

Public Safety Power Shutoff Standard Operating Procedure Template

Public Safety Power Shutoff Quick Reference Matrix

TOPIC	PSPS PHASE					
	Blue Sky Planning	48-hour PSPS Notification	Zero Hour Power Out	24 Hours Without Power	Continued Power Outage	PSPS Recovery
Generators & Backup Power	Determine generator needs and sizes (p. 2)	Review “Blue Sky” plans (p. 11)	Verify generators are running correctly (p. 18)	Evaluate efficacy of Blue-Sky planning (p. 21)	Check generator status and operations (p. 27)	Identify staff and start demobilizing generators (p. 32)
Fuel	Assess fuel needs (p. 3)	Confirm supply contract with vendor (p. 11)	Manually check fuel storage levels (p. 18)	Monitor burn rate and adjust run time estimates (p. 21)	Check fuel delivery and confirm fuel availability (p. 27)	Polish stored fuel (p. 33)
Communication	Ensure all emergency contact information is up to date (p. 5)	Review Communication procedures (p. 13)	Verify two-way radios are operating correctly (p. 18)	Set up charging stations for cell phones (p. 22)	Communicate with the public and provide updates (p. 29)	Inform all partners and responders that power has been restored (p. 34)
Partnerships	Form a relationship with the Division of Drinking Water (DDW) (p. 7)	Check if county Emergency Operations Center (EOC) is activated and if there is a water desk/WSSP (p. 14)	Check partner communication systems (p. 19)	Provide County Office of Emergency Services (OES), DDW, and general manager with your utility’s operational status (p. 23)	Confirm communications with CalWARN (California Water and Wastewater Response Network), CalOES, and local EOC (p. 29)	Determine continuing mutual aid needs and manage associated paperwork; settle vendor accounts (p. 35)
Supervisory Control and Data Acquisition (SCADA)	Train staff to operate plant without SCADA (p. 8)	Backup data and print out key information and action lists (p. 14)	Respond to all active SCADA alarms (p. 19)	Evaluate water usage during previous 24 hours and adjust set levels to reflect change in water usage (p. 24)	Verify that SCADA data equals field data (p. 29)	Reprogram SCADA as needed (p. 35)
Staffing	Cross-train staff for PSPS events (p. 8)	Place response staff on standby and establish chain of command (p. 15)	Determine staffing needs and begin modified schedule (p. 19)	Reassess modified schedule (p. 24)	Review staff availability, rotation and roles, and redistribute workload if necessary (p. 30)	Slowly return to normal schedule and release any outside staff (p. 36)
Access	Ensure staff have IDs and vehicles are badged (p. 9)	Check facilities and address any immediate access issues (p. 16)	Verify that electronic access control systems are working correctly without grid power (p. 19)	Confirm EOC contact for access into wildfire areas (p.25)	Coordinate with local EOC if access is needed (p. 31)	Verify roads are clear and return generators and other resources to their storage locations (p. 36)
Safety	Have a health and safety (H&S) Plan (p. 10)	Brief staff on H&S Plan (p. 17)	Stage personal protective equipment (PPE) (p. 20)	Conduct safety briefing each staff shift change (p. 26)	Confirm staff safety and relieve staff as needed (p. 31)	Ensure staff return home safely (p. 36)



[Utility Name]

PSPS SOP

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Introduction

The U.S. Environmental Protection Agency (EPA) developed this Standard Operating Procedure (SOP) template to assist California drinking water and wastewater utilities to better plan, prepare, respond, and recover from a Public Safety Power Shutoff (PSPS) event triggered by weather and environmental conditions that may lead to wildfire. The template covers the following phases of a PSPS event:

- Blue Sky Planning
- 48-Hour PSPS Notification
- Zero Hour Power Out
- 24 Hours Without Power
- Continued Power Outage
- PSPS Recovery

Each phase covers the following topics: generators and backup power, fuel, communication, partnerships, SCADA, staffing, access, and safety. Communication has been further divided into the subtopics of internal (water utility staff), partner (agencies and organizations that provide support to a water utility during a PSPS event), and external (customers and media) communications.

This template is considered a starting point for developing a customized, water utility specific PSPS SOP. The information and action items listed in the SOP were gathered from two PSPS exercises conducted by EPA in Santa Rosa and Vacaville. Participants included small to large water utilities who had experienced PSPS events, as well as representatives from both Pacific Gas and Electric Company (PG&E) and Southern California Edison (SCE) electric utilities. During the exercises, participants walked through their planning, response, and recovery actions to mitigate PSPS events and shared lessons learned, best practices, and actions they would do differently next time. These discussions and the resulting recorded notes form the basis for this SOP template. Water utilities should feel free to add and delete items from this template to better suit their unique situations and needs.

Additionally, the template also assumes that most utilities rely on fossil fuel generators to provide backup electrical power. However, utilities may wish to explore alternative options for backup power such as batteries or microgrids to reduce reliance on the delivery of fuel during a PSPS or other emergencies. For example, California's [Self-Generation Incentive Program](#) (SGIP) offers rebates for installing energy storage technology at "critical facilities" that support community resilience in the event of a PSPS or wildfire. Funding of more than \$1 billion is available through 2024 and communities in high fire-threat areas or communities that have experienced two or more utility PSPS events are prioritized.

In developing this template, EPA and exercise participants noted that certain items applied universally to all aspects of PSPS planning, preparation, response, and recovery. These items are listed both within the Blue-Sky phase and the Power Restored phase so as not to be repeated under every phase/topic.

1.0 BLUE-SKY PLANNING

This is the phase prior to receiving a PSPS notification from your electrical utility. Below are two items that are overarching throughout the multiple topics in this phase.

Checklist	Notes
<input type="checkbox"/> Join the California Water and Wastewater Agency Response Network (CalWARN).	Join at http://www.calwarn.org/ .
<input type="checkbox"/> Keep all emergency contact information up to date.	
<input type="checkbox"/> Review resources in Appendix B.	EPA's <i>Wildfire and Power Outage Incident Action Checklists</i> are among the resources that can help utilities prepare for PSPS events.

1.1 Generators and Backup Power

Checklist	Notes
<input type="checkbox"/> Determine generator needs and sizes.	<ul style="list-style-type: none">• For certain critical facilities, two generators in parallel may be needed. When one is down for maintenance, the other can be running.• Consider using EPA's Power Resilience Guide.• EPA's Power Outage Incident Action Checklist is another good resource.
<input type="checkbox"/> Develop a cycling schedule as required.	
<input type="checkbox"/> Establish a contract with a rental firm if you do not own a generator.	<ul style="list-style-type: none">• Determine the rental company's generator availability.• Incorporate emergency prioritization language for your utility into the contract, if possible.
<input type="checkbox"/> Conduct annual hands-on training for generator installation and use for employees.	Include simulating a power shutoff so operators know what to reset once the power comes back on.
<input type="checkbox"/> Test and maintain both stationary and portable generators under load.	Do this often, either monthly or quarterly, and follow the manufacturer's maintenance recommendations.
<input type="checkbox"/> Create a written SOP or instructions for generator operation.	Laminate the SOP or instructions and place with the generator. Operators should be trained, but they may need reminders during stressful times.
<input type="checkbox"/> Make sure transfer switches are installed.	This is important for critical facilities if you intend to use portable generators.
<input type="checkbox"/> Have a backup/contingency plan for failed generators.	

