

# Public Safety Power Shutoff (PSPS) Fundamentals and County Actions



Santa Barbara County Office of Emergency Management  
27 August 2019



# Purpose

- Brief the Board on the fundamentals of “de-energization,” which is commonly referred to as “Public Safety Power Shutoff” (PSPS).
- Objectives:
  - Review concepts of the PSPS Protocol.
  - Provide examples of recent PSPS events.
  - Introduce critical issues, challenges, and consequences related to PSPS.
  - Update Board on recent efforts taken by OEM.

# PSPS Protocol Basics

- Intentionally shutting off electrical service in order to prevent the cause of major wildfires due to ignition by their damaged electrical systems.
- Two Electrical Utility Company Providers service SB County.
  - PG&E: North County (Santa Maria Valley, Santa Ynez Valley & Lompoc areas)
  - SCE: South County (Goleta through Carpinteria)
- Governmental Oversight: California Public Utilities Commission (CPUC)
- Advanced notification;
  - Priority to Public Safety Partners
  - Those with medical dependency on electricity
  - Their Customers



# PSPS Protocol Basics

- Legal
  - Companies are authorized to de-energize their power services so long as it is done to protect public safety
  - California Public Utility Law Sections 451 and 399.2(a)
  - Rule Making (R18-12-005) Phase I Decision
    - Notification of Public Safety Partners
    - EOC Liaison
    - Better Education and outreach
  - Utility companies presently are subject to a “reasonableness review” by the CPUC with includes these factors: public outreach, notification and mitigation. (CPUC Resolution ESRB-8, adopted July 12, 2018.)



# CalFIRE Top 20 Largest California Wildfires

## Top 20 Largest California Wildfires

	FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	MENDOCINO COMPLEX (Under Investigation)	July 2018	Colusa County, Lake County, Mendocino County & Glenn County	459,123	280	1
2	THOMAS (Powerlines)	December 2017	Ventura & Santa Barbara	281,893	1,063	2
3	CEDAR (Human Related)	October 2003	San Diego	273,246	2,820	15
4	RUSH (Lightning)	August 2012	Lassen	271,911 CA / 43,666 NV	0	0
5	RIM (Human Related)	August 2013	Tuolumne	257,314	112	0
6	ZACA (Human Related)	July 2007	Santa Barbara	240,207	1	0
7	CARR (Human Related)	July 2018	Shasta County, Trinity County	229,651	1,614	8
8	MATILIJA (Undetermined)	September 1932	Ventura	220,000	0	0
9	WITCH (Powerlines)	October 2007	San Diego	197,990	1,650	2
10	KLAMATH THEATER COMPLEX (Lightning)	June 2008	Siskiyou	192,038	0	2
11	MARBLE CONE (Lightning)	July 1977	Monterey	177,866	0	0
12	LAGUNA (POWERLINES)	September 1970	San Diego	175,425	382	5
13	BASIN COMPLEX (Lightning)	June 2008	Monterey	162,818	58	0
14	DAY FIRE (Human Related)	September 2006	Ventura	162,702	11	0
15	STATION (Human Related)	August 2009	Los Angeles	160,557	209	2
16	CAMP FIRE (Under Investigation)	November 2018	Butte	153,336	18,804	85
17	ROUGH (Lightning)	July 2015	Fresno	151,623	4	0
18	McNALLY (Human Related)	July 2002	Tulare	150,696	17	0
19	STANISLAUS COMPLEX (Lightning)	August 1987	Tuolumne	145,980	28	1
20	BIG BAR COMPLEX (Lightning)	August 1999	Trinity	140,948	0	0

\*There is no doubt that there were fires with significant acreage burned in years prior to 1932, but those records are less reliable, and this list is meant to give an overview of the large fires in more recent times.

\*\*This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, or local responsibility.



