**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. 4) | Review Communication procedures (p. 12) | 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. 6) | 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. 7) | 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](https://www.cpuc.ca.gov/sgipinfo/) (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 |
| --- | --- |
| [ ]  | Join the California Water and Wastewater Agency Response Network (CalWARN).  | *Join at* [*http://www.calwarn.org/*](http://www.calwarn.org/)*.* |
| [ ]  | Keep all emergency contact information up to date. |  |
| [ ]  | Review resources in Appendix B. | *EPA’s Wildfire and Power Outage Incident Action Checklists are among the resources that can help utilities prepare for PSPS events.* |

## 1.1 Generators and Backup Power

| Checklist | Notes |
| --- | --- |
| [ ]  | Determine generator needs and sizes.  | * *For certain critical facilities, two generators in parallel may be needed. When one is down for maintenance, the other can be running.*
* *Consider using* *the* [*U.S. Army Corps of Engineers (USACE) Emergency Power Facility Assessment Tool*](https://epfat.swf.usace.army.mil/Welcome.aspx)*.*
* *Consider using* [*EPA’s Power Resilience Guide*](https://www.epa.gov/sites/production/files/2016-03/documents/160212-powerresilienceguide508.pdf)*.*
* *EPA’s* [*Power Outage Incident Action Checklist*](https://www.epa.gov/waterutilityresponse/incident-action-checklists-water-utilities) *is another good resource.*
 |
| [ ]  | Develop a cycling schedule as required. |  |
| [ ]  | Establish a contract with a rental firm if you do not own a generator. | * *Determine the rental company’s generator availability.*
* *Incorporate emergency prioritization language for your utility into the contract, if possible.*
 |
| [ ]  | 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.* |
| [ ]  | Test and maintain both stationary and portable generators under load. | *Do this often, either monthly or quarterly, and follow the manufacturer’s maintainence recommendations.*  |
| [ ]  | 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.* |
| [ ]  | Make sure transfer switches are installed. | *This is important for critical facilities if you intend to use portable generators.* |
| [ ]  | Have a backup/contingency plan for failed generators.  |  |
| [ ]  | Create a resource inventory.  | *Including purpose, type and location.*  |
| [ ]  | Maintain related resources and conduct testing and/or inspections of these resources.  | * *For example, spare parts such as filters.*
* *Be aware of any expiration dates related to items such as maintenance fluids.*
 |
| [ ]  | Know run times for generators to determine fuel needs.  |  |
| [ ]  | Plan to have generators located at or delivered to communication sites, as appropriate. | *For example, telemetry sites.* |
| [ ]  | Match generators with pump stations on a spreadsheet.  | *Match functionality to power.* |
| [ ]  | Use stationary generators for supervisory control and data acquisition (SCADA) at plant and portable generators for SCADA at remote sites. |  |
| [ ]  | Assign a staff member or department with specific generator responsibilities. | *Responsibilities include identifying generator needs (e.g., batteries), performing load testing, maintenance and repairs.* |
| [ ]  | Work with local air district to address air quality issues.  | *Air quality exceedances may result from running generators for an extended period.* |
| [ ]  | Install solar power for repeaters, if possible. | *Be aware that ash can cover solar panels.* |
| [ ]  | Prepare for customer complaints. | *Customers may complain about generator noise and exhaust. Whisper generators are an option.*  |

1.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Assess fuel needs. | *Answering these questions will help determine total fuel storage need and anticipated burn rate:** *Which physical locations need fuel?*
* *What is the fuel demand at each location?*
* *What is the availability of fuel at each location?*
* *What is the load on the generator?*
 |
| [ ]  | Develop a fuel log. | *Include points of contact, fuel polishing and filtering schedule, run time fuel needs, fuel inventory, and burn rates.* |
| [ ]  | Sign a fuel supply and delivery agreement with one or more fuel companies. | *Carefully read each agreement to be sure you understand how the company prioritizes fuel and deliveries to clients during emergencies*.  |
| [ ]  | Assess storage of day tanks and supply tanks.  | *Top off and schedule maintenance for tanks – How long has the fuel been stored in the tanks?* |
| [ ]  | Identify how to replenish fuel supply. | *Establish a ‘fuel supply’ concept of operations and include as an appendix or annex.* |
| [ ]  | Develop list of qualified personnel that can manage fuel and establish an operations and maintenance (O&M) schedule. |  |
| [ ]  | Partner with a fuel vendor or vendor consortium, as well your local emergency management agency (EMA).  | *Advance communications and networking are helpful. Local EMAs may also be able to secure fuel.* |
| [ ]  | Obtain proper certifications for auxiliary fuel tanks mounted on pickup trucks. |  |
| [ ]  | Reserve some fuel for staff transport needs as appropriate. | *Staff who commute may need fuel if local gas stations close or are inaccessible due to damaged roads.* |
| [ ]  | Plan for backup power for pumps at stationary fuel tanks.  | *This can be a solar-powered, manual or battery operated fuel transfer pump.* |
| [ ]  | Include fuel handling safety in staff training.  | *For example, personal protective equipment (PPE), spill kits and fire extinguishers.* |
| [ ]  | Develop generator refueling plan.  | *Be sure to include a map of access routes for fuel delivery trucks.* |
| [ ]  | Ensure stored fuel is of high quality and usable.  | * *Recycle and change fuel as necessary.*
* *Consider swapping fuel out on an annual basis or when polishing no longer works.*
 |
| [ ]  | Add fuel stabilizer for gas and/or diesel operated generators. |  |

