**Public Safety Power Shutoff**

**Standard Operating Procedure**

**Template**

**[Utility Name]**

**PSPS SOP**

**TABLE OF CONTENTS**

[Introduction 1](#_Toc45726635)

[1.0 BLUE-SKY PLANNING 2](#_Toc45726636)

[1.1 Generators and Backup Power 2](#_Toc45726637)

[1.2 Fuel 3](#_Toc45726638)

[1.3 Communication 4](#_Toc45726639)

[1.4 Partnerships 6](#_Toc45726640)

[1.5 SCADA 7](#_Toc45726641)

[1.6 Staffing 8](#_Toc45726642)

[1.7 Access 9](#_Toc45726643)

[1.8 Safety 10](#_Toc45726644)

[2.0 48-HOUR PSPS NOTIFICATION 11](#_Toc45726645)

[2.1 Generators and Backup Power 11](#_Toc45726646)

[2.2 Fuel 11](#_Toc45726647)

[2.3 Communication 12](#_Toc45726648)

[2.4 Partnerships 14](#_Toc45726649)

[2.5 SCADA 14](#_Toc45726650)

[2.6 Staffing 15](#_Toc45726651)

[2.7 Access 16](#_Toc45726652)

[2.8 Safety 17](#_Toc45726653)

[3.0 ZERO HOUR POWER OUT 18](#_Toc45726654)

[3.1 Generators and Backup Power 18](#_Toc45726655)

[3.2 Fuel 18](#_Toc45726656)

[3.3 Communication 18](#_Toc45726657)

[3.4 Partnerships 19](#_Toc45726658)

[3.5 SCADA 19](#_Toc45726659)

[3.6 Staffing 19](#_Toc45726660)

[3.7 Access 19](#_Toc45726661)

[3.6 Safety 20](#_Toc45726662)

[4.0 24 HOURS WITHOUT POWER 21](#_Toc45726663)

[4.1 Generators and Backup Power 21](#_Toc45726664)

[4.2 Fuel 21](#_Toc45726665)

[4.3 Communication 22](#_Toc45726666)

[4.4 Partnerships 23](#_Toc45726667)

[4.5 SCADA 24](#_Toc45726668)

[4.6 Staffing 24](#_Toc45726669)

[4.7 Access 25](#_Toc45726670)

[4.8 Safety 26](#_Toc45726671)

[5.0 CONTINUED POWER OUTAGE 27](#_Toc45726672)

[5.1 Generators and Backup Power 27](#_Toc45726673)

[5.2 Fuel 27](#_Toc45726674)

[5.3 Communication 28](#_Toc45726675)

[5.4 Partnerships 29](#_Toc45726676)

[5.5 SCADA 29](#_Toc45726677)

[5.6 Staffing 30](#_Toc45726678)

[5.7 Access 31](#_Toc45726679)

[5.8 Safety 31](#_Toc45726680)

[6.0 PSPS RECOVERY 32](#_Toc45726681)

[6.1 Generators and Backup Power 32](#_Toc45726682)

[6.2 Fuel 33](#_Toc45726683)

[6.3 Communication 34](#_Toc45726684)

[6.4 Partnerships 35](#_Toc45726685)

[6.5 SCADA 35](#_Toc45726686)

[5.6 Staffing 36](#_Toc45726687)

[6.7 Access 36](#_Toc45726688)

[6.8 Safety 36](#_Toc45726689)

[APPENDIX A – CONTACTS 37](#_Toc45726690)

[Internal Communication 37](#_Toc45726691)

[External Response Partner Communication 38](#_Toc45726692)

[Critical Customer Communication 39](#_Toc45726693)

[Communication Equipment Inventory 39](#_Toc45726694)

[APPENDIX B – RESOURCES 40](#_Toc45726695)

[APPENDIX C – ACRONYMS 41](#_Toc45726696)

