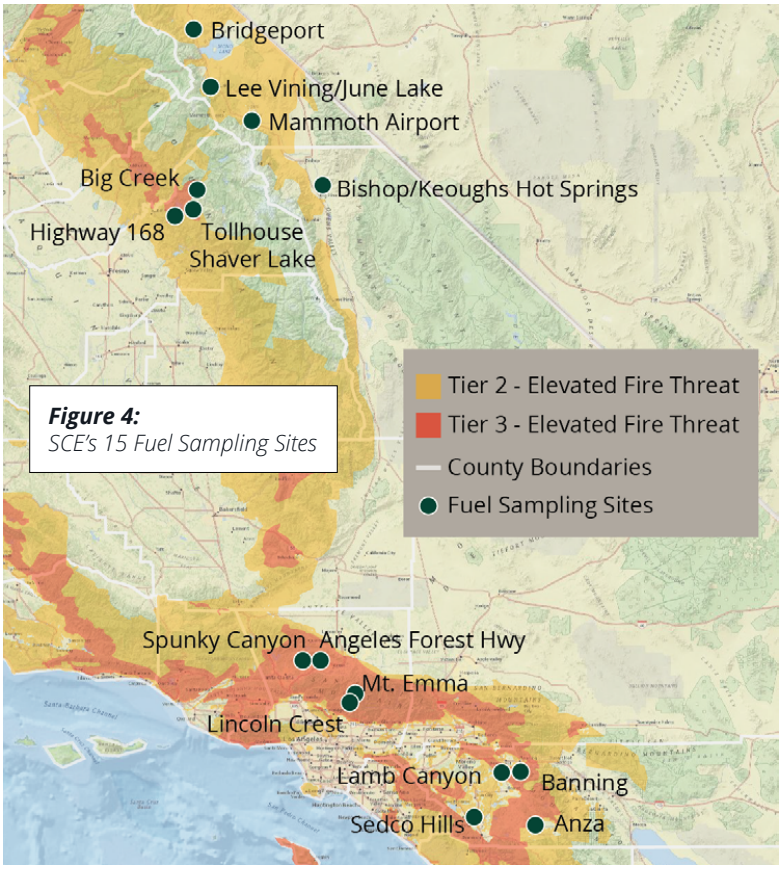


Figure 4:
SCE's 15 Fuel Sampling Sites

Dead fuel moisture factors into the dryness level in the FPI in both 10-hour and 100-hour measures. It is calculated twice daily using the field sample data and a series of mathematical algorithms that account for precipitation as well as the diurnal variability that occurs with temperature and relative humidity.

EVENT PLANNING (FOUR TO FIVE DAYS PRIOR TO POTENTIAL SHUTOFF)

At five days before potential weather events, the meteorologists and fire science team can review the first model run of twice-daily weather and fuel forecasts from SCE's super computers to determine if established thresholds are expected to be breached.

No customers are notified at this point, given the uncertainty of longer-range forecasting.

IMT ACTIVATION (ONE TO THREE DAYS PRIOR TO EXPECTED SHUTOFF)

If forecasts predict that thresholds will be breached within one to three days, the team facilitates a forecast weather call to activate the IMT under the authorization of the incident commander.

The meteorologists produce a monitored circuit list and an associated period of concern table. The table includes a specific forecast start and end time for each circuit, broken down in three-hour time blocks.

Additional quantitative and qualitative factors are monitored in real time once circuits are identified.

As the event gets closer, the initial monitored circuit list and period of concern table are validated by the meteorologists and the fire science team. They improve the raw model using forecasting experience, other weather models and pattern recognition.

The Advanced Circuit Evaluation (ACE) team — a team of SCE engineers and analysts — develops individual de-energization thresholds for each circuit segment for the event based on the pre-assigned activation thresholds. The team assesses circuit conditions and identifies any potential issues that need to be resolved.*

EVENT MANAGEMENT PLANNING

The IMT, under the incident commander, makes staffing and resource decisions (See Complexity Factors, Table 1) and develops a unique event management plan. The plan details the de-energization thresholds and cadence of decision-making based on the complexity of the event and situational information. Managing to the plan allows the PSPS team sufficient time to process simultaneous de-energizations when multiple circuits might approach de-energization thresholds in parallel. For small scale events (up to 30 circuits in scope and limited complexity), an event management plan allows us the flexibility to make individual segment decisions as late as possible.