## 1.3 Communication

#### 1.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Develop a call tree or staff reverse 911 list for your utility as appropriate. | * *An example contact table is located in Appendix A.*
* *Plan for “heads-up” or advance warning communication – a PSPS notice for your staff.*
 |
| [ ]  | Confirm internal points of contact are up to date. | *For example, utility staff, field staff and administrators.* |
| [ ]  | Know where to go for situational information. | *For example, Department Operations Center (DOC) briefings, email lists, or shift briefings.* |
| [ ]  | Create an inventory of your communication equipment. | *See Appendix A for an example communication equipment inventory.* |
| [ ]  | Confirm that your online system boundary map is accurate and up to date.  | *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/item.html?id=fbba842bf134497c9d611ad506ec48cc#overview>. |
| [ ]  | Conduct radio checks in vehicles to confirm that radios are charged.  | * *Program channels and train staff on how to use them.*
* *Develop a protocol.*
 |
| [ ]  | Obtain long lasting batteries for communications equipment and make sure the batteries are maintained. | *Batteries sitting in chargers for prolonged amounts of time may have short life spans in the field.* |
| [ ]  | Plan for staff communication during a loss of cell phone service. | *Two-way radios? Satellite phones? Will texting go through? What is the failsafe plan (e.g., meet-up point)?* |

#### 1.3.2 Partners

| Checklist | Notes |
| --- | --- |
| [ ]  | Develop an SOP describing roles and responsibilities for communicating with partners.  | *Conduct inter-agency trainings, meetings, and workshops.* |
| [ ]  | Confirm external points of contact are up to date. | *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.* |
| [ ]  | Identify the appropriate people to contact at the city EOC. | *Know who is on what shift and know how to communicate with them (e.g., two-way radio, correct phone number).* |
| [ ]  | Share communication ideas and plans with other agencies to find out what they are doing and learn from them. | *Implement Message Mapping and Crisis and Emergency Risk Communications training and protocols.* |
| [ ]  | Plan on updating neighboring counties regarding your status in case you cannot share information with the EOC. | *Neighboring counties can share this information on your behalf.* |
| [ ]  | Communicate priority sites to city or county OES for agency awareness and inventory. | *For example, for refueling and power restoration.* |
| [ ]  | Keep a critical facility list up to date with your electrical company.  | *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.* |
| [ ]  | Check with your electrical utility to determine if they are using fire retardant spray on wooden poles that serve you. | *This may mean your landline and other communications relying on the poles may be more resilient.* |

#### 1.3.3 External

| Checklist | Notes |
| --- | --- |
| [ ]  | Plan for how PSPS and associated public messaging will be distributed to customers. | * *What notification system will you use (e.g., Rapid Alert Notification System [RANS], “Reverse 911”, hand delivery).*
* *Prepare public service announcements.*
* *Use social media for outreach.*
* *Let people know what they can do and who they can reach out to during PSPS events.*
 |

## 1.4 Partnerships

| Checklist | Notes |
| --- | --- |
| [ ]  | Form a relationship with DDW. | *DDW can serve as a conduit for information and resources from other state agencies.* |
| [ ]  | Coordinate with county OES/Operational Area. | *This will be helpful in acquiring resources such as shelter, water, fuel, and back-up power.* |
| [ ]  | Establish a working relationship with the local and county emergency management agency. Designate Water Sector Specific Position (WSSP), if possible. | *Stay in touch with them throughout incident. They can help connect you with needed resources.* |
| [ ]  | Confirm county EOC contacts and conduct in-person meetings with them.  | *Determine how you will coordinate during a PSPS.* |
| [ ]  | Form relationships with other water utility organizations.  | *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.* |
| [ ]  | Form a partnership with the fire department and law enforcement, both state and local. | *This will help your staff pass safely through roadblocks and fire-affected areas as needed.* |
| [ ]  | Form a relationship and share contact information with the California Department of Forestry and Fire Protection (CalFire). | * *They are a good resource for national weather outlook/forecasts.*
* *A state-wide point of contact (POC) is the state fire marshall, but most local fire districts have their own.*
 |
| [ ]  | Form a relationship with your power provider, specifically your dedicated account representative.  | *If your utility is small, you may not have a dedicated account representative.* |
| [ ]  | Develop a working relationship with your customers, especially critical customers. | * *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.*
 |
| [ ]  | Form and maintain relationships with contractors. | * *For example, fuel suppliers and generator rentals.*
* *Have a backup to the backup to the backup.*
 |
| [ ]  | Water districts should form a relationship with the jurisdictions that they serve.  | *Some water districts may serve multiple municipalities.* |
| [ ]  | Form a relationship with local hotels. | *Staff may need to stay in them during PSPS events.* |
| [ ]  | Make connections with local hospitals and other healthcare facilities. | *This relationship should be carefully developed because they depend on water for life sustaining activities.*  |