Checklist	Notes
<input type="checkbox"/> Create a resource inventory.	<i>Including purpose, type and location.</i>
<input type="checkbox"/> Maintain related resources and conduct testing and/or inspections of these resources.	<ul style="list-style-type: none"> • <i>For example, spare parts such as filters.</i> • <i>Be aware of any expiration dates related to items such as maintenance fluids.</i>
<input type="checkbox"/> Know run times for generators to determine fuel needs.	
<input type="checkbox"/> Plan to have generators located at or delivered to communication sites, as appropriate.	<i>For example, telemetry sites.</i>
<input type="checkbox"/> Match generators with pump stations on a spreadsheet.	<i>Match functionality to power.</i>
<input type="checkbox"/> Use stationary generators for supervisory control and data acquisition (SCADA) at plant and portable generators for SCADA at remote sites.	
<input type="checkbox"/> Assign a staff member or department with specific generator responsibilities.	<i>Responsibilities include identifying generator needs (e.g., batteries), performing load testing, maintenance and repairs.</i>
<input type="checkbox"/> Work with local air district to address air quality issues.	<i>Air quality exceedances may result from running generators for an extended period.</i>
<input type="checkbox"/> Install solar power for repeaters, if possible.	<i>Be aware that ash can cover solar panels.</i>
<input type="checkbox"/> Prepare for customer complaints.	<i>Customers may complain about generator noise and exhaust. Whisper generators are an option.</i>

1.2 Fuel

Checklist	Notes
<input type="checkbox"/> Assess fuel needs.	<p><i>Answering these questions will help determine total fuel storage need and anticipated burn rate:</i></p> <ul style="list-style-type: none"> • <i>Which physical locations need fuel?</i> • <i>What is the fuel demand at each location?</i> • <i>What is the availability of fuel at each location?</i> • <i>What is the load on the generator?</i>
<input type="checkbox"/> Develop a fuel log.	<i>Include points of contact, fuel polishing and filtering schedule, run time fuel needs, fuel inventory, and burn rates.</i>
<input type="checkbox"/> Sign a fuel supply and delivery agreement with one or more fuel companies.	<i>Carefully read each agreement to be sure you understand how the company prioritizes fuel and deliveries to clients during emergencies.</i>

Checklist	Notes
<input type="checkbox"/> Assess storage of day tanks and supply tanks.	<i>Top off and schedule maintenance for tanks – How long has the fuel been stored in the tanks?</i>
<input type="checkbox"/> Identify how to replenish fuel supply.	<i>Establish a ‘fuel supply’ concept of operations and include as an appendix or annex.</i>
<input type="checkbox"/> Develop list of qualified personnel that can manage fuel and establish an operations and maintenance (O&M) schedule.	
<input type="checkbox"/> Partner with a fuel vendor or vendor consortium, as well your local emergency management agency (EMA).	<i>Advance communications and networking are helpful. Local EMAs may also be able to secure fuel.</i>
<input type="checkbox"/> Obtain proper certifications for auxiliary fuel tanks mounted on pickup trucks.	
<input type="checkbox"/> Reserve some fuel for staff transport needs as appropriate.	<i>Staff who commute may need fuel if local gas stations close or are inaccessible due to damaged roads.</i>
<input type="checkbox"/> Plan for backup power for pumps at stationary fuel tanks.	<i>This can be a solar-powered, manual or battery operated fuel transfer pump.</i>
<input type="checkbox"/> Include fuel handling safety in staff training.	<i>For example, personal protective equipment (PPE), spill kits and fire extinguishers.</i>
<input type="checkbox"/> Develop generator refueling plan.	<i>Be sure to include a map of access routes for fuel delivery trucks.</i>
<input type="checkbox"/> Ensure stored fuel is of high quality and usable.	<ul style="list-style-type: none"> • <i>Recycle and change fuel as necessary.</i> • <i>Consider swapping fuel out on an annual basis or when polishing no longer works.</i>
<input type="checkbox"/> Add fuel stabilizer for gas and/or diesel operated generators.	

1.3 Communication

1.3.1 Internal

Checklist	Notes
<input type="checkbox"/> Develop a call tree or staff reverse 911 list for your utility as appropriate.	<ul style="list-style-type: none">• An example contact table is located in Appendix A.• Plan for “heads-up” or advance warning communication – a PSPS notice for your staff.
<input type="checkbox"/> Confirm internal points of contact are up to date.	<i>For example, utility staff, field staff and administrators.</i>
<input type="checkbox"/> Know where to go for situational information.	<i>For example, Department Operations Center (DOC) briefings, email lists, or shift briefings.</i>
<input type="checkbox"/> Create an inventory of your communication equipment.	<i>See Appendix A for an example communication equipment inventory.</i>
<input type="checkbox"/> Confirm that your online system boundary map is accurate and up to date.	<i>This allows you to match your water system boundaries with the PSPS system boundary map to see which water facilities may be impacted. The Division of Drinking Water (DDW), State Water Resources Control Board has provided drinking water system service area boundary map at https://gispublic.waterboards.ca.gov/portal/home/it em.html?id=fbba842bf134497c9d611ad506ec48cc#o erview.</i>
<input type="checkbox"/> Conduct radio checks in vehicles to confirm that radios are charged.	<ul style="list-style-type: none">• Program channels and train staff on how to use them.• Develop a protocol.
<input type="checkbox"/> Obtain long lasting batteries for communications equipment and make sure the batteries are maintained.	<i>Batteries sitting in chargers for prolonged amounts of time may have short life spans in the field.</i>
<input type="checkbox"/> Plan for staff communication during a loss of cell phone service.	<i>Two-way radios? Satellite phones? Will texting go through? What is the failsafe plan (e.g., meet-up point)?</i>

1.3.2 Partners

Checklist	Notes
<input type="checkbox"/> Develop an SOP describing roles and responsibilities for communicating with partners.	<i>Conduct inter-agency trainings, meetings, and workshops.</i>



Checklist	Notes
<input type="checkbox"/> Confirm external points of contact are up to date.	<i>For example, emergency contacts, electric utility representatives, state – Division of Drinking Water (DDW), county – Office of Emergency Services (OES), suppliers/service providers, fuel, mutual aid – CalWARN.</i>
<input type="checkbox"/> Identify the appropriate people to contact at the city EOC.	<i>Know who is on what shift and know how to communicate with them (e.g., two-way radio, correct phone number).</i>
<input type="checkbox"/> Share communication ideas and plans with other agencies to find out what they are doing and learn from them.	<i>Implement Message Mapping and Crisis and Emergency Risk Communications training and protocols.</i>
<input type="checkbox"/> Plan on updating neighboring counties regarding your status in case you cannot share information with the EOC.	<i>Neighboring counties can share this information on your behalf.</i>
<input type="checkbox"/> Communicate priority sites to city or county OES for agency awareness and inventory.	<i>For example, for refueling and power restoration.</i>
<input type="checkbox"/> Keep a critical facility list up to date with your electrical company.	<i>For example, you may decide to remove assets from the list that are not currently powered due to long term maintenance or upgrade. Likewise, you may need to add a new critical asset that has come on-line within the last few months.</i>
<input type="checkbox"/> Check with your electrical utility to determine if they are using fire retardant spray on wooden poles that serve you.	<i>This may mean your landline and other communications relying on the poles may be more resilient.</i>

1.3.3 External

Checklist	Notes
<input type="checkbox"/> Plan for how PSPS and associated public messaging will be distributed to customers.	<ul style="list-style-type: none">• <i>What notification system will you use (e.g., Rapid Alert Notification System [RANS], “Reverse 911”, hand delivery).</i>• <i>Prepare public service announcements.</i>• <i>Use social media for outreach.</i>• <i>Let people know what they can do and who they can reach out to during PSPS events.</i>

1.4 Partnerships

Checklist	Notes
<input type="checkbox"/> Form a relationship with DDW.	<i>DDW can serve as a conduit for information and resources from other state agencies.</i>
<input type="checkbox"/> Coordinate with county OES/Operational Area.	<i>This will be helpful in acquiring resources such as shelter, water, fuel, and back-up power.</i>
<input type="checkbox"/> Establish a working relationship with the local and county emergency management agency. Designate Water Sector Specific Position (WSSP), if possible.	<i>Stay in touch with them throughout incident. They can help connect you with needed resources.</i>
<input type="checkbox"/> Confirm county EOC contacts and conduct in-person meetings with them.	<i>Determine how you will coordinate during a PSPS.</i>
<input type="checkbox"/> Form relationships with other water utility organizations.	<i>Consider joining organizations such as a Water and Wastewater Agency Response Network (WARN) like CalWARN, Inland Counties Water Association (ICWA) and Bay Area Emergency and Security Information Collective (BAESIC). Create your own.</i>
<input type="checkbox"/> Form a partnership with the fire department and law enforcement, both state and local.	<i>This will help your staff pass safely through roadblocks and fire-affected areas as needed.</i>
<input type="checkbox"/> Form a relationship and share contact information with the California Department of Forestry and Fire Protection (CalFire).	<ul style="list-style-type: none"> • They are a good resource for national weather outlook/forecasts. • A state-wide point of contact (POC) is the state fire marshal, but most local fire districts have their own.
<input type="checkbox"/> Form a relationship with your power provider, specifically your dedicated account representative.	<i>If your utility is small, you may not have a dedicated account representative.</i>
<input type="checkbox"/> Develop a working relationship with your customers, especially critical customers.	<ul style="list-style-type: none"> • This decreases potential confusion about what is or will be happening. • Include both wholesale and retail customers. • Appendix A contains an example critical customers contact list.
<input type="checkbox"/> Form and maintain relationships with contractors.	<ul style="list-style-type: none"> • For example, fuel suppliers and generator rentals. • Have a backup to the backup to the backup.
<input type="checkbox"/> Water districts should form a relationship with the jurisdictions that they serve.	<i>Some water districts may serve multiple municipalities.</i>
<input type="checkbox"/> Form a relationship with local hotels.	<i>Staff may need to stay in them during PSPS events.</i>
<input type="checkbox"/> Make connections with local hospitals and other healthcare facilities.	<i>This relationship should be carefully developed because they depend on water for life sustaining activities.</i>