# CalFIRE Top 20 Most Destructive California Wildfires

## Top 20 Most Destructive California Wildfires

	FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	CAMP FIRE (Under Investigation)	November 2018	Butte County	153,336	18,804	85
2	TUBBS (Electrical)	October 2017	Napa & Sonoma	36,807	5,636	22
3	TUNNEL - Oakland Hills (Rekindle)	October 1991	Alameda	1,600	2,900	25
4	CEDAR (Human Related)	October 2003	San Diego	273,246	2,820	15
5	VALLEY (Electrical)	September 2015	Lake, Napa & Sonoma	76,067	1,955	4
6	WITCH (Powerlines)	October 2007	San Diego	197,990	1,650	2
7	WOOLSEY (Under Investigation)	November 2018	Ventura	96,949	1,643	3
8	CARR (Human Related)	July 2018	Shasta County, Trinity County	229,651	1,614	8
9	NUNS (Powerline)	October 2017	Sonoma	54,382	1,355	3
10	THOMAS (Powerline)	December 2017	Ventura & Santa Barbara	281,893	1,063	2
11	OLD (Human Related)	October 2003	San Bernardino	91,281	1,003	6
12	JONES (Undetermined)	October 1999	Shasta	26,200	954	1
13	BUTTE (Powerlines)	September 2015	Amador & Calaveras	70,868	921	2
14	ATLAS (Powerline)	October 2017	Napa & Solano	51,624	783	6
15	PAINT (Arson)	June 1990	Santa Barbara	4,900	641	1
16	FOUNTAIN (Arson)	August 1992	Shasta	63,960	636	0
17	SAYRE (Misc.)	November 2008	Los Angeles	11,262	604	0
18	CITY OF BERKELEY (Powerlines)	September 1923	Alameda	130	584	0
19	HARRIS (Undetermined)	October 2007	San Diego	90,440	548	8
20	REDWOOD VALLEY (Powerline)	October 2017	Mendocino	36,523	546	9

\*\*\*Structures" include homes, outbuildings (barns, garages, sheds, etc) and commercial properties destroyed.

\*\*\*This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, or local responsibility.



# Factors Influencing the Decision to De-Energize

- Conditions (in Tier 2 or Tier 3 Fire-Threat Areas):
  - Red Flag Warning issued by the NWS
    - 6hrs of sustained conditions required for determination
      - Conditions may exist despite not hitting 6hr threshold
  - Humidity less than or equal to 20%
  - Forecast or observed sustained:
    - Winds greater than 25 mph
    - Gusts greater than 45 mph
  - Computer modeling data projecting fire-prone or unsafe conditions
  - Low moisture content and dry conditions of fuel beds in the area
  - Real-time field observations identifying fire-prone or unsafe conditions
- **All are not required for a PSPS decision**