## 1.5 SCADA

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

## 1.6 Staffing

| Checklist | Notes |
| --- | --- |
| [ ]  | Conduct training/cross training, dry runs and other exercises specifically to prepare for PSPS events. | * *Consider table top exercises (TTXs) with partners.*
* *This will allow employees to know how to operate equipment and coordinate with partners.*
 |
| [ ]  | Develop a business continuity plan that addresses critical needs and considers alternate ways of doing business. | *Include work locations, hours and public reception areas.*  |
| [ ]  | Establish a DOC by identifying critical staff and systems. | *The DOC functions as an EOC for your utility.* |
| [ ]  | Identify staff limitations and consider contracts with vendors such as electricians and SCADA operators to fill any gaps.  | *Also consider if retired staff may be willing to return on a temporary basis during a PSPS emergency.* |
| [ ]  | Ensure specialized staff and their needs are integrated into PSPS and Emergency Response Plans (ERPs). | *For example, if you need an electrical engineer and only have access to one, then you need to identify a backup.*  |
| [ ]  | Review and update labor contracts, specifically considering emergency human resources policies. | *For example, establish a leave cancellation policy.* |
| [ ]  | Confirm that staff and equipment certifications and licenses are valid and up to date. |  |
| [ ]  | Know who is available to work overtime and/or in shifts. |  |
| [ ]  | Adjust staff shifts so that people commute from several different areas. | *This helps to avoid losing an entire shift due to road closures causing transportation issues.*  |
| [ ]  | Have a centralized point for your staffing schedule to know where personnel are located. |  |
| [ ]  | Forecast overtime hours. | *Time tracking will help.* |
| [ ]  | Consider increasing staffing levels. |  |
| [ ]  | Know staff family concerns that may limit availability.  | *For example, losing childcare services.*  |
| [ ]  | Prepare for possible lodging for long-term PSPS events. | *For example, RVs, trailers, tents, hotels.*  |
| [ ]  | Create go-bags for staff. | *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.* |
| [ ]  | Perform resource typing. | *This helps you know what you have and what you may need to ask for to augment your response.* |

## 1.7 Access

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

## 1.8 Safety

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

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

## 2.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Confirm fuel contracts are in place with vendors and/or suppliers and initiate deliveries as appropriate. | * *Stock up and stage fuel, if possible.*
* *Maximum delivery tank size on a non-placarded utility vehicle is 119 gallons.*
 |
| [ ]  | Confirm partnerships with other agencies that could help to procure fuel. |  |
| [ ]  | Schedule refill of generators based on the fuel consumption worksheet (i.e., burn rate).  | *Review previous PSPS event (or other power outage) generator burn rates.* |
| [ ]  | Confirm site access for fuelers and refuelers.  | *For example, spare keys and alarms.*  |
| [ ]  | Perform operational checks of fueling equipment. |  |
| [ ]  | Perform assessment of critical sites.  | *Confirm which sites will be prioritized for fuel if fuel supplies are limited.* |
| [ ]  | Top off the fuel system and polish fuel as required. | *Fuel system is defined as fuel storage, generators, and tanks.* |
| [ ]  | Increase storage. | * *Explore options to rent on-site fuel storage.*
* *Determine mobility of storage in case you want to move tanks between locations.*
 |
| [ ]  | Dedicate a centralized fuel delivery point for the vendor/supplier.  | * *Use smaller utility trucks to transport fuel within the property to specific sites.*
* *Verify utility truck delivery capabilities.*
 |
| [ ]  | Verify transfer pumps have power redundancy. |  |
| [ ]  | Issue fuel payment methods to staff. | *For example, credit cards.* |
| [ ]  | Consider what type of fuel your generators need. | *For example, natural gas, diesel, or propane.* |
| [ ]  | Conserve fuel by connecting a programmable logic controller (PLC) to your generators.  | *The generators will only engage when pumps are about to come on.* |

## 2.3 Communication

#### 2.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Hold staff refresher trainings on the communication SOP and review the communication elements in the ERP. |  |
| [ ]  | Make sure “backup” communication resources and procedures are ready and everyone knows what they are.  | *Identify a fail safe method and procedure (e.g., meet at this location at this time) if all forms of normal communication go down.* |
| [ ]  | Initiate the internal communications procedure and call tree. | *Follow incident command system (ICS) structure or other chain-of-command.* |
| [ ]  | Make sure the “administrator of the day” is notified as well as crew staff (on standby). |  |
| [ ]  | Perform field communications checks. |  |
| [ ]  | Distribute handheld and other radio communication devices as needed. |  |

#### 2.3.2 Partners

| Checklist | Notes |
| --- | --- |
| [ ]  | Confirm external contacts are correct and up to date.  | *For example, CalWARN, local county OES, EOC, public safety, fire and police/dispatch, fuel companies, DDW, public information officers (PIOs) and customers.* |

#### 2.3.3 External

| Checklist | Notes |
| --- | --- |
| [ ]  | Communicate with customers to let them know what is happening, what may happen and, if necessary, to plan accordingly and conserve. | *Could use systems like Nixle, NextDoor, social media, AlertSolano, websites, and emails.* |
| [ ]  | Prepare boil water notices and “do not drink” notices and have DDW review as necessary. |  |
| [ ]  | Prepare consistent messaging. | * *Develop scripts for staff answering phones, communication staff, and field staff.*
* *Consider Message Mapping, and* *Crisis and Emergency Risk Communication (CERC) protocols.*
 |