1.5 SCADA

Checklist	Notes
<input type="checkbox"/> Train operators to run the plant without SCADA.	
<input type="checkbox"/> Keep licenses and software up to date.	<i>Maintain copies in an alternate location in case you need to restore systems or stand up new servers.</i>
<input type="checkbox"/> Acquire access to SCADA via iPads/iPhones.	<i>Be sure to put cybersecurity controls in place if you will access SCADA over the Internet.</i>
<input type="checkbox"/> Conduct quarterly maintenance and load test batteries every 90 days.	
<input type="checkbox"/> Create a mirrored SCADA system with backup generators at both sites.	<i>This allows you to have a back-up location for your SCADA system.</i>
<input type="checkbox"/> Install telephone lines for floats in tanks.	<i>Tank water levels should be tied into the telemetry. Specifically, to hardline telephone wires because those do not always go down in a power outage.</i>
<input type="checkbox"/> Have backup power at repeater sites.	<i>For example, propane.</i>
<input type="checkbox"/> Obtain a backup repeater, if possible.	
<input type="checkbox"/> Have automatic transfer switches (ATSs) on generators that power SCADA.	
<input type="checkbox"/> Have batteries or backup power (e.g., solar) at remote sites and at all tank sites.	<i>Make sure they have several days of charge.</i>
<input type="checkbox"/> Acquire solar backup for chemical pumps and analyzers.	<i>Solar may not be 100 percent reliable during fire events and panels may be damaged by ash.</i>
<input type="checkbox"/> Evaluate tank storage and develop use table.	<i>For example, water burn rate.</i>

1.6 Staffing

Checklist	Notes
<input type="checkbox"/> Conduct training/cross training, dry runs and other exercises specifically to prepare for PSPS events.	<ul style="list-style-type: none">• Consider table top exercises (TTXs) with partners.• This will allow employees to know how to operate equipment and coordinate with partners.
<input type="checkbox"/> Develop a business continuity plan that addresses critical needs and considers alternate ways of doing business.	<i>Include work locations, hours and public reception areas.</i>
<input type="checkbox"/> Establish a DOC by identifying critical staff and systems.	<i>The DOC functions as an EOC for your utility.</i>



Checklist	Notes
<input type="checkbox"/> Identify staff limitations and consider contracts with vendors such as electricians and SCADA operators to fill any gaps.	<i>Also consider if retired staff may be willing to return on a temporary basis during a PSPS emergency.</i>
<input type="checkbox"/> Ensure specialized staff and their needs are integrated into PSPS and Emergency Response Plans (ERPs).	<i>For example, if you need an electrical engineer and only have access to one, then you need to identify a backup.</i>
<input type="checkbox"/> Review and update labor contracts, specifically considering emergency human resources policies.	<i>For example, establish a leave cancellation policy.</i>
<input type="checkbox"/> Confirm that staff and equipment certifications and licenses are valid and up to date.	
<input type="checkbox"/> Know who is available to work overtime and/or in shifts.	
<input type="checkbox"/> Adjust staff shifts so that people commute from several different areas.	<i>This helps to avoid losing an entire shift due to road closures causing transportation issues.</i>
<input type="checkbox"/> Have a centralized point for your staffing schedule to know where personnel are located.	
<input type="checkbox"/> Forecast overtime hours.	<i>Time tracking will help.</i>
<input type="checkbox"/> Consider increasing staffing levels.	
<input type="checkbox"/> Know staff family concerns that may limit availability.	<i>For example, losing childcare services.</i>
<input type="checkbox"/> Prepare for possible lodging for long-term PSPS events.	<i>For example, RVs, trailers, tents, hotels.</i>
<input type="checkbox"/> Create go-bags for staff.	<i>Example items to include in a go-bag include: PPE, SOPs, maps (local and water system), phone chargers, radios, Government Emergency Telecommunications Service (GETS) cards, Wireless Priority Service (WPS) cards, notepads, clipboards, pens, personal hygiene, hand sanitizer, protein bars/snacks, water, extra cash, plastic utensils, extra uniform.</i>
<input type="checkbox"/> Perform resource typing.	<i>This helps you know what you have and what you may need to ask for to augment your response.</i>

1.7 Access

Checklist	Notes
<input type="checkbox"/> Confirm staff identification and vehicle badging are accurate and up to date.	



Checklist	Notes
<input type="checkbox"/> Develop a process for obtaining site access if personnel are stopped by law enforcement or fire agencies.	<i>This could be a signed letter from an elected official or other authority.</i>
<input type="checkbox"/> Deconflict your utility credentials with security controlling access points (e.g., National Guard).	<i>Emergency management can help with this.</i>
<input type="checkbox"/> Reach out to local jurisdictions to coordinate access.	
<input type="checkbox"/> Include access procedures in the Emergency Response Plan and update as necessary.	
<input type="checkbox"/> Get clearance from the EOC to access the water system, specifically critical assets.	<i>This can be a problem for smaller utilities.</i>
<input type="checkbox"/> Stay up-to-date with facility site maintenance.	<i>For example, clear brush and tree limbs regularly.</i>
<input type="checkbox"/> Communicate access issues to the WSSP, if there is one in your EOC.	<i>A WSSP may be established at both the local and higher jurisdictional level EOCs.</i>
<input type="checkbox"/> Consider redundancy.	<i>For example, keys and security code records.</i>
<input type="checkbox"/> Map bulk chemical storage and alternate access routes to the storage areas.	

1.8 Safety

Checklist	Notes
<input type="checkbox"/> Develop a simple PSPS health and safety (H&S) SOP.	<i>If you already have procedures for working around generators, fuel and electrical systems, refer to those H&S SOPs.</i>
<input type="checkbox"/> Obtain insurance cards.	
<input type="checkbox"/> Maintain, test and train staff on how to use personal protective equipment and kits.	<i>Exercise with personal protective equipment and kits at least once quarterly.</i>
<input type="checkbox"/> Make safety part of the utility on-boarding procedures.	<i>Consider developing a safety quick reference guide for new employees.</i>

2.0 48-HOUR PSPS NOTIFICATION

This phase begins when the 48-hour notification that a PSPS is going to occur is distributed by electric utilities.

2.1 Generators and Backup Power

Checklist	Notes
<input type="checkbox"/> Review "Blue Sky" plans.	
<input type="checkbox"/> Check phase and rotation of generators.	<i>The generator and any motors it powers, should rotate in the same direction.</i>
<input type="checkbox"/> Verify generator locations.	
<input type="checkbox"/> Notify staff to be prepared and assign staff for the transport, installation and operation of generators.	<i>Schedules may need to be modified.</i>
<input type="checkbox"/> Contact agencies and vendors to confirm availability of generators.	
<input type="checkbox"/> Deploy portable generators with locks.	<i>Prepare contingency equipment and security.</i>
<input type="checkbox"/> Ensure generators are properly grounded.	
<input type="checkbox"/> Once the generator is in place, conduct a field test.	<i>Retest the generator under load.</i>
<input type="checkbox"/> Start generators at least one to two hours before the shut-off and confirm operability and transfer loads.	<i>This will help to prevent issues like water hammer if the power goes out before your generators are on.</i>
<input type="checkbox"/> Start usage log and establish tracking system for equipment issues.	
<input type="checkbox"/> Know cycle time, recovery time and water use in each pressure zone.	<i>This is important for wastewater utilities that do not have backup power to prevent overflowing tanks at lift stations.</i>
<input type="checkbox"/> Secure electrician availability.	

2.2 Fuel

Checklist	Notes
<input type="checkbox"/> Confirm fuel contracts are in place with vendors and/or suppliers and initiate deliveries as appropriate.	<ul style="list-style-type: none">• Stock up and stage fuel, if possible.• Maximum delivery tank size on a non-placarded utility vehicle is 119 gallons.