# 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. |  |

## 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)*.*
 |
| [ ]  | Develop a cycling schedule as required. |  |
| [ ]  | Establish a contract with a rental firm if you do not own a generator. | * *Determine 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 manufacturer’s maintainence recommendations.*  |
| [ ]  | Create a written SOP or instructions for generator operation.  | *Laminate this 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 where you intend to bring in portable generators.* |
| [ ]  | Have a backup/contingency plan for failed generators.  |  |
| [ ]  | Create a resource inventory.  | *Include what you have and where it is located.*  |
| [ ]  | Maintain related resources and conduct testing and/or inspections of these resources.  | * *For example, spare parts like 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 at or generators delivered to communication sites as appropriate. | *For example, telemetry sites.* |
| [ ]  | Match up generators with pump stations on spreadsheet.  | *Know what can work with what (functionality/power).* |
| [ ]  | Place 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 specific generator responsibilities. | *Responsibilities include identifying generator needs (e.g., batteries), performing load testing.* |
| [ ]  | 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 noise, exhaust. Whisper generators are an option.*  |

1.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Assess fuel needs. | *Answering these questions results in knowing total fuel storage need and anticipated burn rate:** *Which physical locations have need for fuel?*
* *What is fuel demand at each location?*
* *What is 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 fuel stayed in 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. | *There is a limit to number of certifications to drivers and trucks.* |
| [ ]  | Reserve some fuel for staff transport needs as appropriate. | *Staff who commute may need fuel if local gas stations close.* |
| [ ]  | 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, fire extinguishers.* |
| [ ]  | Develop generator refueling plan.  | *Be sure to include map of access routes for fuel delivery trucks.* |
| [ ]  | Ensure stored fuel is 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, administrators.* |
| [ ]  | Know where to go for situational information. | *For example, Department Operations Center (DOC) briefinngs, 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 up your system boundaries with the PSPS system boundary map to see which facilities may be impacted.* |
| [ ]  | Conduct radio checks in vehicles to confirm that they are charged.  | * *Program channels and train staff on how to use them.*
* *Develop a protocol.*
 |
| [ ]  | Obtain longer lasting batteries and make sure batteries in communication systems are maintained. | *For example, 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 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, assets, electric utility representatives, state – Division of Drinking Water (DDW), county – Office of Emergency Services (OES), suppliers/service provider; fuel, mutual aid – CalWARN.* |
| [ ]  | Identify the proper 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 in case you cannot share information. | *Therefore, neighboring counties can share this information on your behalf.* |
| [ ]  | Communicate priority sites to city or county OES for agency awareness and inventory. | *For example, refueling and power restoration.* |
| [ ]  | Keep critical facility list up to date with your electrical company.  | *For example, a facility taken off the grid for months due to maintenance or an upgrade can lead to its temporary removal from the critical list. Or perhaps a new critical facility has come on-line within the last few months.* |
| [ ]  | Check with your electrical utility to be see 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 than previously.* |

#### 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”, amber alert, 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 working relationship with 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.  | *Such as 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.*
* *State-wide point of contact (POC) would be the state Fire Marshall, but most local fire districts have their own fire marshalls.*
 |
| [ ]  | 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. | * *Therefore, there will be no 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, generator rentals.*
* *Have a backup to the backup to the backup.*
 |
| [ ]  | Water districts should form a relationship with the jurisdictions that they serve.  |  |
| [ ]  | 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 carefuly developed because they depend on water for life-support systems.*  |

## 1.5 SCADA

| Checklist | Notes |
| --- | --- |
| [ ]  | Train operators to operate plant without SCADA. |  |
| [ ]  | Keep licenses and software up to date. | *Maintain copies in an alternate location in case needed to restore 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. |  |
| [ ]  | 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% reliable when the sky is black from fire events as panels may have ash on them.* |
| [ ]  | Evaluate tank storage and develop use table. | *For example, water burn rate.* |