## 2.4 Partnerships

| Checklist | Notes |
| --- | --- |
| [ ]  | Confirm the electric utility has a list of your critical facility locations. |  |
| [ ]  | Determine if the county EOC is activated and if there is a water desk/WSSP. |  |
| [ ]  | Contact rental companies/vendors to reserve fuel, generators and other resources. |  |
| [ ]  | Review mutual aid and assistance agreements.  |  |
| [ ]  | Inform partners, including CalWARN, that assistance may be needed and verify availability of resources. | *Resource requests could include replacement or additional personnel, equipment or supplies, such as fuel.* |
| [ ]  | Notify high volume customers to conserve water. | *High-volume customers include irrigation districts.*  |
| ☐ | Coordinate with sewer system partners regarding water conservation notices. | *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.* |
| [ ]  | Obtain additional security guards, if needed. | *Ask law enforcement if they can provide additional security or increase frequency of patrols.* |
| [ ]  | Make arrangements with food establishments and appoint a designated food runner. | *For example, caterers, restaurants (within and outside impacted area).* |

## 2.5 SCADA

| Checklist | Notes |
| --- | --- |
| [ ]  | Backup data and print out key information, action lists and information. |  |
| [ ]  | 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. |  |
| [ ]  | Test all alarms and make sure set points are correct. | *For example, generator and wet well level.* |
| [ ]  | Alter set points for a larger operating range. |  |
| [ ]  | Prioritize powering a portion of SCADA system that must be operational. |  |
| [ ]  | Review SOPs to refresh staff on how to manually operate pumps. |  |
| [ ]  | Confirm that SCADA support vendor information and contacts are up to date. |  |
| [ ]  | Put instrument technician on standby. |  |
| [ ]  | Switch all but one pump to manual (“singling up”). | *When backup power goes on, not all the pumps turn back on and you avoid overloading your generator.* |
| [ ]  | Ensure there is “defensible space” clear of brush and debris around any repeater. |  |
| [ ]  | Conduct a pre- and post-inspection of the facility, including PLCs. | * *Know system settings before the PSPS and after; make sure they are the same.*
* *If there was a power surge, make sure electronics are working correctly.*
 |
| [ ]  | Expect minimal SCADA communication while on generator power. |  |

## 2.6 Staffing

| Checklist | Notes |
| --- | --- |
| [ ]  | Place your emergency response staff on stand-by and establish chain of command.  |  |
| [ ]  | Determine availability of staff for 24/7 coverage. | * *Roles and responsibilities may have to be modified.*
* *Notify all staff of these modifications.*
* *Identify employees who live in potentially PSPS affected areas.*
 |
| [ ]  | Conduct an "all hands" coordination meeting to explain potential new job duties and expectations. | * *Provide consistent messaging.*
* *Inform staff if there are any expected changes in operation, assignments, contacts or schedules.*
 |
| [ ]  | Plan to activate your DOC. |  |
| [ ]  | Encourage staff to prepare themselves, their families and their homes for a PSPS event. |  |
| [ ]  | Prepare for staff deployment by "setting up and stocking up". | *For example, prepare lodging, food, water and sleeping facilities.* |
| [ ]  | Increase on-call staffing, especially for specialized crews, such as generator set-up crews.  |  |
| [ ]  | Keep track of receipts and overtime hours. | *Keep accurate cost and time records. Reimbursement may be available later, esepcially if a disaster is declared by state or federal government.* |
| [ ]  | Consider giving more staff purchasing capability.  | *Potentially increase the limits on purchase order authorizations and agency credit cards.* |
| [ ]  | Conduct "just in time" training/refreshers as needed. | *For example, on generator hookup.* |

## 2.7 Access

| Checklist | Notes |
| --- | --- |
| [ ]  | Check facility sites and address any immediate access issues. | *For example, leaves, branches and potholes.* |
| [ ]  | Have a back-up plan if roads become inaccessible. | * *How will staff reach the facility if there is limited to no access?*
* *Identify dedicated tree personnel for clearing downed trees.*
 |
| [ ]  | Verify staff and vehicles have proper credentials. |  |
| [ ]  | Identify contacts within the EOC for this event, such as the transportation contact. | *It is likely that your local EOC is at least partially activated.* |
| [ ]  | Identify staff access roles and their contact information. |  |
| [ ]  | Identify critical water facilities on a map. Use GIS layers to support. | *For example, critical level 1/level 2 or high, medium and low.* |
| [ ]  | Contact your electric utility for the exact power shut off locations and deploy staff and resources accordingly. | *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.*  |
| [ ]  | Consider and weigh factors for access needs. | *For example, weather vs. deployment time vs. critical facility vs. other factors.* |
| [ ]  | Start monitoring for access changes. | *For example, road closures due to wildfire spread or pattern.* |

## 2.8 Safety

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

# 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 |
| --- | --- |
| [ ]  | Verify that generators have initiated and are running correctly.  |  |
| [ ]  | Confirm that pumps have pressure.  |  |

## 3.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Manually check levels of fuel storage. |  |

## 3.3 Communication

#### 3.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Verify two-way radios are operating correctly.  |  |
| [ ]  | Confirm batteries are working in communication devices.  |  |
| [ ]  | Complete a general check of communication system(s).  | *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.* |