Checklist	Notes
<input type="checkbox"/> Confirm partnerships with other agencies that could help to procure fuel.	
<input type="checkbox"/> Schedule refill of generators based on the fuel consumption worksheet (i.e., burn rate).	<i>Review previous PSPS event (or other power outage) generator burn rates.</i>
<input type="checkbox"/> Confirm site access for fuelers and refuelers.	<i>For example, spare keys and alarms.</i>
<input type="checkbox"/> Perform operational checks of fueling equipment.	
<input type="checkbox"/> Perform assessment of critical sites.	<i>Confirm which sites will be prioritized for fuel if fuel supplies are limited.</i>
<input type="checkbox"/> Top off the fuel system and polish fuel as required.	<i>Fuel system is defined as fuel storage, generators, and tanks.</i>
<input type="checkbox"/> Increase storage.	<ul style="list-style-type: none"> • <i>Explore options to rent on-site fuel storage.</i> • <i>Determine mobility of storage in case you want to move tanks between locations.</i>
<input type="checkbox"/> Dedicate a centralized fuel delivery point for the vendor/supplier.	<ul style="list-style-type: none"> • <i>Use smaller utility trucks to transport fuel within the property to specific sites.</i> • <i>Verify utility truck delivery capabilities.</i>
<input type="checkbox"/> Verify transfer pumps have power redundancy.	
<input type="checkbox"/> Issue fuel payment methods to staff.	<i>For example, credit cards.</i>
<input type="checkbox"/> Consider what type of fuel your generators need.	<i>For example, natural gas, diesel, or propane.</i>
<input type="checkbox"/> Conserve fuel by connecting a programmable logic controller (PLC) to your generators.	<i>The generators will only engage when pumps are about to come on.</i>

2.3 Communication

2.3.1 Internal

Checklist	Notes
<input type="checkbox"/> Hold staff refresher trainings on the communication SOP and review the communication elements in the ERP.	



Checklist	Notes
<input type="checkbox"/> Make sure “backup” communication resources and procedures are ready and everyone knows what they are.	<i>Identify a fail safe method and procedure (e.g., meet at this location at this time) if all forms of normal communication go down.</i>
<input type="checkbox"/> Initiate the internal communications procedure and call tree.	<i>Follow incident command system (ICS) structure or other chain-of-command.</i>
<input type="checkbox"/> Make sure the “administrator of the day” is notified as well as crew staff (on standby).	
<input type="checkbox"/> Perform field communications checks.	
<input type="checkbox"/> Distribute handheld and other radio communication devices as needed.	

2.3.2 Partners

Checklist	Notes
<input type="checkbox"/> Confirm external contacts are correct and up to date.	<i>For example, CalWARN, local county OES, EOC, public safety, fire and police/dispatch, fuel companies, DDW, public information officers (PIOs) and customers.</i>

2.3.3 External

Checklist	Notes
<input type="checkbox"/> Communicate with customers to let them know what is happening, what may happen and, if necessary, to plan accordingly and conserve.	<i>Could use systems like Nixle, NextDoor, social media, AlertSolano, websites, and emails.</i>
<input type="checkbox"/> Prepare boil water notices and “do not drink” notices and have DDW review as necessary.	
<input type="checkbox"/> Prepare consistent messaging.	<ul style="list-style-type: none"><i>Develop scripts for staff answering phones, communication staff, and field staff.</i><i>Consider Message Mapping, and Crisis and Emergency Risk Communication (CERC) protocols.</i>

2.4 Partnerships

Checklist	Notes
<input type="checkbox"/> Confirm the electric utility has a list of your critical facility locations.	
<input type="checkbox"/> Determine if the county EOC is activated and if there is a water desk/WSSP.	
<input type="checkbox"/> Contact rental companies/vendors to reserve fuel, generators and other resources.	
<input type="checkbox"/> Review mutual aid and assistance agreements.	
<input type="checkbox"/> Inform partners, including CalWARN, that assistance may be needed and verify availability of resources.	<i>Resource requests could include replacement or additional personnel, equipment or supplies, such as fuel.</i>
<input type="checkbox"/> Notify high volume customers to conserve water.	<i>High-volume customers include irrigation districts.</i>
<input type="checkbox"/> Coordinate with sewer system partners regarding water conservation notices.	<i>Conservation helps to reduce the load on PSPS-challenged sewer systems and helps avoid sewer spills. A consistent conservation message from both utilities will be more effective.</i>
<input type="checkbox"/> Obtain additional security guards, if needed.	<i>Ask law enforcement if they can provide additional security or increase frequency of patrols.</i>
<input type="checkbox"/> Make arrangements with food establishments and appoint a designated food runner.	<i>For example, caterers, restaurants (within and outside impacted area).</i>

2.5 SCADA

Checklist	Notes
<input type="checkbox"/> Backup data and print out key information, action lists and information.	
<input type="checkbox"/> Record or take a screenshot of set points for any equipment that may have power interruptions during the transfer between grid and backup power and vice versa.	
<input type="checkbox"/> Test all alarms and make sure set points are correct.	<i>For example, generator and wet well level.</i>
<input type="checkbox"/> Alter set points for a larger operating range.	
<input type="checkbox"/> Prioritize powering a portion of SCADA system that must be operational.	



Checklist	Notes
<input type="checkbox"/> Review SOPs to refresh staff on how to manually operate pumps.	
<input type="checkbox"/> Confirm that SCADA support vendor information and contacts are up to date.	
<input type="checkbox"/> Put instrument technician on standby.	
<input type="checkbox"/> Switch all but one pump to manual (“singling up”).	<i>When backup power goes on, not all the pumps turn back on and you avoid overloading your generator.</i>
<input type="checkbox"/> Ensure there is “defensible space” clear of brush and debris around any repeater.	
<input type="checkbox"/> Conduct a pre- and post-inspection of the facility, including PLCs.	<ul style="list-style-type: none">• <i>Know system settings before the PSPS and after; make sure they are the same.</i>• <i>If there was a power surge, make sure electronics are working correctly.</i>
<input type="checkbox"/> Expect minimal SCADA communication while on generator power.	

2.6 Staffing

Checklist	Notes
<input type="checkbox"/> Place your emergency response staff on stand-by and establish chain of command.	
<input type="checkbox"/> Determine availability of staff for 24/7 coverage.	<ul style="list-style-type: none">• <i>Roles and responsibilities may have to be modified.</i>• <i>Notify all staff of these modifications.</i>• <i>Identify employees who live in potentially PSPS affected areas.</i>
<input type="checkbox"/> Conduct an "all hands" coordination meeting to explain potential new job duties and expectations.	<ul style="list-style-type: none">• <i>Provide consistent messaging.</i>• <i>Inform staff if there are any expected changes in operation, assignments, contacts or schedules.</i>
<input type="checkbox"/> Plan to activate your DOC.	
<input type="checkbox"/> Encourage staff to prepare themselves, their families and their homes for a PSPS event.	
<input type="checkbox"/> Prepare for staff deployment by "setting up and stocking up".	<i>For example, prepare lodging, food, water and sleeping facilities.</i>



Checklist	Notes
<input type="checkbox"/> Increase on-call staffing, especially for specialized crews, such as generator set-up crews.	
<input type="checkbox"/> Keep track of receipts and overtime hours.	<i>Keep accurate cost and time records. Reimbursement may be available later, especially if a disaster is declared by state or federal government.</i>
<input type="checkbox"/> Consider giving more staff purchasing capability.	<i>Potentially increase the limits on purchase order authorizations and agency credit cards.</i>
<input type="checkbox"/> Conduct "just in time" training/refreshers as needed.	<i>For example, on generator hookup.</i>

2.7 Access

Checklist	Notes
<input type="checkbox"/> Check facility sites and address any immediate access issues.	<i>For example, leaves, branches and potholes.</i>
<input type="checkbox"/> Have a back-up plan if roads become inaccessible.	<ul style="list-style-type: none">• How will staff reach the facility if there is limited to no access?• Identify dedicated tree personnel for clearing downed trees.
<input type="checkbox"/> Verify staff and vehicles have proper credentials.	
<input type="checkbox"/> Identify contacts within the EOC for this event, such as the transportation contact.	<i>It is likely that your local EOC is at least partially activated.</i>
<input type="checkbox"/> Identify staff access roles and their contact information.	
<input type="checkbox"/> Identify critical water facilities on a map. Use GIS layers to support.	<i>For example, critical level 1/level 2 or high, medium and low.</i>
<input type="checkbox"/> Contact your electric utility for the exact power shut off locations and deploy staff and resources accordingly.	<i>Consider facility criticality. If possible, use hydraulic modeling and analysis to assess changes in service levels corresponding to the shutdown plan. Also, deploying staff early will help to avoid any future access issues that may arise post-PSPS.</i>
<input type="checkbox"/> Consider and weigh factors for access needs.	<i>For example, weather vs. deployment time vs. critical facility vs. other factors.</i>
<input type="checkbox"/> Start monitoring for access changes.	<i>For example, road closures due to wildfire spread or pattern.</i>

2.8 Safety

Checklist	Notes
<input type="checkbox"/> Review health and safety plans and send out reminders to staff.	<i>Conduct "walk-throughs" regarding high voltage/arc flash safety training.</i>
<input type="checkbox"/> Review and implement safety SOPs as appropriate.	
<input type="checkbox"/> Review the ERP, including its contact list.	
<input type="checkbox"/> Coordinate regular safety meetings.	<i>This could be done through the ICS planning process.</i>
<input type="checkbox"/> Identify what personal protective equipment (PPE) and other equipment are needed and pre-stage equipment.	<i>Confirm you have enough PPE and it is all up to date.</i>

3.0 ZERO HOUR POWER OUT

This phase occurs as soon as the PSPS is initiated and grid power is shut off.