Table 1: *Complexity Factors*

Criteria	Impacts
Number of distribution circuits in scope (primary circuits)	Increased number of customer and public safety partner notifications requires coordination to ensure alignment between functional groups.
Sub-transmission circuits in scope	De-energizing sub-transmission circuits could potentially create significant customer impacts and local SCE-system reliability issues.
Transmission circuits in scope	Potential for significant customer impacts and reliability issues.
Significant number of circuits forecasted to exceed de-energization thresholds	1. Requires additional staffing to support higher volume of individual de-energization decisions at the circuit segment level. 2. Stresses resource availability to manage restoration in the field.
Large number of counties/ large geographic spread	Increases resource needs. Overextends customer care resources.
Large customer count	Increases demand on customer care resources.
Customer demographics	A high number of access and functional needs customers and/or critical infrastructure providers increases level of support provided by SCE.
Complex/concurrent incidents	Intersecting impacts such as fires, extreme heat or wind-related outages require increased coordination with public safety partners.
Multi-day events	Multi-day events are a significant burden on impacted customers. Providing temporary relief requires planning and significant resources in the field.
Number of circuits close to (below) MCL criteria threshold	Risk of additional circuits that could potentially come into scope and rapidly.

* There is a small subset of circuits with 99th percentile wind speed values that are significantly higher than the NWS wind advisory cap. In instances where wind speeds are forecast to exceed the activation threshold but are not expected to come within proximity of the 99th percentile value, the incident commander may elect not to activate the PSPS protocol. We may dispatch field crews to observe the circuits for possible debris fly-ins but may not activate PSPS due to the low probability of reaching de-energization threshold values.

PRE-PATROLS IN THE FIELD

Where possible, every circuit in scope is patrolled before the arrival of the forecasted weather, unless it was already patrolled within the previous seven days. Crews visually inspect the entire length of each circuit to find any imminent hazards that require immediate remediation and provide additional up-to-date intelligence on field conditions. If maintenance concerns are discovered on a circuit in scope, repairs are expedited (if possible) before the impending wind event.

COORDINATION

SCE meets with local governments, the emergency management community and first responders to inform them about the event, including the location of circuits in scope in their jurisdictions, and to discuss any public safety concerns that should be taken into account.

Situational awareness notifications are sent to local and county jurisdictions, public safety partners and critical infrastructure providers starting at three days out.

CUSTOMER NOTIFICATIONS

Customer notifications begin 24-48 hours ahead of the forecasted weather event. Because these notifications are based on two-day-ahead forecasting at the circuit level, they lack the precision of later, in-event notifications, which will be based on real-time weather readings at the segment level. They also do not reflect in-event efforts to sectionalize circuits to reduce customer de-energizations.

"The wildfire risks that are reduced through PSPS must be balanced against the potential public safety risks that are introduced by a temporary loss of power. SCE maintains transparent coordination with emergency management officials and other public safety partners leading up to and during PSPS events."

IN-EVENT RISK CALCULATION

A new in-event calculator provides an event-based quantitative comparison of risk scores to inform de-energization decision making. The PSPS risk and the benefit of de-energization (wildfire risk) are modeled independently and provided to incident commanders 24 hours in advance of the period of concern. This calculator is also documented in the post-event reports required by Resolution ESRB-8.

IN-EVENT DECISION-MAKING

Three to six hours before the winds are forecasted to meet de-energization thresholds, the PSPS IMT moves from forecasting to real-time weather monitoring, using SCE's 1,050 field weather stations and other public weather stations. Every 10 minutes, SCE weather station readings are updated for each circuit. Meteorologists compare the forecast conditions to the actual conditions to identify trends that could suggest whether wind speeds are increasing or decreasing.

LIVE FIELD OBSERVATIONS

Live field observers are stationed at every circuit in scope, at least two hours before the forecasted start of the event (when feasible). Observers are trained SCE employees who monitor circuits for any possible signs of failure and for environmental conditions that could accelerate the need to turn off power, such as potential for damage from wind gusts, airborne vegetation or other flying debris. Field crews also use handheld weather stations to provide field condition readings to supplement information from fixed weather stations.

ACE TEAM DECISION-MAKING PROCESS

The ACE team activates circuit switching plans to reduce the number of customers who lose power.