#### 3.3.2 Partners

| Checklist | Notes |
| --- | --- |
| [ ]  | Perform a communication check.  | *Although you verified contact information earlier, means of communication may have changed since the power shut off.*  |

#### 3.3.3 External

| Checklist | Notes |
| --- | --- |
| [ ]  | Notify customers that the utility is operating on backup power due to the PSPS. |  |

## 3.4 Partnerships

| Checklist | Notes |
| --- | --- |
| [ ]  | Complete a general check of partner communication systems.  | * *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.*
 |
| [ ]  | Verify that there are no discrepancies within your electric utility’s on-line information portal.  | * *For example, the portal incorrectly indicates that your facility has grid power.*
* *If there is a discrepancy, reach out to your electric utility.*
 |

## 3.5 SCADA

| Checklist | Notes |
| --- | --- |
| [ ]  | Attend to all active SCADA alarms. | * *Verify that everything is working as it should.*
* *Reset SCADA alarms.*
 |

## 3.6 Staffing

| Checklist | Notes |
| --- | --- |
| [ ]  | Determine staffing needs and begin modified schedule. |  |
| [ ]  | Identify employees that are living in areas affected by the PSPS and adjust schedule, if needed.  |  |

## 3.7 Access

| Checklist | Notes |
| --- | --- |
| [ ]  | Verify that electronic access control systems are working correctly without grid power.  | *For example, make sure key cards are still working and you can get in/out.*  |

## 3.6 Safety

| Checklist | Notes |
| --- | --- |
| [ ]  | Confirm PPE is in place.  |  |
| [ ]  | 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 |
| --- | --- |
| [ ]  | Take a break and evaluate efficacy of blue-sky planning. | *Validate prior assumptions and update as needed.* |
| [ ]  | Assess and relocate resources as needed and prioritize generators. |  |
| [ ]  | Have a mechanic check and perform maintenance. | *For example, gauge reading, lubricants and leaks.* |
| [ ]  | Shut generators down to check fluid levels and oil.  | *Adjust as needed.*  |
| [ ]  | Maintain communication with the DOC, EOC, and utility partners to establish an estimated time for power restoration. | *This will give you an idea of how long the generators will need to be in operation.* |
| [ ]  | Continue to update the generator tracking log.  | *Verify the generators are within operating parameters and verify run times and burn rates.* |
| [ ]  | Check inventory to see what critical resources are running low.  | * *Make sure that you have critical spare parts on hand.*
* *Order resources that are running low.*
 |
| [ ]  | Continue checking access to and the security of generators. |  |
| [ ]  | Be prepared to relocate equipment if additional problems arise.  | *For example, wildfire encroachment, main break and other similar incidents.* |

## 4.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Monitor burn rate and adjust fuel consumption/run time estimates accordingly.  |  |
| [ ]  | Keep track of the status of fuel use and reserve fuel storage as PSPS proceeds. |  |
| [ ]  | Keep fuel storage full and increase storage capacity as needed. | *Consider capacity - the larger the generator, the more fuel used.* |
| [ ]  | Establish multiple vendors for fuel.  | * *Establish redundancy for fuel delivery.*
* *For example, use both an in-house tanker and outside contractor to top off tanks.*
 |
| [ ]  | Remember vehicles also need fuel. | *There is a crossover of fuel types between transport vehicles and generators.* |
| [ ]  | Use networks to help obtain fuel. | *For example, OES, other agencies and utilities.* |
| [ ]  | Remotely monitor fuel for certain equipment. |  |
| [ ]  | If the power outage is widespread, consider fuel supplies from further away.  | * *Is the duration of the outage known?*
* *How large is the outage?*
 |
| [ ]  | Prioritize fuel to key locations and adjust as needed with updated information. |  |
| [ ]  | Use PLC communications to help you with power and, therefore, fuel management. | *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.*  |
| [ ]  | Turn off all non-essential functions and balance equipment use to conserve fuel. | *For example, do not use all generators and/or vehicles at once.* |
| [ ]  | Contact your fuel supplier to recheck fuel availability.  | *Prepare to enact a fuel contingency plan if the supplier is running low or cannot reach you due to compromised roads.* |

## 4.3 Communication

#### 4.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Set up charging stations for cell phone use.  | *You can also use the cigarette lighter port in vehicles, USB ports, or power banks.*  |
| [ ]  | Determine a place for staff to congregate and share information. | * *This could be the centralized fuel filling stations and/or charging stations.*
* *Make sure the information being shared is correct. Amplify by hanging flyers.*
 |
| [ ]  | Keep upper management and your Board informed. |  |
| [ ]  | Use battery demand and drain estimates to know when to switch batteries in chargeable devices like handheld radios. |  |
| [ ]  | Assess communications to determine if there are any issues that could create problems as the event goes on.  | *Fix the identified issues.* |

#### 4.3.2 Partners

| Checklist | Notes |
| --- | --- |
| [ ]  | Track status and events and obtain real time information from the electric utility and local/county EOC. | *Track status using programs like WebEOC and/or Slack.* |
| [ ]  | Relay information and needs to offices with electricity. | *As a form of backup communication.*  |
| [ ]  | Provide updates on your needs to vendors. |  |