3.1 Generators and Backup Power

Checklist	Notes
<input type="checkbox"/> Verify that generators have initiated and are running correctly.	
<input type="checkbox"/> Confirm that pumps have pressure.	

3.2 Fuel

Checklist	Notes
<input type="checkbox"/> Manually check levels of fuel storage.	

3.3 Communication

3.3.1 Internal

Checklist	Notes
<input type="checkbox"/> Verify two-way radios are operating correctly.	
<input type="checkbox"/> Confirm batteries are working in communication devices.	
<input type="checkbox"/> Complete a general check of communication system(s).	<i>Even if you checked at the 48-hour PSPS notification while the power was still on, some systems may not be working as expected on back-up power.</i>

3.3.2 Partners

Checklist	Notes
<input type="checkbox"/> Perform a communication check.	<i>Although you verified contact information earlier, means of communication may have changed since the power shut off.</i>

3.3.3 External

Checklist	Notes
<input type="checkbox"/> Notify customers that the utility is operating on backup power due to the PSPS.	

3.4 Partnerships

Checklist	Notes
<input type="checkbox"/> Complete a general check of partner communication systems.	<ul style="list-style-type: none">• <i>Even if you checked at the 48-hour PSPS notification while the power was still on, some systems may not be working as expected on back-up power.</i>
<input type="checkbox"/> Verify that there are no discrepancies within your electric utility's on-line information portal.	<ul style="list-style-type: none">• <i>For example, the portal incorrectly indicates that your facility has grid power.</i>• <i>If there is a discrepancy, reach out to your electric utility.</i>

3.5 SCADA

Checklist	Notes
<input type="checkbox"/> Attend to all active SCADA alarms.	<ul style="list-style-type: none">• <i>Verify that everything is working as it should.</i>• <i>Reset SCADA alarms.</i>

3.6 Staffing

Checklist	Notes
<input type="checkbox"/> Determine staffing needs and begin modified schedule.	
<input type="checkbox"/> Identify employees that are living in areas affected by the PSPS and adjust schedule, if needed.	

3.7 Access

Checklist	Notes
<input type="checkbox"/> Verify that electronic access control systems are working correctly without grid power.	<i>For example, make sure key cards are still working and you can get in/out.</i>

3.6 Safety

Checklist	Notes
<input type="checkbox"/> Confirm PPE is in place.	
<input type="checkbox"/> Verify everyone understands proper SOPs for safety.	

4.0 24 HOURS WITHOUT POWER

This phase is one day into the PSPS.

4.1 Generators and Backup Power

Checklist	Notes
<input type="checkbox"/> Take a break and evaluate efficacy of blue-sky planning.	<i>Validate prior assumptions and update as needed.</i>
<input type="checkbox"/> Assess and relocate resources as needed and prioritize generators.	
<input type="checkbox"/> Have a mechanic check and perform maintenance.	<i>For example, gauge reading, lubricants and leaks.</i>
<input type="checkbox"/> Shut generators down to check fluid levels and oil.	<i>Adjust as needed.</i>
<input type="checkbox"/> Maintain communication with the DOC, EOC, and utility partners to establish an estimated time for power restoration.	<i>This will give you an idea of how long the generators will need to be in operation.</i>
<input type="checkbox"/> Continue to update the generator tracking log.	<i>Verify the generators are within operating parameters and verify run times and burn rates.</i>
<input type="checkbox"/> Check inventory to see what critical resources are running low.	<ul style="list-style-type: none">• <i>Make sure that you have critical spare parts on hand.</i>• <i>Order resources that are running low.</i>
<input type="checkbox"/> Continue checking access to and the security of generators.	
<input type="checkbox"/> Be prepared to relocate equipment if additional problems arise.	<i>For example, wildfire encroachment, main break and other similar incidents.</i>

4.2 Fuel

Checklist	Notes
<input type="checkbox"/> Monitor burn rate and adjust fuel consumption/run time estimates accordingly.	
<input type="checkbox"/> Keep track of the status of fuel use and reserve fuel storage as PSPS proceeds.	
<input type="checkbox"/> Keep fuel storage full and increase storage capacity as needed.	<i>Consider capacity - the larger the generator, the more fuel used.</i>
<input type="checkbox"/> Establish multiple vendors for fuel.	<ul style="list-style-type: none">• <i>Establish redundancy for fuel delivery.</i>• <i>For example, use both an in-house tanker and outside contractor to top off tanks.</i>



Checklist	Notes
<input type="checkbox"/> Remember vehicles also need fuel.	<i>There is a crossover of fuel types between transport vehicles and generators.</i>
<input type="checkbox"/> Use networks to help obtain fuel.	<i>For example, OES, other agencies and utilities.</i>
<input type="checkbox"/> Remotely monitor fuel for certain equipment.	
<input type="checkbox"/> If the power outage is widespread, consider fuel supplies from further away.	<ul style="list-style-type: none">• <i>Is the duration of the outage known?</i>• <i>How large is the outage?</i>
<input type="checkbox"/> Prioritize fuel to key locations and adjust as needed with updated information.	
<input type="checkbox"/> Use PLC communications to help you with power and, therefore, fuel management.	<i>Remember, PLC programs can be lost when the power goes out, especially if you had not already transitioned to backup power prior to the outage.</i>
<input type="checkbox"/> Turn off all non-essential functions and balance equipment use to conserve fuel.	<i>For example, do not use all generators and/or vehicles at once.</i>
<input type="checkbox"/> Contact your fuel supplier to recheck fuel availability.	<i>Prepare to enact a fuel contingency plan if the supplier is running low or cannot reach you due to compromised roads.</i>

4.3 Communication

4.3.1 Internal

Checklist	Notes
<input type="checkbox"/> Set up charging stations for cell phone use.	<i>You can also use the cigarette lighter port in vehicles, USB ports, or power banks.</i>
<input type="checkbox"/> Determine a place for staff to congregate and share information.	<ul style="list-style-type: none">• <i>This could be the centralized fuel filling stations and/or charging stations.</i>• <i>Make sure the information being shared is correct. Amplify by hanging flyers.</i>
<input type="checkbox"/> Keep upper management and your Board informed.	
<input type="checkbox"/> Use battery demand and drain estimates to know when to switch batteries in chargeable devices like handheld radios.	



Checklist	Notes
<input type="checkbox"/> Assess communications to determine if there are any issues that could create problems as the event goes on.	<i>Fix the identified issues.</i>

4.3.2 Partners

Checklist	Notes
<input type="checkbox"/> Track status and events and obtain real time information from the electric utility and local/county EOC.	<i>Track status using programs like WebEOC and/or Slack.</i>
<input type="checkbox"/> Relay information and needs to offices with electricity.	<i>As a form of backup communication.</i>
<input type="checkbox"/> Provide updates on your needs to vendors.	

4.3.3 External

Checklist	Notes
<input type="checkbox"/> Continue consistent messaging and transparency with customers.	<i>Send messages with updates via social media, websites, web alerts and hand delivery.</i>
<input type="checkbox"/> Establish PIO as the point of contact for the media.	
<input type="checkbox"/> Ask POCs within communities to inform neighbors who may not have access to electronic or digital communications.	<i>If your community has a Community Emergency Response Team (CERT) you may be able to leverage that resource.</i>
<input type="checkbox"/> Issue water-use advisories as needed and request that customers conserve water.	<i>Post advisories at your office entrances and at fuel filling stations and/or charging stations.</i>

4.4 Partnerships

Checklist	Notes
<input type="checkbox"/> Inform the county OES, DDW, and General Manager/Administrator of your utility's operational status.	
<input type="checkbox"/> Request your electrical power provider notify you of grid re-energization.	<i>This enhances staff safety, equipment protection, and resource coordination.</i>
<input type="checkbox"/> If needed, open emergency interconnections with neighboring water systems.	