## 1.6 Staffing

| Checklist | Notes |
| --- | --- |
| [ ]  | Conduct training/cross training and conduct 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 staffs absolute needs and considers alternate ways of doing business. | *Alternate ways inclue work locations, hours, 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/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 specialization staff and their needs are integrated into PSPS/Emergency Response Plans (ERPs). | *For example, if an electrical engineer is needed and you only have access to one, they are going to need a break at some point so a backup must be identified.* |
| [ ]  | Review and update labor contracts, specifically considering emergency human resources policies. | *For example, leave/vacation may need to be cancelled or establish a voluntary cancellation policy.* |
| [ ]  | Know who is available, especially for longer hours and/or 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 have better accountability. |  |
| [ ]  | Forecast overtime hours. | *Time tracking will help.* |
| [ ]  | Consider increasing staffing levels. |  |
| [ ]  | Know staff family concerns that may limit duty.  | *For example, losing childcare services.*  |
| [ ]  | Prepare possible lodging for long-term PSPS events. | *For example, RV, trailers, tents, hotels.*  |
| [ ]  | Create go-bags for staff. | *Example items to include in 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 IDs and vehicle badging are accurate and up to date. |  |
| [ ]  | Develop a process for access if 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 on the ground (e.g., National Guard).  | *Emergency management can help with this.* |
| [ ]  | Reach out to local jurisdictions to coordinate access. |  |
| [ ]  | Include access procedures in Emergency Response Plan and update as necessary. |  |
| [ ]  | Get clearance from EOC to access water system.  | *Sometimes smaller utilities have trouble accessing their water systems, so clearance from the EOC is needed to do so.*  |
| [ ]  | Stay up-to-date with facility site maintenance. | *For example, clear brush and tree limbs regularly.*  |
| [ ]  | Communicate your access issues to the WSSP.  | *A WSSP is anticipated to be established at both the local and higher jurisdictional level EOCs.* |
| [ ]  | Consider redundancy. | *For example, keys, 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 utility on-boarding procedures. | *Perhaps develop 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/rotation of generators.  | *Ensure generators are producing correctly phased power and are rotating correctly for proper pump rotation.* |
| [ ]  | Verify generator locations.  |  |
| [ ]  | Notify staff to be prepared and assign staff for 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 resource is in place, field test the equipment. | *Retest the generator under load.* |
| [ ]  | Start generators at least one to two hours before 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 because if wastewater utility does not have backup power, there is a danger of overflowing tanks at lift stations.*  |
| [ ]  | Secure electrician availability. |  |

## 2.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Confirm fuel contracts are in place with vendor and/or supplier 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, alarms, how much and where, evaluate truck driving time.* |
| [ ]  | 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 whole system and polish fuel as required. | *Whole system being storage, generators, and tanks.* |
| [ ]  | Increase storage. | * *Explore options to rent on-site fuel storage for fuel delivery.*
* *Determine mobility of storage supply - it may be moveable by forklift.*
 |
| [ ]  | Dedicate a centralized fuel delivery point for vendor/supplier.  | * *It is better to use smaller utility trucks to make deliveries 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 fuel types you may need based on your generator types. | *For example, natural gas, diesel, propane.* |
| [ ]  | Conserve fuel by connecting a programmable logic controller (PLC) to generator.  | *This way the generator only turns on when pumps are about to come on.* |

## 2.3 Communication

#### 2.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Have refresher trainings on existing communication SOP with staff and review communication elements in ERP. |  |
| [ ]  | Make sure “backup” communication is ready to go and everyone knows what it is.  | *Identify a fail safe method and procedure (e.g., meet at this location at this time) if all forms of normal communication go down.* |
| [ ]  | Start internal communications/call tree from top down. | *Could follow incident command system (ICS) structure or other chain-of-command.* |
| [ ]  | Make sure “administrator of the day” is notified as well as crew staff (on standby). |  |
| [ ]  | Field communications checks should be performed. |  |
| [ ]  | 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 will happen and 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 |
| --- | --- |
| [ ]  | Check to see if county EOC is activated and if there is a water desk/WSSP there. |  |
| [ ]  | Reach out to partners to let them know assistance may be needed and verify availability of resources. | *For example, generators, staff.* |
| [ ]  | Obtain security guard if needed. | *Check with law enforcement to see if they can provide guards.* |
| [ ]  | Make arrangements with food establishments and appoint a designated food runner. | *For example, caterers, restaurants (within and outside impacted area).* |
| [ ]  | Notify high volume customers to conserve water. | *High-volume customers include utilities, 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 gets the message across to customers.* |
| [ ]  | Contact rental companies/vendors to reserve resources. |  |
| [ ]  | Contact electric utility to confirm critical facility locations. |  |
| [ ]  | Notify your CalWARN representative of the 48-hour notification and that resource requests may be coming.  | *Notify your regional CalWARN Chair or Vice Chair; resources may be backfill personnel, equipment, or supplies like fuel.* |
| [ ]  | Conduct a refresher training on other mutual aid and assistance agreements you may be a part of. |  |