#### 4.3.3 External

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

## 4.4 Partnerships

| Checklist | Notes |
| --- | --- |
| [ ]  | Inform the county OES, DDW, and General Manager/Administrator of your utility’s operational status. |  |
| [ ]  | Request your electrical power provider notify you of grid re-energization.  | *This enhances staff safety, equipment protection, and resource coordination.* |
| [ ]  | If needed, open emergency interconnections with neighboring water systems. |  |
| [ ]  | Coordinate with the fire department to assess their water needs and establish a staging area for utitlity equipment, as needed. | *If possible, conduct hydraulic modeling and analysis with updated status to identify potential areas of service risk.* |
| [ ]  | Coordinate with regulatory agencies regarding requirements, as needed.  | *For example, transporting fuel and running generators for long periods.* |
| [ ]  | Reach out to other water utilities to see if they need help. | *Only if your utility is managing the PSPS event and has available resources.* |
| [ ]  | Continue checking-in with other partner agencies. |  |

## 4.5 SCADA

| Checklist | Notes |
| --- | --- |
| [ ]  | Evaluate water usage during the previous 24 hours to adjust set levels to reflect changes in water usage. | *Update hydraulic models.* |
| [ ]  | Reach out to ham radio operators to coordinate frequency assignments and usage. | *SCADA operates on same frequency as ham radio.* |
| [ ]  | 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 |
| --- | --- |
| [ ]  | Reassess modified schedules.  | * *Modify schedules as needed and notify employees of any changes.*
 |
| [ ]  | Activate your DOC. |  |
| [ ]  | Consider staggering specialized staff and/or adding support staff through CalWARN or the county, or establish other ways to procure volunteers. | * *You may be able to procure volunteers through CERTs.*
* *Call in retired staff if they have indicated a willingness to help during a PSPS emergency.*
 |
| [ ]  | Inform staff if there are any expected changes in operations, assignments, contacts, or schedules. |  |
| [ ]  | Assign staff to do rounds of critical assets. | *For example, check generator conditions.* |
| [ ]  | Give GETS and WPS cards to all key administration and utility staff. | *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>. |
| [ ]  | Confirm staff have Emergency Service ID cards or authorization letters to pass through roadblocks. |  |
| [ ]  | Resupply staff with food, water, and other necessary supplies. |  |
| [ ]  | Understand employees’ personal needs and/or initiate family plans. |  |
| [ ]  | Facilitate housing for extended commuters, as needed. |  |
| [ ]  | Assess staffing and equipment deployments (24-hour staffing). |  |

## 4.7 Access

| Checklist | Notes |
| --- | --- |
| [ ]  | Confirm the proper contacts at the EOC for law enforcement or others who may be controlling access. | *The county EOC is assumed to be open.* |
| [ ]  | Confirm again that staff and vehicles have credentials. | *Access is easier with a company truck.*  |
| [ ]  | If trees are down, dispatch pre-staged personnel to clear roads and around assets. | *Dispatch personnel in teams of two and track their locations.* |
| [ ]  | If acess to critical sites is compromised, find solutions, as needed. | *For example, use bolt cutters or locate master key.*  |
| [ ]  | Confirm access for the delivery of food for staff. |  |
| [ ]  | Monitor for road closures.  | * *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.*
 |
| [ ]  | Confirm accessibility is maintained.  | *This is especially important in order to move fuel storage tanks.* |
| [ ]  | Confirm access procedures with local law enforcement for system components behind safety roadblocks. |  |

## 4.8 Safety

| Checklist | Notes |
| --- | --- |
| [ ]  | Ensure safety is discussed during staff briefing at shift change. |  |
| [ ]  | Verify shipment and delivery time of safety supplies and PPE (if ordered). |  |
| [ ]  | Maintain nighttime illumination. |  |

# 5.0 CONTINUED POWER OUTAGE

This phase is multiple days into the PSPS.

## 5.1 Generators and Backup Power

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

## 5.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Check the fuel deliveries schedule and make sure fuel is still available. | *Keep in mind that fuel company staff may need relief, vendors may become unreliable, and others may have priority over you (e.g., Calfire).* |
| [ ]  | Use the WSSP at county EOC to help order fuel. |  |
| [ ]  | Recheck burn rates and adjust as needed. |  |
| [ ]  | Coordinate with external contractors for maintenance of on-site fuel systems as required. |  |
| [ ]  | Ask for waivers from state regulators (e.g., CalTRANS) in terms of fuel transport and driver hours. |  |
| [ ]  | Increase on site fuel storage again. | *For example, use portable tanks.* |
| [ ]  | Retrieve gas and diesel from gas stations.  | *This might make fuel delivery more reliable, but may require multiple trips to fill up one generator.* |
| [ ]  | Identify problems that were missed earlier and adjust accordingly, so that if the power outage continues, surprises are minimized.  | *At 48 hours in, there will be a sense of how things are going.* |
| [ ]  | Be sure to check in with contractors and vendors, even those you may not have used for this event. | *Maintaining relationships with all contractors and vendors throughout the PSPS event is important.* |

## 5.3 Communication

#### 5.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Make note of how communications are working to discuss later when PSPS is over. |  |
| [ ]  | Continue to keep upper management and your Board informed. |  |