Checklist	Notes
<input type="checkbox"/> Coordinate with the fire department to assess their water needs and establish a staging area for utility equipment, as needed.	<i>If possible, conduct hydraulic modeling and analysis with updated status to identify potential areas of service risk.</i>
<input type="checkbox"/> Coordinate with regulatory agencies regarding requirements, as needed.	<i>For example, transporting fuel and running generators for long periods.</i>
<input type="checkbox"/> Reach out to other water utilities to see if they need help.	<i>Only if your utility is managing the PSPS event and has available resources.</i>
<input type="checkbox"/> Continue checking-in with other partner agencies.	

4.5 SCADA

Checklist	Notes
<input type="checkbox"/> Evaluate water usage during the previous 24 hours to adjust set levels to reflect changes in water usage.	<i>Update hydraulic models.</i>
<input type="checkbox"/> Reach out to ham radio operators to coordinate frequency assignments and usage.	<i>SCADA operates on same frequency as ham radio.</i>
<input type="checkbox"/> Consider if you need to take water quality samples to validate or replace on-line sensors in the distribution system.	

4.6 Staffing

Checklist	Notes
<input type="checkbox"/> Reassess modified schedules.	<ul style="list-style-type: none">• <i>Modify schedules as needed and notify employees of any changes.</i>
<input type="checkbox"/> Activate your DOC.	
<input type="checkbox"/> Consider staggering specialized staff and/or adding support staff through CalWARN or the county, or establish other ways to procure volunteers.	<ul style="list-style-type: none">• <i>You may be able to procure volunteers through CERTs.</i>• <i>Call in retired staff if they have indicated a willingness to help during a PSPS emergency.</i>
<input type="checkbox"/> Inform staff if there are any expected changes in operations, assignments, contacts, or schedules.	
<input type="checkbox"/> Assign staff to do rounds of critical assets.	<i>For example, check generator conditions.</i>



Checklist	Notes
<input type="checkbox"/> Give GETS and WPS cards to all key administration and utility staff.	<i>GETS and WPS are provided by the Department of Homeland Security. Information can be found at https://www.cisa.gov/government-emergency-telecommunications-service-gets.</i>
<input type="checkbox"/> Confirm staff have Emergency Service ID cards or authorization letters to pass through roadblocks.	
<input type="checkbox"/> Resupply staff with food, water, and other necessary supplies.	
<input type="checkbox"/> Understand employees' personal needs and/or initiate family plans.	
<input type="checkbox"/> Facilitate housing for extended commuters, as needed.	
<input type="checkbox"/> Assess staffing and equipment deployments (24-hour staffing).	

4.7 Access

Checklist	Notes
<input type="checkbox"/> Confirm the proper contacts at the EOC for law enforcement or others who may be controlling access.	<i>The county EOC is assumed to be open.</i>
<input type="checkbox"/> Confirm again that staff and vehicles have credentials.	<i>Access is easier with a company truck.</i>
<input type="checkbox"/> If trees are down, dispatch pre-staged personnel to clear roads and around assets.	<i>Dispatch personnel in teams of two and track their locations.</i>
<input type="checkbox"/> If access to critical sites is compromised, find solutions, as needed.	<i>For example, use bolt cutters or locate master key.</i>
<input type="checkbox"/> Confirm access for the delivery of food for staff.	
<input type="checkbox"/> Monitor for road closures.	<ul style="list-style-type: none">• Have designated staff monitoring road closures.• Get status update from the county, California Department of Transportation (CalTrans), or other local authority.• Use routing software (e.g., Waze) on cellphones for drivers.
<input type="checkbox"/> Confirm accessibility is maintained.	<i>This is especially important in order to move fuel storage tanks.</i>
<input type="checkbox"/> Confirm access procedures with local law enforcement for system components behind safety roadblocks.	

4.8 Safety

Checklist	Notes
<input type="checkbox"/> Ensure safety is discussed during staff briefing at shift change.	
<input type="checkbox"/> Verify shipment and delivery time of safety supplies and PPE (if ordered).	
<input type="checkbox"/> Maintain nighttime illumination.	

5.0 CONTINUED POWER OUTAGE

This phase is multiple days into the PSPS.

5.1 Generators and Backup Power

Checklist	Notes
<input type="checkbox"/> Have a technician check all generators.	
<input type="checkbox"/> Power down generators as needed to change fluids and filters and perform other maintenance.	<i>Coordinate with personnel to ensure shutdown window will not affect powered equipment.</i>
<input type="checkbox"/> Rotate portable generators around the system, as required.	<i>Especially if not all sites can have a dedicated generator.</i>
<input type="checkbox"/> Confirm that generators still need to be running.	<i>Turn off those that do not.</i>
<input type="checkbox"/> Verify security of and access to generators.	
<input type="checkbox"/> Implement protective measures for resources that cannot be relocated.	
<input type="checkbox"/> Be prepared to implement resource prioritization.	
<input type="checkbox"/> Be prepared to implement temporary contingency plans and long-term contingency plans.	<i>Use hydraulic modeling and analysis to identify potential risk areas.</i>
<input type="checkbox"/> Verify backup and contingency equipment is operating as planned.	
<input type="checkbox"/> Determine, in consultation with California Air Resources Board, how to report generators that will exceed their operating hours under air quality standards.	
<input type="checkbox"/> Provide status update to the DOC on each of the generator assets.	
<input type="checkbox"/> Enact procedure for shutting generators down.	<i>Plan the order or sequence in which generators will be powered down.</i>

5.2 Fuel

Checklist	Notes
<input type="checkbox"/> Check the fuel deliveries schedule and make sure fuel is still available.	<i>Keep in mind that fuel company staff may need relief, vendors may become unreliable, and others may have priority over you (e.g., Calfire).</i>
<input type="checkbox"/> Use the WSSP at county EOC to help order fuel.	



Checklist	Notes
<input type="checkbox"/> Recheck burn rates and adjust as needed.	
<input type="checkbox"/> Coordinate with external contractors for maintenance of on-site fuel systems as required.	
<input type="checkbox"/> Ask for waivers from state regulators (e.g., CalTRANS) in terms of fuel transport and driver hours.	
<input type="checkbox"/> Increase on site fuel storage again.	<i>For example, use portable tanks.</i>
<input type="checkbox"/> Retrieve gas and diesel from gas stations.	<i>This might make fuel delivery more reliable, but may require multiple trips to fill up one generator.</i>
<input type="checkbox"/> Identify problems that were missed earlier and adjust accordingly, so that if the power outage continues, surprises are minimized.	<i>At 48 hours in, there will be a sense of how things are going.</i>
<input type="checkbox"/> Be sure to check in with contractors and vendors, even those you may not have used for this event.	<i>Maintaining relationships with all contractors and vendors throughout the PSPS event is important.</i>

5.3 Communication

5.3.1 Internal

Checklist	Notes
<input type="checkbox"/> Make note of how communications are working to discuss later when PSPS is over.	
<input type="checkbox"/> Continue to keep upper management and your Board informed.	

5.3.2 Partners

Checklist	Notes
<input type="checkbox"/> Maintain communication methods and resources.	<i>As the power outage goes on, batteries may need to be recharged and cell towers may be down.</i>

5.3.3 External

Checklist	Notes
<input type="checkbox"/> Communicate with the public and provide updates through the PIO, social media, and/or local radio.	<i>Make sure the information is correct and consistent.</i>
<input type="checkbox"/> Change water use advisory notices, as appropriate.	

5.4 Partnerships

Checklist	Notes
<input type="checkbox"/> Ensure that you are updating and receiving information from CalWARN, CalOES, and your local EOC (critical for access).	<i>For example, this could include the status of an Emergency Declaration.</i>
<input type="checkbox"/> Notify the public that it is very important to continue to conserve water.	<i>Customers and businesses.</i>
<input type="checkbox"/> Contact DDW for the eventual lifting of boil water notices and/or do not drink notices.	
<input type="checkbox"/> Reach out to neighboring water utilities to share/leverage resources and technical expertise.	
<input type="checkbox"/> Contact the WSSP or local EOC to access credible information on the status of re-energization by electric utilities.	
<input type="checkbox"/> Contact neighborhood groups (e.g., CERT) for assistance in addressing atypical water needs.	<i>For example, water for livestock.</i>
<input type="checkbox"/> Continue communicating with partner agencies, vendors and contractors.	