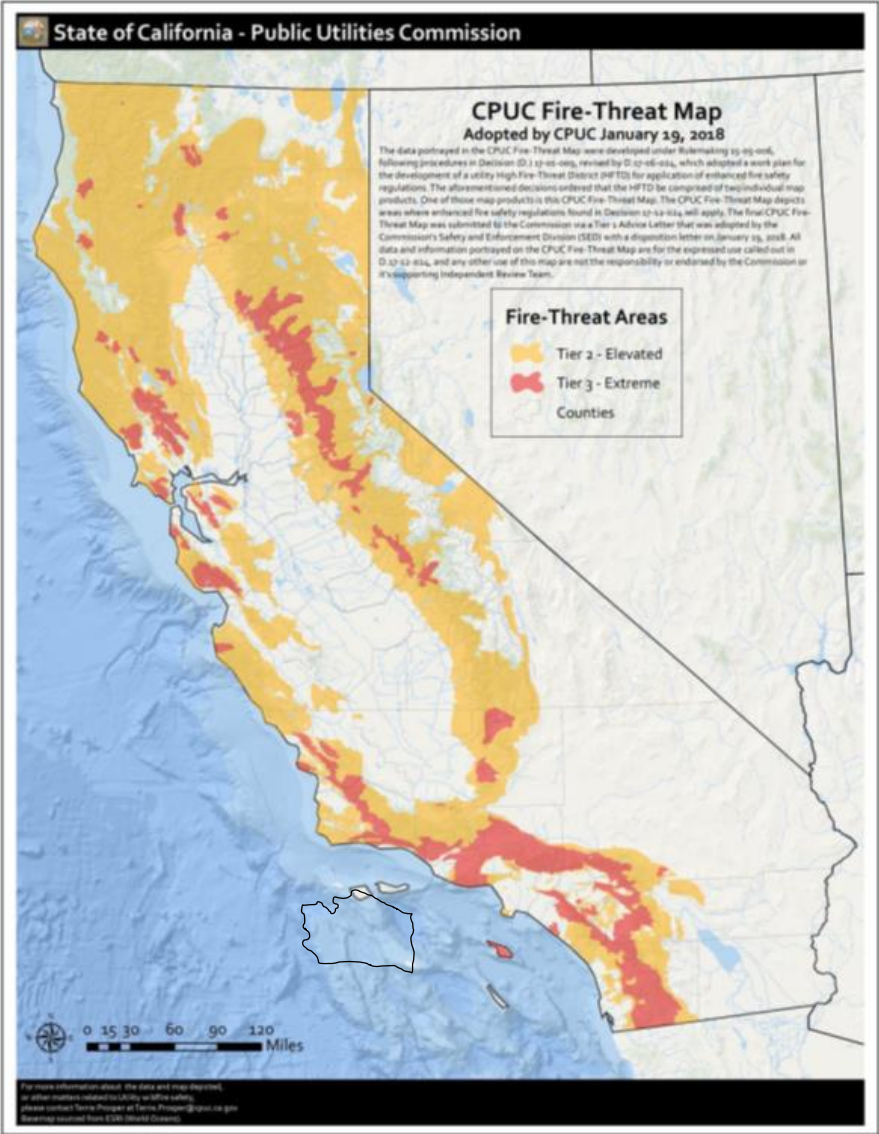


# Factors Influencing the Duration of De-Energization

- Duration of power outage:
  - Duration of fire weather conditions mentioned above, **plus**
  - The amount of time it takes for the company to physically inspect 100% of the lines that were de-energized, **plus**
  - The amount of time it takes for the company to repair damaged lines
- May last for days



# CPUC Fire-Threat Map



# Recent PSPS Events



# North Bay & Sierra Nevada Foothills PG&E

## 8-9 June 2019

- **June 7**
  - **Time unknown** – OES Director, Fire Chief, Sheriff and other government stakeholders notified prior to de-energization.
  - **1233** – Initial notifications of PG&E customers.
- **June 8**
  - **0800** – PG&E initiated in-person visits and live agent calls to Medical Baseline customers that did not confirm receipt of first two notifications.
  - **2043** – 29 circuits and transmission lines in Butte County de-energized.
- **June 9**
  - **1220** – Cancellation notification to customers who received 24-48 advanced notification but were not de-energized.
  - **1800** – Power restored within Butte County.
- **Approximately 22,000 customers impacted, including over 1,500 Medical Baseline customers.**
- **Total Duration: 21h17m**

# City of Orange

## SCE - January 1, 2019

- **December 29**
  - **Before Noon** – Notifications made to local government and public safety agencies
- **December 30**
  - **1500** – Initial notification of 74,564 SCE customers in Los Angeles, Orange, Riverside and San Bernardino counties.
- **December 31**
  - **Time unknown** – SCE updated emergency managers, first responders and other government stakeholders of changes to Circuit List
  - **1400** – SCE notified 50,759 customers associated with the reduced circuit total.
- **January 1**
  - **0227** – Moderna Substation in the City of Orange de-energized.
    - Total of 34 customers (mostly commercial) were affected with no critical care customers impacted.
    - Water Special District experienced an unplanned power shutoff
  - **1708** – Power restored.
- **Total Duration: 14h41m**



