



WATER AND WASTEWATER PREPAREDNESS AND RESPONSE TO WILDFIRE BEST PRACTICES

Photo: Birgit Lengert/Unsplash

The ACWA JPIA is reaching out to members with examples of activities that water and wastewater utilities can take to prepare for, respond to, and recover from wildfires.

Impact

A wildfire is any instance of uncontrolled burning in grasslands, brush, or woodlands. Wildfires can be caused by lightning, human carelessness, or arson. Wildfires often begin unnoticed, spread quickly, and present a direct risk to property and infrastructure; in addition to potential degradation of the water supply.

The actions in these best practices are divided up into three sections and offer examples of activities that water and wastewater utilities can take to prepare for, respond to, and recover from wildfires. More detailed resources and information can be found at: [EPA Incident Action Checklist – Wildfire](#).

Major impacts to drinking water and wastewater facilities may include, but are not limited to:

- Infrastructure damage to the facility or distribution system due to proximity to the fire or firefighting activities.
- Loss of water pressure and quantity due to increased fire-fighting activities.

Actions to Prepare for a Wildfire

- Practice thinning, weed control, selective harvesting, controlled burns and creation of fire breaks on utility managed property, and encourage these practices on property that may directly impact the utility, its water supply and/or water quality.
- Create a zone of defensible space of approximately 50-100 feet for utility equipment and facilities (e.g., wellheads, structures, supports to wires and transformers). Consult with your local fire department for specific recommendations or requirements.
- Join your local/regional/state's Water/Wastewater Agency Response Network (WARN) or other local mutual aid network <http://www.calwarn.org/>.
- Coordinate with WARN members and other neighboring utilities to discuss:



- ◆ Outlining response activities, roles and responsibilities and mutual aid procedures (e.g., how to request and offer assistance).
 - ◆ Conducting joint tabletop or full-scale exercises.
 - ◆ Obtaining resources and assistance, such as equipment, personnel, technical support or water.
 - ◆ Establishing interconnections between systems and agreements with necessary approvals to activate this alternate source.
 - ◆ Equipment, pumping rates, and demand on the water sources need to be considered and addressed in the design and operations.
 - ◆ Establishing communication protocols and equipment to reduce misunderstandings during the incident.
- Review and update your utility's emergency response plan (ERP), and ensure all emergency contacts are current. Ensure credentials to allow access will be valid during an incident by checking with local law enforcement.
 - Meet with the fire agency with authority in your utility's area. This could include a local fire department, state conservation and forestry offices, and/or the U.S. Forest Service. Review plans, discuss response activities (e.g., fire suppression chemical use) and identify hazards and vulnerabilities at your utility.
 - Inventory materials, equipment, and supplies, as needed for 7 – 10 days:
 - ◆ Motors
 - ◆ Generators
 - ◆ Fuel
 - ◆ Chemicals
 - ◆ Cellular phones or other wireless communications device
 - ◆ Emergency supplies
 - ◆ Bottled water
 - ◆ Batteries
 - ◆ Non-perishable food
- Ensure communication equipment (e.g., radios, Satellite phones) works and is fully charged.
 - Evaluate condition of electrical panels to accept generators; inspect connections and switches. Confirm and document generator connection type, capacity load and fuel consumption. Test regularly, exercise under load, and service back-up generators.
 - Fill fuel tanks to capacity and ensure that you have the ability to manually pump fuel in the event of a power outage. Contact fuel vendors and inform them of estimated fuel volumes needed if utility is impacted. Develop a backup fueling plan and a prioritization list of which generators to fuel in case of a fuel shortage.
 - Collaborate with your local power provider and EOC to ensure that your water utility is on the critical facilities list for priority electrical power restoration, generators, and emergency fuel.

Actions to Respond to a Wildfire

- Identify essential personnel and ensure they are trained to perform critical duties in an emergency (and possibly without communication), including the shut down and startup of the system.
- Establish communication procedures with essential and non-essential personnel. Ensure all personnel are familiar with emergency evacuation and shelter in place procedures.
- Consider how evacuations or limited staffing due to transportation issues (potentially all utility personnel) will impact your response procedures.
- Conduct damage assessments of the utility to prioritize repairs and other actions.
- Check that backup equipment and facility systems such as controls and pumps are in working order; and ensure that chemical containers, fuel tanks, and critical equipment are intact.
- If possible, refill storage tanks each day to ensure maximum storage for demand, including fire suppression.

- Use backup generators as needed, to supply power to system components. Monitor and plan for additional fuel needs in advance; coordinate fuel deliveries to generators. Maintain contact with electric provider for power outage duration estimates.
- Document all damage assessments, mutual aid requests, emergency repair work, equipment used, purchases made, staff hours worked, and contractors used during the response, to assist in requesting reimbursement and applying for federal disaster funds. When possible, take photographs (with time and date stamp). **Proper documentation is critical to requesting reimbursement.**



Actions to Recover from a Wildfire

- Complete damage assessments. Conduct emergency and permanent repairs; replace depleted supplies in order to restore normal service.
- Assign a utility representative to communicate with customers and news concerning a timeline for recovery and other pertinent information.
- Compile damage assessment forms and cost documentation into a single report to facilitate sharing information, and the completion of state and federal funding applications.
- Develop a lessons learned document and/or an after action report (AAR) to keep a record of your response activities. Update your vulnerability assessment, ERP, fire models, and fire management plans.
- Revise budget and asset management plans to address increased costs for future response-related activities.
- Identify mitigation and long-term adaptation measures that can prevent future damage and increase utility resilience. Consider impacts related to future climate conditions and the increased frequency of wildfires when planning for system upgrades (e.g., installing buffer strips, removing hazardous fuels).
- Consider implementing the following mitigation measures to prepare for possible flash flooding events following a wildfire.
- Consider instituting erosion control measures to protect against runoff and sediment concerns that occur during suppression and precipitation.

Additional Resources

[EPA Incident Action Checklist – Wildfire](#)

[FEMA Wildfire Preparation Playbook](#)

[OSHA Wildfire Prepare - Respond - Recover](#)

[CALWARN](#)

[Cal OES - Ready.gov](#)