In-event data is gathered on a master database populated with the de-energization threshold of each circuit segment and auto-populated every 10 minutes with updated wind speeds from circuit-specific weather stations. Field input is provided to the team in real time to inform decisions. As a circuit, or segment of a circuit approaches its de-energization threshold, this team will recommend shutoffs. The incident commander will review each unique recommendation and validate using additional data, such as field reports, if necessary, before approving the decision.

IMMINENT DE-ENERGIZATION NOTIFICATIONS

In addition to other notification requirements, CPUC guidelines require notifying all customers one to four hours in advance of power shutoffs, if possible. Predicting when this window will occur in advance of changing weather conditions can be challenging. Notifying customers too early may result in over-notification: customers may receive a warning of de-energization but not lose power if wind speeds do not reach forecasted conditions. Conversely, waiting until wind speeds pick up significantly can result in missing this window and not providing customers advance notice before a power shutoff. For the 2021 fire season, we continue to refine the timing and content of our notifications to be more effective.

ADDRESSING PUBLIC SAFETY CONCERNS

The wildfire risks that are reduced through PSPS must be balanced against the potential public safety risks that are introduced by a temporary loss of power. SCE maintains transparent coordination with emergency management officials and other public safety partners leading up to and during PSPS events. The PSPS team considers how best to manage de-energizations that may impact public safety and determines if any mitigating actions can be taken to reduce the associated risk. Mitigating actions may include sectionalizing lines to minimize the amount of the line that is de-energized or temporarily providing a backup generation source to a critical facility.

Information is provided to public safety partners through a notification sequence managed by the liaison officers and enhanced by access to REST service maps. Starting in June 2021, an online public safety partner portal will provide these partners with enhanced and simplified access to information. Public safety partners have been consulted on the development of the new public safety partner portal.

Requests to delay de-energization or re-energize circuits are addressed on a case-by-case basis. Potential reasons to delay the de-energization of a circuit could include the need to power water pumps for fire suppression, evacuations in progress and critical facilities that are not equipped with sufficient backup generation.* These requests may come from fire agencies or from other emergency management agencies during an event. The incident commander has the final authority to determine a response for SCE.

PATROL AND RE-ENERGIZATION

The ACE team continues to monitor all circuits that are de-energized and watches for winds to decrease below thresholds, which will trigger patrol for reenergization. For multiday events, with gaps of even a few hours, field crews will attempt to restore customers before the second period of concern begins, even if this will require a repeat de-energization.

In most cases, field crews are standing by for patrol, which is typically accomplished within eight hours (for more than 90% of circuits). Some circuits will require foot or helicopter patrol. If possible, customers on difficult-to-patrol circuits are switched to more accessible circuits for restoration, so that circuits with no customers on them will be the last in line for restoration.

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*Many critical infrastructure customers are required by law or industry standard to have back-up generation in place to sustain critical operations during a power outage, regardless of outage type. Other customers not required to have back-up generation are encouraged to consider adding this capability to meet critical needs that require electricity during a power outage.

NEXT STEPS FOR PSPS DECISION-MAKING

Lessons learned, customer feedback and the 2021 PSPS Action Plan are informing SCE's plans for improving decision-making to better serve our customers and our communities for the 2021 fire season. SCE will:

- Use fire spread predictions to estimate how large fires may grow and what their subsequent impact on nearby communities may be. Following evaluation, we will incorporate these estimations to clarify the PSPS geographic coverage to reflect true fire weather conditions more accurately.

- Improve in-house forecasting capabilities to reduce the variance between the customers who are notified of potential de-energization and the customers who are actually de-energized due to the onset of increased fire danger conditions, as well as the number of customers who lose power without prior notification.

- Acquire more computing power to increase resolution of weather and fire potential predictions. This will include doubling the forecast resolution from 2 km to 1 km, which will allow for more precise weather and fuels forecasts.

These improvements should result in adjustments to the activation and de-energization thresholds, resulting in fewer customers losing power because of PSPS. Grid hardening efforts should also reduce the number of customers who experience a PSPS outage assuming the same weather conditions as 2020.

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Online appendix (including May 2021 draft) is available at SCE.com/PSPSDecisionmakingAppendices

SOUTHERN CALIFORNIA EDISON®

Attachment C-PSPS Event Data Workbook

Officer Verification

I am an officer of the applicant corporation herein and am authorized to make this verification on its behalf. I am informed and believe that the matters stated in the foregoing document are true.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 29th day of August 2024 in Rancho Palos Verdes, California

Signed by:
Michael Marelli
AA67B9516C444C2...

Mike Marelli

Vice President,

Operational Services