## 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, wet well level.* |
| [ ]  | Alter set points for larger operating range. |  |
| [ ]  | Prioritize powering portion of SCADA system that must be up and running. |  |
| [ ]  | Review SOPs to refresh staff on manual operation of pumps. |  |
| [ ]  | Confirm SCADA support vendor information and contacts are up to date. |  |
| [ ]  | Put instrument technician on standby. |  |
| [ ]  | Switch all but one pump to manual (“singling up”). | *Therefore, when backup power goes on, not all the pumps turn back on.* |
| [ ]  | Have defensible space around any repeater. |  |
| [ ]  | Conduct pre- and post-inspection of plant, 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 |
| --- | --- |
| [ ]  | Activate your emergency response staff and establish chain of command.  |  |
| [ ]  | Determine full coverage/availability of staff (24/7). | * *Roles and responsibilities may have to be modified.*
* *Be sure to notify all staff of these modifications.*
* *Be sure to know which employees live in potentially PSPS affected areas.*
 |
| [ ]  | Conduct an "all hands" coordination meeting to explain potential new job duties and expectations. | * *Follow up with consistent messaging because it i's important for everyone to be on the same page.*
* *Inform staff if there are any expected changes in operation, assignments, contacts, schedules.*
 |
| [ ]  | Plan to activate your DOC. |  |
| [ ]  | Have staff prepare themselves, their family, and their home for PSPS event. | *Do not panic.*  |
| [ ]  | Prepare for staff's deployment by "setting up and stocking up". | *For example, prepare lodging, food, water, sleeping facilities.* |
| [ ]  | Increase on-call staffing, especially with specialization crews such as generator set-up crews.  | *Assemble crews.* |
| [ ]  | Check staff (and equipment) certifications and licenses to make sure they are valid and up to date. |  |
| [ ]  | Keep track of receipts and overtime hours. | *Keep accurate cost/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, generator hookup.* |

## 2.7 Access

| Checklist | Notes |
| --- | --- |
| [ ]  | Check facility sites and address any immediate access issues. | *For example, leaves, branches, and potholes.* |
| [ ]  | Have a plan for accessibility for roads. | * *How will staff have access to the facility if there is limited to no access?*
* *Identify dedicated tree personnel for 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 your local EOC is partially activated at this point.* |
| [ ]  | Identify staff access roles and contacts. |  |
| [ ]  | Contact electric utility for exact shut down locations and deploy accordingly. | *Consider facility criticality. If possible, use hydraulic modeling and analysis to assess changes in service levels corresponding to the shutdown plan.* |
| [ ]  | Identify PSPS locations likely impacted and dispatch staff and support resources to those regions. | *This will help to avoid any future access issues that may arise post-PSPS.* |
| [ ]  | Identify critical water facilities on a map. Use GIS layers to support. | *For example, critical level 1/level 2 or high, medium, low.* |
| [ ]  | 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.  | *Conduct "walk-throughs" regarding high voltage/arc flash safety training.* |
| [ ]  | Review and implement safety SOPs as appropriate. |  |
| [ ]  | Review ERP and contact list. |  |
| [ ]  | Coordinate for regular safety meetings. | *This could be done through the ICS planning process.* |
| [ ]  | Identify what personal protective equipment and other equipment are needed and pre-stage PPE 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, the power was still on. Some things may not be working as expected now that the power is off.* |

