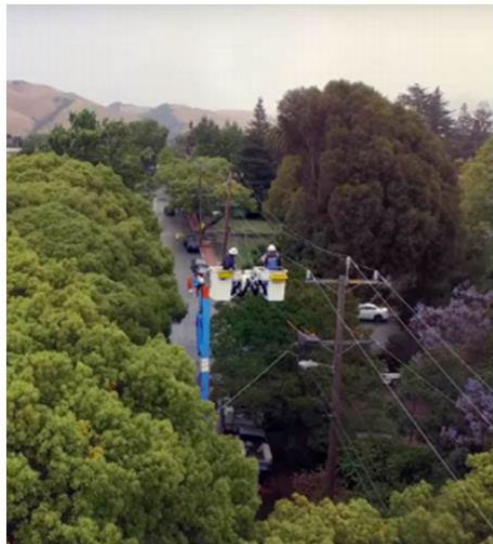




Public Safety Power Shutoff (PSPS) Tabletop Exercise (TTX)

June 14, 2023

After Action Report (AAR)



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HANDLING INSTRUCTIONS

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INTRODUCTION

Pacific Gas & Electric (PG&E) conducted the 2023 PSPS Tabletop Exercise (TTX) on June 14, 2023. This exercise tested PG&E's ability to prepare for, respond to, and recover from a systemwide PSPS event based on the updated 2023 PSPS Annex. The exercise's primary focus was to give an annex update overview and validate the plan by testing the PSPS response and crisis management decision-making process.

EXERCISE OVERVIEW

The one-day virtual TTX was conducted to fulfill the CPUC's requirement to exercise the PSPS Annex to the Company Emergency Response Plan (CERP). The primary goal was to test PG&E's capability to prepare for, respond to, and recover from a PSPS event that puts company assets, customers, reputation, and/or safety at risk.

Exercise Scenario

The exercise scenario consisted of a dry, offshore wind event developing systemwide with increasing winds during afternoon hours. Sustained Winds were 25-35 MPH with maximum wind gusts reaching 45-55+ MPH, primarily over elevated terrain. The scope of the event was forecast to impact approximately 28,000 customers. The exercise was divided into four distinct modules or activities, with modules 2-4 designed to simulate the approximate stages of an incident:

Module 1: 2023 PSPS Annex Overview & 10 Day Reporting

Review of the updated 2023 PSPS Annex to include the new PSPS EOC Section. The review included PSPS process timeline, decision meetings, communication execution, overview of the PSPS Section positions, and an overview of the PSPS post-event reporting.

Module 2: Readiness Posture, Event Scoping, Planning, & Notification

When PG&E's Meteorology department identifies forecast models that have the potential for developing R5-Plus level conditions and there is advance time before de-energization is forecasted to be required, the on-call EOC Commander can call on representatives from select sections and officers to meet, track developing conditions, perform readiness tasks where possible, and when warranted make a recommendation to the OIC to activate the EOC for a potential PSPS event. Readiness Posture is equivalent to EOC Activation Level 2, Enhanced Steady-State/Partial Activation, described within National Incident Management System (NIMS) as "certain EOC team members/organizations are activated to monitor a credible threat, risk, or hazard and/or to support the response to a new and potentially evolving incident." Readiness Posture concludes the activation of the EOC and the execution of required notifications to state agencies.

Event Scoping refers to the activity of determining which circuits are in scope based on Time-Place polygons developed by Meteorology. Electric Distribution conducts an analysis of impacted circuits that results in the initial Distribution Scope, while Electric Transmission conducts a direct impact analysis which results in the initial Transmission Scope. These initial scopes are then presented for approval and notification, which takes place during OIC Decision B (Approve Initial Scope) and C (Approve Initial Customer Notifications).



