PASADENA
Water&Power
SERVING THE COMMUNITY SINCE 1906

POWER DELIVERY
POLICIES & PROCEDURES

WILDFIRE MITIGATION PLAN

2025

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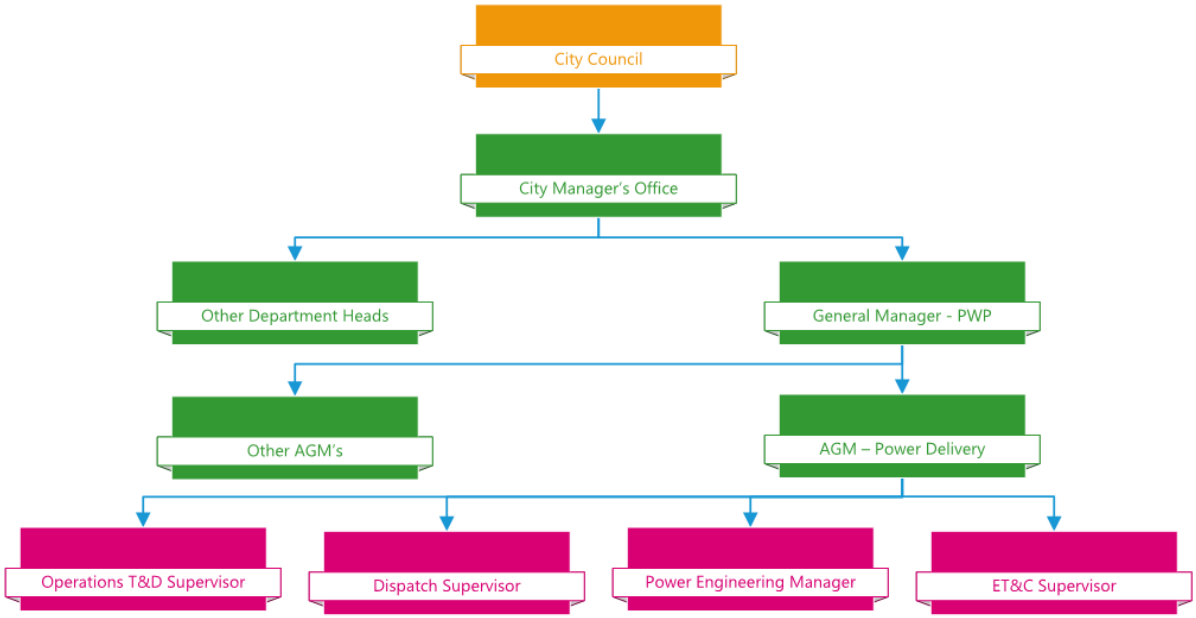
1. UTILITY OVERVIEW AND CONTEXT

Utility Overview and Context Table	
Topic:	Description:
Utility Name	**Pasadena Water and Power ("PWP")**
Size in Square Miles	23.02 square miles
Assets	Overhead Distribution Lines: 163.28 miles Overhead Sub-Transmission Lines: 16.76 circuit miles (vast majority outside the City of Pasadena boundaries) Underground Distribution Lines: 507.50 miles Underground Sub-Transmission Lines: 75.61 miles
Number of Customers Served	68,166 customer accounts / 140,530 people
Customer Classes	*Percentage of Accounts (% of system load)* 87.2% Residential (32.8%) 0.3% Government (3.4%) 0% Agricultural (0%) 12.35% Small/Medium Business (36.7%) 0.15% Commercial/Industrial (27.1%)
Location / Topography	0.22% Agriculture 0.48% Barren/Other 0.06% Conifer Forest 0% Conifer Woodland 0.81% Desert 0.11% Hardwood Forest 4.69% Hardwood Woodland 1.13% Herbaceous 6.76% Shrub 85.46% Urban 0.27% Water
Percentage Territory in CPUC High Fire Threat Districts	14.40% in Tier 2, 4.53 % in additional voluntary Tier 2, 7.07% in Tier 3
CAL FIRE FRAP Map Fire Threat Zones	23.57%
Existing Grid Hardening Measures	Covered conductor throughout overhead in service territory
Utility Fire Risk Level	Mixed
Impacted by another utilities PSPS?	No
Mitigates impact of another utilities PSPS?	No
Expects to initiate its own PSPS?	No