#### 5.3.2 Partners

| Checklist | Notes |
| --- | --- |
| [ ]  |  Maintain communication methods and resources.  | *As the power outage goes on, batteries may need to be recharged and cell towers may be down.*  |

#### 5.3.3 External

| Checklist | Notes |
| --- | --- |
| [ ]  | Communicate with the public and provide updates through the PIO, social media, and/or local radio.  | *Make sure the information is correct and consistent.* |
| [ ]  | Change water use advisory notices, as appropriate. |  |

## 5.4 Partnerships

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

## 5.5 SCADA

| Checklist | Notes |
| --- | --- |
| [ ]  | Continue to verify that SCADA data equals field data.  | *You do not want to miss any unexpected trends.* |
| [ ]  | Monitor stand-by power supporting SCADA. | *Such as checking fuel levels.* |
| [ ]  | Check for communication failures. |  |
| [ ]  | Check solar panels to make sure they are not covered in ash. |  |
| [ ]  | Check batteries powering PLCs. |  |
| [ ]  | Use higher capacity batteries or smaller generators. | *If not already planned for during “Blue Sky” phase.* |
| [ ]  | Monitor for grid power coming back online. |  |
| [ ]  | Verify that any cellular based (backup) alarm systems are still operational. | *Cell towers may no longer be powered.* |
| [ ]  | Prepare to implement contingency plans for damaged or inoperable SCADA equipment. |  |

## 5.6 Staffing

| Checklist | Notes |
| --- | --- |
| [ ]  | Reassess availability of staff, the staff rotation, staffing roles and distributed workload.  | * *Readjust as needed.*
* *Remember to make use of CalWARN and other mutual aid and assistance agreements.*
* *If SCADA operations cannot be maintained there will be a need for more staff for manual operations.*
 |
| [ ]  | Conduct staff wellness checks and allow for rest.  | * *Staff may be exhausted at this point.*
* *Measure fatigue and follow Incident Command System rules for shift length at a minimum.*
* *Consider a work/rest regimen (e.g., rotated day off).*
 |
| [ ]  | Consider normal duties for Emergency Operations Team (EOT) staff and/or rotate out DOC staff.  | *This allows staff who have been working under stressful field conditions to rotate with better-rested staff who have been performing in desk positions.* |
| [ ]  | Replenish supplies for crews and staff. | *For example, showers, food, water and relief.* |
| [ ]  | Consider staff’s personal needs and, if possible, help with staff personal logistics.  | *For example, daycare and senior care.* |
| [ ]  | Keep staff informed, involved, and acknowledge accomplishments by providing consistent updates and holding shift meetings.  | *Communicate the need to drop the "small stuff" and prioritize business function.* |
| [ ]  | Start paying for staff overtime, as appropriate. | *Coordination with HR or your payroll vendor is important.* |
| [ ]  | Be sure there is a crew to maintain the facilities in the office. |  |
| [ ]  | Work from home if possible. | *This relieves some of the on-site logistical burdens.* |
| [ ]  | Consider staffing for recovery when power is restored. |  |
| [ ]  | Address bargaining unit issues. |  |
| [ ]  | Be aware of and provide site security. | *Others may be looking for the same resources you have.* |

## 5.7 Access

| Checklist | Notes |
| --- | --- |
| [ ]  | Coordinate with the local EOC if access is needed. | *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.* |
| [ ]  | Be creative and adaptable – think outside the box. | * *Can customers with a line of sight of critical assets provide you with information, such as observations of impacts?*
* *Are there community web cams that can be accessed to observe facilities?*
 |
| [ ]  | Ensure your recovery plan for backup power assets considers access issues. |  |

## 5.8 Safety

| Checklist | Notes |
| --- | --- |
| [ ]  | Check operators’ safety and ensure staff rotation is occurring as planned. |  |
| [ ]  | Confirm generators are running safely. |  |
| [ ]  | 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 |
| --- | --- |
| [ ]  | Conduct an After-Action Review following every PSPS event. | *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.* |
| [ ]  | Develop an After-Action Report and Improvement Plan based on the results of the After-Action Review. |  |
| [ ]  | Ensure that action items in the Improvement Plan are implemented. |  |
| [ ]  | 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 |
| --- | --- |
| [ ]  | Identify staff needed for demobilization and start demobilizing generator resources. |  |
| [ ]  | Confirm with your electric power provider that the PSPS has concluded and all phases of power restored. |  |
| [ ]  | Manually switch generators off and go back to grid power - in a safe manner and in a safe condition. |  |
| [ ]  | Return portable generators to their storage areas or to their respective rental agencies.  | *You may wish to keep some generators in place for an extra amount of time just in case grid power goes out again unexpectedly.* |
| [ ]  | Determine if generators should be left in place if another PSPS may occur in the near term.  | *Check with your electrical utility.* |
| [ ]  | Have a technician conduct an inspection to evaluate generator operability and condition, and begin repair and rehabilitation of generators, if needed. | *For example, cable repairs.*  |
| [ ]  | Change oil and diesel exhaust fluid (DEF). |  |
| [ ]  | Address O&M omitted during the PSPS event. |  |
| [ ]  | Resupply spare parts and restock critical supplies. |  |
| [ ]  | Complete and close out generator logbooks from the PSPS event. |  |
| [ ]  | Verify that fixed installation generators have transferred back to grid power. |  |
| [ ]  | Address permitting issues with the California Air Resources Board (CARB), if any. |  |
| [ ]  | Assess location of backup power. | * *Should back-up power resources be staged differently before the next PSPS?*
* *Evaluate if sites requiring back-up power should be better prepared to accept it.*
 |
| [ ]  | Establish back-up power that does not need fuel, where possible. | * *For example, solar and battery power.*
* *This would be helpful especially at repeater sites.*
 |
| [ ]  | Consider dual fuel generators. | * *For example, diesel and natural gas.*
* *This would maximize flexibility and redundancy.*
 |
| [ ]  | Assess need to purchase more generators and fuel storage. | * *For example, portable storage tanks.*
 |