Module 3: Response (De-Energization and Notification)

Following OIC Decisions B and C, Electric Transmission conducts a Power Flow Analysis, which analyzes downstream impacts. Coordination with CAISO takes place during this time as well. Further refinement of the scope, including associated customer impacts, results in the Final Scope. This is presented for approval as part of OIC Decision D (Approve Final Scope), which is the final authority to de-energize power to affected circuits. OIC Decision E (Approve Additional Notifications) takes place concurrently and results in final customer and external agency notifications. Field crews and Control Center personnel then execute the de-energization through a series of functions in the control center and along circuits in the field. This is done in advance of the expected start time of the outage-producing wind event to prevent the ignition of fires caused by airborne debris contacting energized circuits, or by an energized circuit contacting the ground. The EOC Commander may call for a “Confirm/Cancel/Delay” decision meeting in ad hoc fashion if they determine that the predicted weather event may not be materializing, if the event’s timeline has shifted, or if further decision making is required.

Module 4: All Clear, Monitor, Restore, Patrol, Notifications & Damage Documentation

After the weather event has passed, Meteorology will advise the EOC Commander that conditions are dissipating. This will trigger OIC Decision F (Weather All-Clear). Weather conditions dissipating may take place at different times for each Time-Place as such there may be several OIC-F meetings to determine the All-Clear based on varying conditions. During the weather event, Playbook F will have been developed, which is the Patrol and Restoration Plan. Upon approval of OIC-F, field crews and control center personnel begin the task of re-energizing impacted circuits. This process includes the patrol and inspection of every circuit that was de-energized to identify and repair any damage that took place during the wind event. Such instances of damage are reported to the Intelligence and Investigations Section in the EOC for documentation and compliance reporting purposes. Circuits are required to be re-energized within 24 hours of the All-Clear decision for a given Time-Place, barring any damage to the system or other factors that would require repairs prior to re-energization. The final step in this process is the notification to customers that their service has been restored.



EXERCISE OBJECTIVES

The TTX focused on six exercise objectives aligned to PG&E's incident management core capabilities:

1. **Objective 1 — Planning:** Implement a planning cycle according to CERP procedures, PSPS Annex, and ICS principles that uses the circuit information provided to conduct a PSPS and develop a restoration plan prior to receiving the "All Clear" from the Officer-in-Charge (OIC).
2. **Objective 2 — Operational Coordination and Communication:** Implement a response structure that effectively integrates EOC sections, Functional Areas (FAs), field crews, and external partners into a cohesive team capable of successfully aligning operational activities with internal and external priorities to safely manage the PSPS event.
3. **Objective 3 — Public Information and Warning:** Communicate strategic and required messages to key audiences including PG&E personnel, the public, response partners, and customers including developing press releases, social media posts, and frequently asked questions (FAQs) for the public and delivering required notifications to California Governor's Office of Emergency Services (Cal OES), California Public Utilities Commission (CPUC), and other regulatory bodies.
4. **Objective 4 — Situational Awareness:** Support company-wide situational awareness by establishing and maintaining a common operating picture across the response organizational structure to meet the needs of relevant internal and external stakeholders impacted by PSPS (e.g., critical, medical baseline, and commercial customers).
5. **Objective 5 — Critical Resources:** Analyze the impacted area to prioritize available resources in a way that reduces physical security concerns and minimizes impacts of the shutoff to company facilities and other critical infrastructure.
6. **Objective 6 — Natural and Cultural Resources:** Protect natural and cultural resources and historic properties through appropriate planning, mitigation, response, and recovery actions to preserve, conserve, rehabilitate, and restore them consistent with post-disaster community priorities and best practices and in compliance with applicable environmental and historic preservation laws and executive orders.



EXERCISE ASSUMPTIONS AND ARTIFICIALITIES

In any exercise, assumptions and artificialities may be necessary to complete exercise play in the time allotted and/or account for logistical limitations. Such assumptions and artificialities are inherent in any exercise and are intended to augment, rather than distract from the scenario.

Assumptions

Assumptions constitute the implied factual foundation for the exercise, and as such are assumed to be present before the exercise starts. The following general assumptions apply to the exercise:

- The exercise is conducted in a no-fault environment wherein systems and processes, not individuals, will be evaluated.
- The exercise scenario is plausible, and events occur as they are presented.
- There is no “hidden agenda” nor are there any trick questions.

Artificialities

The scenario assumed certain player actions throughout each of the modules, so players first discussed the actions stipulated by the scenario; however, players were encouraged to engage in “what if” discussions of alternative scenario conditions.