#### 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 has gone out.*  |

#### 3.3.3 External

| Checklist | Notes |
| --- | --- |
| [ ]  | Notify customers that power has gone out and utility is now on backup power. |  |

## 3.4 Partnerships

| Checklist | Notes |
| --- | --- |
| [ ]  | Complete a general check of partner communication systems.  | * *Even if you checked at the 48-hour PSPS notification, the power was still on. Some things may not be working as expected now that the power is off.*
 |
| [ ]  | Verify that there are no discrepancies within your electric utility’s on-line information portal.  | * *For example, the portal says that your facility has grid power, but there is not power at your facility.*
* *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. |  |
| [ ]  | Check to see what employees are living in areas affected by the PSPS and adjust schedule accordingly.  |  |

## 3.7 Access

| Checklist | Notes |
| --- | --- |
| [ ]  | Verify that any 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, leaks.* |
| [ ]  | Shut generators down to check fluid levels and oil.  | *Adjust as needed.*  |
| [ ]  | Maintain communication with DOC/EOC/utility partners to establish ETA for power restoration. | *This will give you an idea of how long generators will need to be in operation.* |
| [ ]  | Continue to update generator tracking log.  | *Verify generators are within operating parameters and verify run times and burn rates.* |
| [ ]  | Check inventory to see what critical parts are running low.  | * *Make sure 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, similar incidents.* |

## 4.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Monitor burn rate and adjust fuel consumption/run time estimates accordingly.  |  |
| [ ]  | Keep track of status of fuel use/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, 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/utilities.* |
| [ ]  | Remotely monitor fuel for certain equipment. |  |
| [ ]  | If power outage is widespread, consider fuel supplies from further away.  | * *Is duration of 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 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 fuel supplier to recheck fuel availability.  | *Prepare to enact fuel contingency plan if supplier is running low.* |

## 4.3 Communication

#### 4.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Set up charging stations for cell phone use.  | *Can also use cigarette lighter port in vehicle, USB port, or power banks.*  |
| [ ]  | Determine a place for staff to congregate and share information. | * *Places to congregate could be the fuel filling stations and/or charging stations.*
* *Make sure the information being shared is correct, hang 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 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, hand delivery.* |
| [ ]  | Establish PIO as the point of contact for the media.  |  |
| [ ]  | Have POCs within communities to pass on messages to 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 |
| --- | --- |
| [ ]  | Check in with county OES, DDW, and General Manager/Administrator with your utility’s operational status. |  |
| [ ]  | Coordinate with your electrical power provider to receive a grid re-energization notification.  | *This enhances staff safety, equipment protection, and resource coordination.* |
| [ ]  | Open emergency interconnections with neighboring agencies as needed. |  |
| [ ]  | Coordinate with firefighters 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.* |
| [ ]  | Work with regulators on relaxing regulatory requirements where you can and 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 you are at a good point and feel you have the ability to do this.* |
| [ ]  | Continue checking-in with other partner agencies. |  |

## 4.5 SCADA

| Checklist | Notes |
| --- | --- |
| [ ]  | Evaluate water usage during previous 24 hours to adjust set levels to reflect change 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 the need to take water quality samples to validate or replace on-line sensors in the distribution system. |  |