5.5 SCADA

Checklist	Notes
<input type="checkbox"/> Continue to verify that SCADA data equals field data.	<i>You do not want to miss any unexpected trends.</i>
<input type="checkbox"/> Monitor stand-by power supporting SCADA.	<i>Such as checking fuel levels.</i>
<input type="checkbox"/> Check for communication failures.	
<input type="checkbox"/> Check solar panels to make sure they are not covered in ash.	



Checklist	Notes
<input type="checkbox"/> Check batteries powering PLCs.	
<input type="checkbox"/> Use higher capacity batteries or smaller generators.	<i>If not already planned for during "Blue Sky" phase.</i>
<input type="checkbox"/> Monitor for grid power coming back online.	
<input type="checkbox"/> Verify that any cellular based (backup) alarm systems are still operational.	<i>Cell towers may no longer be powered.</i>
<input type="checkbox"/> Prepare to implement contingency plans for damaged or inoperable SCADA equipment.	

5.6 Staffing

Checklist	Notes
<input type="checkbox"/> Reassess availability of staff, the staff rotation, staffing roles and distributed workload.	<ul style="list-style-type: none">• <i>Readjust as needed.</i>• <i>Remember to make use of CalWARN and other mutual aid and assistance agreements.</i>• <i>If SCADA operations cannot be maintained there will be a need for more staff for manual operations.</i>
<input type="checkbox"/> Conduct staff wellness checks and allow for rest.	<ul style="list-style-type: none">• <i>Staff may be exhausted at this point.</i>• <i>Measure fatigue and follow Incident Command System rules for shift length at a minimum.</i>• <i>Consider a work/rest regimen (e.g., rotated day off).</i>
<input type="checkbox"/> Consider normal duties for Emergency Operations Team (EOT) staff and/or rotate out DOC staff.	<i>This allows staff who have been working under stressful field conditions to rotate with better-rested staff who have been performing in desk positions.</i>
<input type="checkbox"/> Replenish supplies for crews and staff.	<i>For example, showers, food, water and relief.</i>
<input type="checkbox"/> Consider staff's personal needs and, if possible, help with staff personal logistics.	<i>For example, daycare and senior care.</i>
<input type="checkbox"/> Keep staff informed, involved, and acknowledge accomplishments by providing consistent updates and holding shift meetings.	<i>Communicate the need to drop the "small stuff" and prioritize business function.</i>
<input type="checkbox"/> Start paying for staff overtime, as appropriate.	<i>Coordination with HR or your payroll vendor is important.</i>
<input type="checkbox"/> Be sure there is a crew to maintain the facilities in the office.	
<input type="checkbox"/> Work from home if possible.	<i>This relieves some of the on-site logistical burdens.</i>



Checklist	Notes
<input type="checkbox"/> Consider staffing for recovery when power is restored.	
<input type="checkbox"/> Address bargaining unit issues.	
<input type="checkbox"/> Be aware of and provide site security.	<i>Others may be looking for the same resources you have.</i>

5.7 Access

Checklist	Notes
<input type="checkbox"/> Coordinate with the local EOC if access is needed.	<i>Depending on the status of the fire, access may be restricted to life safety and other critical functions, and entry and exit through certain areas may require a law enforcement or fire escort.</i>
<input type="checkbox"/> Be creative and adaptable – think outside the box.	<ul style="list-style-type: none">• <i>Can customers with a line of sight of critical assets provide you with information, such as observations of impacts?</i>• <i>Are there community web cams that can be accessed to observe facilities?</i>
<input type="checkbox"/> Ensure your recovery plan for backup power assets considers access issues.	

5.8 Safety

Checklist	Notes
<input type="checkbox"/> Check operators' safety and ensure staff rotation is occurring as planned.	
<input type="checkbox"/> Confirm generators are running safely.	
<input type="checkbox"/> Check personal protective equipment inventory and order more as needed.	

6.0 PSPS RECOVERY

This is the phase once the PSPS has ended and power has been restored. Below are four items that are overarching throughout the multiple topics in this phase.

Checklist	Notes
<input type="checkbox"/> Conduct an After-Action Review following every PSPS event.	<i>This is a structured review or de-brief process for analyzing what happened, why it happened, what went well and what did not and how things can be done better in the future.</i>
<input type="checkbox"/> Develop an After-Action Report and Improvement Plan based on the results of the After-Action Review.	
<input type="checkbox"/> Ensure that action items in the Improvement Plan are implemented.	
<input type="checkbox"/> Send thank-you notes or hold appreciation gatherings for staff and partners who assisted you during the PSPS event.	

6.1 Generators and Backup Power

Checklist	Notes
<input type="checkbox"/> Identify staff needed for demobilization and start demobilizing generator resources.	
<input type="checkbox"/> Confirm with your electric power provider that the PSPS has concluded and all phases of power restored.	
<input type="checkbox"/> Manually switch generators off and go back to grid power - in a safe manner and in a safe condition.	
<input type="checkbox"/> Return portable generators to their storage areas or to their respective rental agencies.	<i>You may wish to keep some generators in place for an extra amount of time just in case grid power goes out again unexpectedly.</i>
<input type="checkbox"/> Determine if generators should be left in place if another PSPS may occur in the near term.	<i>Check with your electrical utility.</i>
<input type="checkbox"/> Have a technician conduct an inspection to evaluate generator operability and condition, and begin repair and rehabilitation of generators, if needed.	<i>For example, cable repairs.</i>
<input type="checkbox"/> Change oil and diesel exhaust fluid (DEF).	
<input type="checkbox"/> Address O&M omitted during the PSPS event.	



Checklist	Notes
<input type="checkbox"/> Resupply spare parts and restock critical supplies.	
<input type="checkbox"/> Complete and close out generator logbooks from the PSPS event.	
<input type="checkbox"/> Verify that fixed installation generators have transferred back to grid power.	
<input type="checkbox"/> Address permitting issues with the California Air Resources Board (CARB), if any.	
<input type="checkbox"/> Assess location of backup power.	<ul style="list-style-type: none">• <i>Should back-up power resources be staged differently before the next PSPS?</i>• <i>Evaluate if sites requiring back-up power should be better prepared to accept it.</i>
<input type="checkbox"/> Establish back-up power that does not need fuel, where possible.	<ul style="list-style-type: none">• <i>For example, solar and battery power.</i>• <i>This would be helpful especially at repeater sites.</i>
<input type="checkbox"/> Consider dual fuel generators.	<ul style="list-style-type: none">• <i>For example, diesel and natural gas.</i>• <i>This would maximize flexibility and redundancy.</i>
<input type="checkbox"/> Assess need to purchase more generators and fuel storage.	<ul style="list-style-type: none">• <i>For example, portable storage tanks.</i>

6.2 Fuel

Checklist	Notes
<input type="checkbox"/> Polish remaining fuel in storage.	
<input type="checkbox"/> Sample for fuel quality.	
<input type="checkbox"/> Remove fuel from rented generators before returning them.	
<input type="checkbox"/> Refuel and top off all utility-owned generators.	
<input type="checkbox"/> Sign contracts in advance of the next PSPS.	<i>Fuel suppliers are first come, first served.</i>
<input type="checkbox"/> Reanalyze and update fuel burn rates for next PSPS.	<i>Assess fuel records to prepare for next PSPS (estimated burn rates were most likely different from actual).</i>
<input type="checkbox"/> Assess all equipment and stock up on spare parts (e.g., filters, additives) for fuel storage.	



Checklist	Notes
<input type="checkbox"/> Communicate with fuel companies and discuss procedural changes, if needed.	
<input type="checkbox"/> Address any O&M missed during the PSPS.	

6.3 Communication

6.3.1 Internal

Checklist	Notes
<input type="checkbox"/> Inform staff that grid power has been restored.	

6.3.2 Partners

Checklist	Notes
<input type="checkbox"/> Inform partners that power has been restored at your utility.	
<input type="checkbox"/> Continue communicating with vendors to prepare for next PSPS event.	
<input type="checkbox"/> Discuss communication improvements with your electric utility.	