KEY FINDINGS

On June 14, 2023, representatives from various Functional Areas (FAs), PG&E leadership, and external public safety partners participated in PG&E's 2023 PSPS Tabletop Exercise. The following sections provide a comprehensive summary of the findings identified during the exercise.

ASSESSMENT OF OBJECTIVES

Objective	Met/Not Met	Rationale
Planning	Met	Clear understanding and execution of entire PSPS Process; 2023 PSPS Annex updated prior to exercise.
Operational Coordination and Communication	Met	Strong collaboration between EOC sections, REC/OEC, and the counties through the PSS team.
Public Information and Warning	Met	Attention to customer and external agency notifications.
Situational Awareness	Met	Situational awareness products such as the CalOES form and the PSPS Portal for our Public Safety Partners significantly inform all on the current situation.
Critical Resources	Met	Identification and adherence to criteria for use of emergency field sites and other assets.
Natural and Cultural Resources	Met	Consideration of sensitive cultural and historical sites and infrastructure, and implementation of mitigants to ensure protection and preservation thereof.



IDENTIFIED STRENGTHS OR BEST PRACTICES

- Format is great, very informative, learned what people did in the respective orgs and great learning experience.
- External partner: Appreciated opportunity to understand PG&E process, the PSS team is great at connecting and informing the counties.
- Brought in the right people, good information on what changed in 2023.
- Raised questions on processes.
- Appreciated the Meteorology piece/input.
- Gave a good background based on information from the Tabletop.

AREAS FOR IMPROVEMENT/DEVELOPMENT

- Opportunity to improve situational awareness regarding scope changes during PSPS events, with emphasis on increases in scoping, especially during the warning phase.
- Opportunity for position-specific training.
- Opportunity to provide a refresher on tools and links for the Intelligence & Investigation section due to limited number and frequency of activations.
- External partner: Opportunity to conduct an external-facing web portal exercise for stakeholders, which may include an iteration requiring them to use the portal to find the answers to questions.
- External partner: Opportunity to provide more insight or content on PG&E-operated helicopters and aerial inspections.
- Opportunity to conduct targeted exercise player recruitment in order to capture those with less operational or exercise experience.



APPENDIX A - IMPROVEMENT PLAN

As part of the exercise evaluation process, improvement planning provides an opportunity to build upon Areas for Improvement (AFI)s to identify specific corrective actions. Following input from PG&E's FA leadership, PG&E will complete the Improvement Plan to address AFIs and lessons learned stemming from this exercise. *CAP (PG&E's Corrective Action Program).

Core Capability	Area for Improvement	Corrective Action	Responsible FA	FA Point of Contact	Start Date	End Date	CAP Needed
Planning	I&I section has limited familiarity with PSPS tools and links.	Conduct role specific refreshers for the I&I Data Leads & Section Chiefs.	EII	[REDACTED]	7/20/2023		No
Operational Coordination and Communication	RECs do not receive scope changes timely enough, especially during Warning phase.	Evaluate process for providing scope change communications.	EP&R Response PSPS PMO	[REDACTED] [REDACTED]	8/1/2023	12/31/2023	No
Public Information and Warning	NA						



Core Capability	Area for Improvement	Corrective Action	Responsible FA	FA Point of Contact	Start Date	End Date	CAP Needed
Situational Awareness	External partners experienced difficulty in navigating portal.	Provide additional training opportunities on portal use. PG&E Currently hosts multiple Data Portals training sessions (8 in 2022 and 5 planned in 2023) for its external users. These hour-long sessions provide updates on new data available on PG&E's portals, how to locate files, how to download files, and how to register. Evaluate PSS ability to provide hands on training.	PSS Team PSPS PMO	[REDACTED] [REDACTED]	In Progress	12/31/2023	No
Critical Resources	Logistics players were not aware that CRC sites are pre-identified. Also they were not aware of process of requesting new sites.	Provide refresher training on process.	Supply Chain	[REDACTED] [REDACTED]	In Progress	8/1/2023	No
	Lack of information on how helicopter and aerial inspections are conducted for external partners	Include overview of Air Operations for external partners at PSPS Seminar	Air Operations	[REDACTED]	7/20/2023	8/29/2023	No