## 6.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Polish remaining fuel in storage. |  |
| [ ]  | Sample for fuel quality. |  |
| [ ]  | Remove fuel from rented generators before returning them. |  |
| [ ]  | Refuel and top off all utility-owned generators. |  |
| [ ]  | Sign contracts in advance of the next PSPS. | *Fuel suppliers are first come, first served.* |
| [ ]  | Reanalyze and update fuel burn rates for next PSPS.  | *Assess fuel records to prepare for next PSPS (estimated burn rates were most likely different from actual).* |
| [ ]  | Assess all equipment and stock up on spare parts (e.g., filters, additives) for fuel storage. |  |
| [ ]  | Communicate with fuel companies and discuss procedural changes, if needed. |  |
| [ ]  | Address any O&M missed during the PSPS. |  |

## 6.3 Communication

#### 6.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Inform staff that grid power has been restored. |  |

#### 6.3.2 Partners

| Checklist | Notes |
| --- | --- |
| [ ]  | Inform partners that power has been restored at your utility.  |  |
| [ ]  | Continue communicating with vendors to prepare for next PSPS event. |  |
| [ ]  | Discuss communication improvements with your electric utility. |  |

#### 6.3.3 External

| Checklist | Notes |
| --- | --- |
| [ ]  | Provide updates to customers (plan community outreach events/newsletters). | *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.* |

## 6.4 Partnerships

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

## 6.5 SCADA

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

## 5.6 Staffing

| Checklist | Notes |
| --- | --- |
| [ ]  | Slowly return to normal schedule and release external staff from CalWARN or other mutual aid and assistance organizations. | * *Continue work/rest cycle and assess staffing levels.*
 |
| [ ]  | Assess fatigue and morale issues and watch for adverse impacts to personnel over the long term. | *Provide counseling to impacted staff (PTSD may be an issue).* |
| [ ]  | Identify staff willing to collect logged information from operations staff for reporting, recovery and lessons learned.  |  |
| [ ]  | Collect receipts, staffing information, timecards (especially overtime) and other personal information for finance.  | *This information may also be needed for the Federal Emergency Management Agency (FEMA) Public Assistance process, if initiated.* |
| [ ]  | Send consultants/contractors home upon stabilization. |  |
| [ ]  | Deactivate the DOC once normal operations resume. |  |

## 6.7 Access

| Checklist | Notes |
| --- | --- |
| [ ]  | Verify roads are open and bring generators and other temporarily staged resources back to their storage locations. | *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.*  |
| [ ]  | Consider adding security to generators during the recovery phase. | *Generators may be visible to the general public when access restrictions are lifted.* |

## 6.8 Safety

| Checklist | Notes |
| --- | --- |
| [ ]  | Ensure staff make it home safely.  | *Provide transportation, if necessary.* |
| [ ]  | Review normal operating procedures.  | *Enhance awareness of any lingering safety conditions and reinstitute normal safety measures.* |
| [ ]  | 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** |
|  |  |  |  |  |
|  |  |  |  |  |
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### 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** |
| *County Emergency Management/EOC* |  |  |  |  |
| *911* |  |  |  |  |
| *Police* |  |  |  |  |
| *Fire/HazMat* |  |  |  |  |
| *LEPC* |  |  |  |  |
| *Elected officials* |  |  |  |  |
| *Wastewater utility* |  |  |  |  |
| *Water utility* |  |  |  |  |
| *Power utility* |  |  |  |  |
| *Health department* |  |  |  |  |
| *Contractor/vendor* |  |  |  |  |
| *Mutual aid and assistance* |  |  |  |  |
| Other |  |  |  |  |
| **State Partners** |
| *Primacy agency* |  |  |  |  |
| *Health department* |  |  |  |  |
| *Police* |  |  |  |  |
| *WARN* |  |  |  |  |
| *Laboratories* |  |  |  |  |
| Other |  |  |  |  |
| **Federal Partners** |
| *EPA regional office* |  |  |  |  |
| USACE |  |  |  |  |
| FEMA |  |  |  |  |
| DHS |  |  |  |  |
| Other |  |  |  |  |

### 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-powerresilienceguide508.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.

#### USACE Emergency Power Facility Assessment Tool

<https://epfat.swf.usace.army.mil/Welcome.aspx>

A secure web-based tool that can be used by water and wastewater facility owners/operators, or emergency response agencies, to input, store, update and/or view temporary emergency power assessment data.

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

USACE U.S. Army Corps of Engineers

WPS Wireless Priority Service

WSSP Water Sector Specific Position