## 4.6 Staffing

| Checklist | Notes |
| --- | --- |
| [ ]  | Reassess modified schedule.  | * *Modify schedule as needed, but make sure to notify employees of changes.*
 |
| [ ]  | Activate your DOC. |  |
| [ ]  | Consider staggering specialization staff and/or adding support staff through CalWARN/county or establish ways to procure volunteers. | * *Can 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 operation, assignments, contacts, schedules. |  |
| [ ]  | Assign staff to do rounds. | *For example, check generator conditions.* |
| [ ]  | Give GETS and WPS cards to all key administration/agency staff. | *This is a Department of Homeland Security program found at* <https://www.cisa.gov/government-emergency-telecommunications-service-gets>. |
| [ ]  | Confirm staff have Emergency Service ID cards or authorization letters to pass road blocks/controls. |  |
| [ ]  | 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 proper contact at EOC for law enforcement or others who may be controlling access. | *EOC is open at this point.* |
| [ ]  | Confirm again that staff/vehicles have credentials. | *Access is easier with company truck.*  |
| [ ]  | If trees are down, dispatch pre-staged personnel to help avoid access issues. | *For example, teams of two with locations tracked.* |
| [ ]  | If critical sites need access, find a creative way to get in as needed. | *For example, use bolt cutters or locate master key.*  |
| [ ]  | Confirm access for food for staff, if food is to be delivered. |  |
| [ ]  | Monitor for road closures.  | * *Have designated staff monitoring road closures.*
* *Get status update from county, California Department of Transportation (CalTrans), or other local authority.*
* *Use routing software (e.g., Waze) on cellphones of drivers.*
 |
| [ ]  | Confirm accessibility is maintained.  | *This is especially important in order to move around fuel storage areas and tanks.* |
| [ ]  | Confirm process with sheriff for access to system components behind any 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, filters and perform other maintenance items. | *Coordinate with personnel to ensure shutdown window will not affect powered equipment.* |
| [ ]  | Rotate portable generators around 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 Air Quality, 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 for which generators will be powered down first.*  |

## 5.2 Fuel

| Checklist | Notes |
| --- | --- |
| [ ]  | Check fuel deliveries schedule and make sure fuel is still available. | *Fuel company staff may need breaks, vendors may become unreliable, and others may have priority over you (e.g., Calfire).* |
| [ ]  | Use 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, 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 have been missed and adjust accordingly so when 120 hours is reached, surprises are minimized.  | *At 48 hours in, there will be a sense of how things are going.* |
| [ ]  | Be sure to check in even with those contractors you may not have purchased from yet. | *Relationships with contractors throughout the PSPS event are important.* |

## 5.3 Communication

#### 5.3.1 Internal

| Checklist | Notes |
| --- | --- |
| [ ]  | Make note of how communications are working now without power to discuss later when PSPS is over. |  |
| [ ]  | Continue to keep upper management and your Board informed. |  |

#### 5.3.2 Partners

| Checklist | Notes |
| --- | --- |
| [ ]  |  Reverify communication methods.  | *As the power outage goes on, battieres may not be charged anymore and cell towers may be down.*  |

#### 5.3.3 External

| Checklist | Notes |
| --- | --- |
| [ ]  | Communicate with the public and provide updates through PIO, social media, and/or local radio.  | *Make sure information is correct and consistent (i.e., no "fake news").* |
| [ ]  | Change water use advisory notice 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, status of Emergency Declaration, media.* |
| [ ]  | Notify the public that it is very important to continue to conserve water. | *Customers and businesses.* |
| [ ]  | Contact DDW for 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 WSSP or local EOC to access credible information on status of re-energization by electric utilities. |  |
| [ ]  | Contact a neighborhood group (e.g., CERT) for assistance in addressing atypical water needs. | *For example, water for livestock.* |
| [ ]  | Continue communicating with partner agencies/vendors/contractors. |  |