Core Capability	Area for Improvement	Corrective Action	Responsible FA	FA Point of Contact	Start Date	End Date	CAP Needed
Exercise Design	Functional Areas struggling with the supporting number of exercises	Include as a topic at the Integrated Preparedness Planning Workshop (IPPW) with all the FAs.	EP&R T&E	[REDACTED]	7/20/2023	9/30/2023	No

APPENDIX B - EXTERNAL EXERCISE PARTICIPANTS

Several Federal, state, local, and tribal partners observed the PSPS Tabletop Exercise “X” indicates entity participated, “I” indicates entity was invited (participation not confirmed).

Table 1: External Organizations Participating in the PSPS TTX

Participating External Agency	Player	Observer
State/Federal Agency Partners		
California Governor’s Office of Emergency Services (CalOES)	X	
California Department of Forestry and Fire Protection (CAL FIRE)	I	
California Public Utility Commission (CPUC)	X	
Local Agency Partners		
Alameda County	X	
Colusa County	I	
Napa County	I	
Placer County	I	
Fresno County	I	
San Jose Mineta International Airport	I	
City of San Jose	I	
Kings County	X	
Glenn County	I	
Santa Clara County	X	
San Luis Obispo County	I	
Mariposa County	X	
Calaveras County	I	
City of Gilroy	X	
Plumas County	I	
City of Morgan Hill	I	
Kern County	I	
Madera County		X
Butte County	I	
City of Gilroy		X
Telecoms		
AT&T	I	
Comcast	I	
Verizon	X	
Utility Partner		
San Diego Gas & Electric		X
Community Partners		
CFILC	I	
Independent Living Center of Kern County	I	



Disability Action Center	I	
Disability Resources Agency for Independent Living	I	
Red Cross		X
Resource for Independence Central Valley	I	
Silicon Valley Independent Living Center	X	
Tri County Independent Living	I	
CADRE	X	

APPENDIX C - ACRONYMS

AAR	After-Action Report
AFI	Areas for Improvement
AFN	Access Functional Needs
C/E/S	Controller/Evaluator/Simulator
Cal OES	California Governor's Office of Emergency Services
CAP	Corrective Action Program
CBO	Community Based Organizations
CCECC	Customer Contact Emergency Coordination Center
CERP	Company Emergency Response Plan
CPUC	California Public Utilities Commission
CRESS	Corporate Real Estate Strategy and Services
CSO	Customer Strategy Officer
CWSP	Community Wildfire Safety Program
DCC	Distribution Control Center
DCPP	Diablo Canyon Power Plant
DSO	Distribution System Operations
EDEC	Electric Distribution Emergency Center
EEG	Exercise Evaluation Guide
EndEx	End of Exercise
EOC	Emergency Operations Center
EP&R	Emergency Preparedness and Response
ETEC	Electric Transmission Emergency Center
ExPlan	Exercise Plan
FAQ	Frequently Asked Question
FBU	Functional Business Units
FCC	Facility Coordination Center
FEMA	Federal Emergency Management Agency
FIN	Finance & Administration Section
FSE	Full Scale Exercise
GCC	Grid Control Center
HRCC	Human Resources Coordination Center
HSEEP	Homeland Security Exercise and Evaluation Program
I&I	Intelligence & Investigation Section
ICS	Incident Command System
ITCC	Information Technology Coordination Center
LNO	Liaison Officer
LOG	Logistics Section
MSEL	Master Scenario Events List
MTCC	Materials and Transportation Coordination Center



NLT	No Later Than
OEC	Operations Emergency Center
OIC	Officer-in-Charge
OPS	Operations Section
PauseEx	Pause Exercise
PG&E	Pacific Gas & Electric
PIO	Public Information Officer
PLANS	Planning Section
PMO	Project Management Office
POC	Point of Contact
PSPS	Public Safety Power Shutoff
QLR	Quick Look Report
REC	Regional Emergency Center
ResumeEx	Resume Exercise
SimCell	Simulation Cell
SIPT	Safety and Infrastructure Protection Teams
SO	Safety Officer
SOPP	Storm Outage Prediction Project