# Multi-County Notification Event SCE – July 9, 2019

- Initial notification at 1537 hours to the California State Warning Center
- Activate their Operations Emergency Center (OEC) for potential PSPS event.
- SCE updated report six (6) days later:
  - SCE remained at PSPS stage “Activating OES / Potential for PSPS”.
  - 22,456 customers could be impacted in Kern, Los Angeles, Riverside, and San Bernardino Counties
  - 625 medical baseline customers have been identified.
- **The de-energization did not occur**

# PSPS Critical Issues and Challenges



# Not Your Typical Power Outage Problem

- Multi-day power outages already occur
  - Electric Utility Companies identify, respond, troubleshoot, and repair as quickly as possible.
  - Can happen during any season/weather conditions
- PSPS outages are their own unique challenge
  - Only occur during extreme weather events
  - Excessive Heat
  - High Winds
  - Extraordinary possibility for a concurrent disaster
  - Wildfires
  - Potential impacts to response and notification capabilities



# Critical Issues & Challenges

- Won't know the final power outage area impacted
  - until notification
  - OR actual de-energization
- Emergency medical shelter locations limited
  - Traditional emergency shelters/centers may not be viable without generator power
- American Red Cross
  - Will not set up emergency shelters or care and reception centers for a PSPS
  - Will likely contribute staff/volunteers if government-led shelters/centers
  - Will only set up ARC-led shelters/centers (staffing and funding) if evacuation orders are issued
    - Too hot to house w/o power





# Critical Issues & Challenges, Continued

- Cellular/internet services may be:
  - Inoperable
  - Limited
  - Overwhelmed
  - Creates challenges for the public to receive emergency alerts
    - Especially disconcerting in the event of a wildfire or issuance of evacuation orders for any reason during a PSPS outage.
- Life-threatening situation for those medically dependent on electricity
  - Dependency for survival or mobility.
  - Creates concerns for medical surge conditions.
- Potential food-borne illnesses from consumption of spoiled food.



# Financial Challenges

- PSPS events may or may not be considered an emergency
  - May not merit emergency declarations.
  - Though all will likely require some sort of response and commitment of County employees/resources
- PSPS events completely contained within a city or jurisdiction in the Operational Area
  - Will be handled by that jurisdiction
  - Monitored by OEM
- Unlike Oil Spills in which oil companies are the “responsible party” and financially responsible for response and recovery, currently Statewide PSPS mitigations and damages are being not funded by electrical companies



# PSPS Wrap up

- The threat of PSPS is imminent
- Estimated to last for a minimum of 10 years (while utilities harden/upgrade electrical utility infrastructure statewide).
- PSPS is new relative to state and local policy.
  - Financial responsibility
  - Required assistance from electrical utility providers
  - Required to provide backup generators if available
- PSPS is new relative to experiences and internal agency policies of first and emergency responders.
  - Many agencies are learning as they go and establishing PSPS-specific policy reactively as issues arise.
- PSPS is new relative to the general public's knowledge and ability to adequately prepare.
  - Generations of Santa Barbarians have weathered wildfires, earthquakes, flooding, drought, and man caused incidents – PSPS is a new challenge



# Preparedness and Coordination

June-August 2019



- Meetings with PG&E and SCE regarding
  - Community Resources Center Concepts
  - Verification of points of Contacts for notification
- County Planning (in process)
  - County PSPS Contingency Plan
  - OEM Annex for PSPS Response
  - County Dept. Continuity of Operations Plan Specific Annexes
  - County PSPS Planning Meetings
- Care and Shelter Planning
  - Medical Shelter walk through for PSPS application
  - Multiple meetings with Operational Area partner agencies



- Presentations and Outreach
  - CERT Exec Committee
  - Readysbc.org updated
  - PSA Video Scripts
- OA Coordination
  - Emergency Manager's Committee meetings
  - Bilingual Handouts for use and replication
  - Other Partners; USCG, Area Adult Aging Network, County Education Office
  - Table Top Exercise with Goleta
  - Met with private sector partners

# End of Presentation

Questions?