## 5.5 SCADA

| Checklist | Notes |
| --- | --- |
| [ ]  | Continue to verify that SCADA data equals field data.  | *You do not want to miss any 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 any batteries powering PLCs. |  |
| [ ]  | Use bigger batteries or smaller generators. | *If not already planned for during “Blue Sky” phase.* |
| [ ]  | Monitor for grid power coming back online. |  |
| [ ]  | Verify that cellular based (backup) alarm system is 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.*
* *There may be additional loss of staff at this point and if SCADA operations cannot be maintained there will be a need for more staff for manual operations.*
 |
| [ ]  | Conduct wellness checks and provide rest.  | * *Staff may be burnt out/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.* |
| [ ]  | Bolster logistics for crew/staff. | *For example, showers, food, water, relief.* |
| [ ]  | Consider staff’s personal needs and if possible, help with staff personal logistics.  | *For example, daycare, senior care.* |
| [ ]  | Keep staff informed, involved, and feeling needed 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/hourly at this point. | *Coordination with HR or payroll vendor is important.* |
| [ ]  | Be sure there is a crew to maintain 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 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 a customer make an observation for you?*
* *Are there community web cams that can be accessed to observe facilities?*
 |
| [ ]  | Ensure 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. |  |
| [ ]  | Manually switch generators off and go back to grid power - in a safe manner and in a safe condition. | *Do not do this right away - wait until you know for sure the power is not going to go back off and confirm all phases of power have been restored.* |
| [ ]  | Send portable generators back to their storage areas or to their respective rental agencies.  | * *Generators being returned to rental agencies should have fuel removed for water utility use as appropriate.*
* *You may wish to keep them in place for an extra amount of time just in case grid power goes out again unexpectedly for some reason.*
 |
| [ ]  | Determine if generators should be left where they are if there is a good chance of another PSPS happening soon.  | *Check with your electrical utility.* |
| [ ]  | Have a technician conduct an inspection to evaluate operability and assess resource condition and begin repair and rehabilitation of generator resources 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 any permitting issues with the California Air Resources Board (CARB). |  |

## 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 heading into the PSPS were most likely different from actual).* |
| [ ]  | Assess all equipment and stock up on spare parts (e.g., filters, additives) for fuel storage. |  |
| [ ]  | Assess location of backup power. | * *Can it be staged differently before a PSPS?*
* *Can sites needing back-up power 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.* |
| [ ]  | Communicate with fuel companies and discuss what to do in the future to make things easier for both parties. |  |
| [ ]  | 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 with your electric utility how communication improvements can be implemented for next time. |  |

#### 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 signed as revealed by incident responses. |  |
| [ ]  | Ask for feedback from impacted high volume customers and work to resolve any issues for next PSPS event. |  |
| [ ]  | Reach out to large users to help minimize your start up impacts. |  |
| [ ]  | Reach out to DDW/regulator and resolve boil water notices and/or other issues as normal operations resume. |  |
| [ ]  | Coordinate with agencies/rental companies/contractors to send supplies and resources back. |  |
| [ ]  | 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 to verify 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 integrate back into normal schedule and release staff that came under CalWARN or other mutual aid and assistance. | * *Crew will need relief.*
* *Continue work/rest cycle and assess staffing levels.*
* *There should be expectations of low productivity.*
 |
| [ ]  | Assess fatigue/morale and watch for adverse impacts to personality over the long term. | *Provide counseling to impacted staff (PTSD may be an issue).* |
| [ ]  | Identify staff willing to collect logged information from operation staff for reporting, recovery, and lessons learned.  |  |
| [ ]  | Collect receipts, staffing info, 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 clear and bring generators and other temporarily staged resources back to their storage locations. | *If there is a chance of a quickly reoccurring PSPS, consider keeping some of the equipment in place, but continue to monitor it to make sure it is secured.*  |
| [ ]  | Consider security of generators during recovery because they are visible when access restrictions are lifted on re-entry. | *People coming back into the area will see them and may want them for their own purposes.* |

## 6.8 Safety

| Checklist | Notes |
| --- | --- |
| [ ]  | Ensure staff make it home safely.  | *Provide transportation as 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 role, title 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 role or position 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* |  |  |  |  |
| *Industry rep.* |  |  |  |  |
| *Mutual aid* |  |  |  |  |
| Other |  |  |  |  |
| **State Partners** |
| *Primacy agency* |  |  |  |  |
| *Health department* |  |  |  |  |
| *Police* |  |  |  |  |
| *WARN* |  |  |  |  |
| *Laboratories* |  |  |  |  |
| Other |  |  |  |  |
| **Federal Partners** |
| *EPA regional office* |  |  |  |  |
| Other |  |  |  |  |

### Critical Customer Communication

List critical customers below who should be given priority notification due to their reliance on the water supply either for medical reasons, based on usage, public health mission 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 communities 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.

#### 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