6.3.3 External

Checklist	Notes
<input type="checkbox"/> Provide updates to customers (plan community outreach events/newsletters).	<i>For example, status of water conservation notices and water use advisories; explain again why PSPS events happen; provide advice to flush (especially refrigerator) home plumbing as needed.</i>

6.4 Partnerships

Checklist	Notes
<input type="checkbox"/> Determine continuing mutual aid needs, manage the mutual aid paperwork, and settle accounts with vendors.	
<input type="checkbox"/> Identify any additional mutual aid agreements that should be entered into as revealed by the PSPS event.	
<input type="checkbox"/> Ask for feedback from impacted high volume customers and work to resolve any issues before the next PSPS event.	
<input type="checkbox"/> Reach out to large users to help minimize your start up impacts.	
<input type="checkbox"/> Reach out to DDW and resolve boil water notices and/or other issues as normal operations resume.	
<input type="checkbox"/> Coordinate with agencies, rental companies, and contractors to return supplies and resources.	
<input type="checkbox"/> Reach out to other agencies to see if they need any help.	

6.5 SCADA

Checklist	Notes
<input type="checkbox"/> Reprogram SCADA components as needed.	<i>Recalibrate hydraulic models as necessary.</i>
<input type="checkbox"/> Continue verifying that SCADA data equals field data.	
<input type="checkbox"/> Create a record log or summary of the event.	
<input type="checkbox"/> Address any O&M omitted during the PSPS event.	
<input type="checkbox"/> Clear any remaining alarms.	
<input type="checkbox"/> Double-check all setpoints, reset as necessary and verify that they are working.	
<input type="checkbox"/> Clean solar panels as needed.	
<input type="checkbox"/> Test and/or replace back-up batteries.	

5.6 Staffing

Checklist	Notes
<input type="checkbox"/> Slowly return to normal schedule and release external staff from CalWARN or other mutual aid and assistance organizations.	<ul style="list-style-type: none">• Continue work/rest cycle and assess staffing levels.
<input type="checkbox"/> Assess fatigue and morale issues and watch for adverse impacts to personnel over the long term.	<i>Provide counseling to impacted staff (PTSD may be an issue).</i>
<input type="checkbox"/> Identify staff willing to collect logged information from operations staff for reporting, recovery and lessons learned.	
<input type="checkbox"/> Collect receipts, staffing information, timecards (especially overtime) and other personal information for finance.	<i>This information may also be needed for the Federal Emergency Management Agency (FEMA) Public Assistance process, if initiated.</i>
<input type="checkbox"/> Send consultants/contractors home upon stabilization.	
<input type="checkbox"/> Deactivate the DOC once normal operations resume.	

6.7 Access

Checklist	Notes
<input type="checkbox"/> Verify roads are open and bring generators and other temporarily staged resources back to their storage locations.	<i>If your electric power provider advises that another PSPS may occur in the near term, consider keeping some of the equipment in place, but continue to monitor it to make sure it is secured.</i>
<input type="checkbox"/> Consider adding security to generators during the recovery phase.	<i>Generators may be visible to the general public when access restrictions are lifted.</i>

6.8 Safety

Checklist	Notes
<input type="checkbox"/> Ensure staff make it home safely.	<i>Provide transportation, if necessary.</i>
<input type="checkbox"/> Review normal operating procedures.	<i>Enhance awareness of any lingering safety conditions and reinstitute normal safety measures.</i>
<input type="checkbox"/> Restock PPE.	

APPENDIX A – CONTACTS

Internal Communication

List all utility emergency response team members, their response roles, titles and contact information.

Contact List

Name	Role/Title	Phone	Alternate Phone	Email

External Response Partner Communication

List all external response partners, their response roles or positions as well as contact information. Conduct periodic communications checks with partners to validate channels and to update contact information.

External Response Partner Contact List

Organization or Department	Point Person Name or Position	Phone	Alternate Phone	Email or Website
Local Partners				
<i>County Emergency Management/EOC</i>				
<i>911</i>				
<i>Police</i>				
<i>Fire/HazMat</i>				
<i>LEPC</i>				
<i>Elected officials</i>				
<i>Wastewater utility</i>				
<i>Water utility</i>				
<i>Power utility</i>				
<i>Health department</i>				
<i>Contractor/vendor</i>				
<i>Mutual aid and assistance</i>				
<i>Other</i>				
State Partners				
<i>Primacy agency</i>				
<i>Health department</i>				
<i>Police</i>				
<i>WARN</i>				
<i>Laboratories</i>				
<i>Other</i>				
Federal Partners				
<i>EPA regional office</i>				
<i>FEMA</i>				
<i>DHS</i>				
<i>Other</i>				

Critical Customer Communication

List critical customers below that should be given priority notification due to their reliance on the water supply and significance to the community (e.g., public health, firefighting, large commercial operations), or because they may serve customers considered to be sensitive sub-populations.

Critical Customer Contact List

Organization or Department	Point Person Name or Position	Contact Instructions	Phone	Alternate Phone	Email or Website
Wholesale customer					
Senior living center					
Nursing home					
Hospital					
Dialysis clinic					
Hotel					
Transportation center					
School					
University					
Daycare center					
Factory					
Government building					
Large water user					
Other					

Communication Equipment Inventory

Inventory your utility's communication equipment below.

Communication Equipment

Type	Assigned to	Location	Number/Frequency/Channel

APPENDIX B – RESOURCES

California’s Self-Generation Incentive Program (SGIP)

<https://www.cpuc.ca.gov/sgipinfo/>

Offers rebates for installing energy storage technology at “critical facilities” that support community resilience in the event of a PSPS or wildfire. Funding of more than \$1 billion is available through 2024 and communities in high fire-threat areas or that have experienced two or more utility PSPS events are prioritized.

California Water and Wastewater Agency Response Network (CalWARN)

<http://www.calwarn.org/>

Supports and promotes statewide emergency preparedness, disaster response and mutual assistance processes for public and private water and wastewater utilities. The new CalWARN Web Portal expands a signatory utility’s ability to achieve agency, regional and state preparedness by providing new tools and proven practices that can enhance readiness.

California Drinking Water System Area Boundaries

<https://gispublic.waterboards.ca.gov/portal/home/item.html?id=fbba842bf134497c9d611ad506ec48cc#overview>

Service area boundaries of drinking water service providers, as verified by the Division of Drinking Water, State Water Resources Control Board. Please note that the service areas may change without notice as the data set is dynamic and updated on an on-going basis.

EPA Incident Action Checklist – Power Outage

https://www.epa.gov/sites/production/files/2019-11/documents/191126-incidentactionchecklist-po-form_508c.pdf

This checklist provides information with actions utilities can take to prepare, respond and recover from a power outage.

EPA Incident Action Checklist – Wildfire

<https://www.epa.gov/sites/production/files/2015-06/documents/wildfire.pdf>

This checklist provides information with actions utilities can take to prepare, respond and recover from a wildfire.

EPA Power Resilience Guide for Water and Wastewater Utilities

<https://www.epa.gov/sites/production/files/2016-03/documents/160212-powerresiliencguide508.pdf>

This guide includes information from water industry professionals on how to increase power resilience at drinking water and wastewater utilities.

Department of Homeland Security – Government Emergency Telecommunications Service and Wireless Priority Service

<https://www.cisa.gov/government-emergency-telecommunications-service-gets>

The Government Emergency Telecommunications Service (GETS) provides priority access and prioritized processing in the local and long-distance segments of the landline networks, greatly increasing the probability of call completion. Wireless Priority Service (WPS) is intended to be used in an emergency or crisis situation when the wireless network is congested and the probability of completing a normal call is reduced.

APPENDIX C – ACRONYMS

ATS	Automatic Transfer Switches
BAESIC	Bay Area Emergency and Security Information Collective
CalFire	California Department of Forestry and Fire Protection
CalTrans	California Department of Transportation
CalWARN	California Water and Wastewater Agency Response Network (CalWARN)
CERC	Crisis and Emergency Risk Communication
CERT	Community Emergency Response Team
DDW	Division of Drinking Water
DOC	Department Operations Center
EMA	Emergency Management Agency
EOC	Emergency Operations Center
EOT	Emergency Operations Team
EPA	United States Environmental Protection Agency
ERP	Emergency Response Plan
FEMA	Federal Emergency Management Agency
GETS	Government Emergency Telecommunications Service
H&S	Health and Safety
ICS	Incident Command System
ICWA	Inland Counties Water Association
O&M	Operations and Management
OES	Office of Emergency Services
PG&E	Pacific Gas and Electric Company
PIO	Public Information Officer
PLC	Programmable Logic Controller
POC	Point of Contact
PPE	Personal Protective Equipment
PSPS	Public Safety Power Shutoff
RANS	Rapid Alert Notification System
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison
SGIP	Self-Generation Incentive Program
SOP	Standard Operating Procedure
TTX	Tabletop Exercise
WPS	Wireless Priority Service
WSSP	Water Sector Specific Position