Prevailing wind directions & speeds by season	The windier part of the year lasts for 5.9 months, from November 8 to May 3, with average wind speeds of more than 6.9 miles per hour. The windiest month of the year in Pasadena is December, with an average hourly wind speed of 8.3 miles per hour. The calmer time of year lasts for 6.1 months, from May 3 to November 8. The calmest month of the year in Pasadena is August, with an average hourly wind speed of 5.3 miles per hour. The predominant average hourly wind direction in Pasadena varies throughout the year. The wind is most often from the west for 4.0 months, from March 2 to July 3 and for 1.7 months, from August 30 to October 20, with a peak percentage of 48% on May 22. The wind is most often from the south for 1.9 months, from July 3 to August 30, with a peak percentage of 45% on July 19. The wind is most often from the north for 4.4 months, from October 20 to March 2, with a peak percentage of 37% on January 1.

Utility Governance Structure



PWP operates as a department of the City of Pasadena with oversight from City Council. Proposed projects, positions, and budgets are submitted to City Council for evaluation and authorization. This plan will be authored and updated by PWP's Assistant General Manager ("AGM") of Power Delivery.

Note: T&D = Transmission and Distribution, ET&C = Substation Electrical Test and Construction

All PWP Employees:

- Take all reasonable and practicable actions to minimize the risk of catastrophic wildfires that may be caused by PWP electric facilities.
- Immediately report fires to the power dispatch center and/or 911 operator, pursuant to existing practices and the requirements of this Wildfire Mitigation Plan.

Pasadena City Council (through the City Manager):

- Manages and controls the actions of PWP.
- The City Council has the power and duty to make and enforce all necessary rules and regulations governing the construction, maintenance, operation, connection to and use of PWP to construct, extend, maintain, and operate utilities and structures the City Council deems necessary to provide services to the public.

The City Council members are elected from within the districts they represent, elected members serve for 4-year terms.

General Manager - PWP:

- The management and operation of the Department are administered under the direction of the General Manager.
- The General Manager oversees various executive positions including the Assistant General Manager of Power Delivery.

AGM - Power Delivery

- Provide regular training programs for employees having obligations for the implementation of the Wildfire Mitigation Plan.
- Coordinate with federal, state, and local fire management personnel as necessary or appropriate to implement PWP's Wildfire Mitigation Plan.

Operations T&D Supervisor

- Operate and construct system in a manner that will minimize potential wildfire risks.
- Conduct continuous vegetation management to minimize potential wildfire risks.
- Take corrective action when staff witnesses or is notified that fire protection measures have not been properly installed or maintained.
- Conduct continuous and/or periodic system inspection to minimize potential wildfire risk.

Power Engineering Manager

- Collect and maintain wildfire data necessary for the implementation of this Wildfire Mitigation Plan.
- Conduct electric facility design in a manner that mitigates the potential for wildfire.

- Continually update standards and practices to minimize the risk of wildfire.
- Comply with relevant federal, state, and industry standard requirements, including the industry standards established by the California Public Utilities Commission ("CPUC").

Dispatch Supervisor

- Manage active utility response to wildfire events and coordinate with the appropriate local or State fire authorities.
- Monitor weather conditions and circuits within high fire threat areas during wind advisories and red flag warnings.
- Coordinate with Field staff to ensure that circuits are safely reenergized.
- Deenergize circuits that may pose an immediate risk to public safety.

ET&C Supervisor

- Operate and construct system in a manner that will minimize potential wildfire risks.
- Take corrective action when the staff witnesses or is notified that fire protection measures have not been properly installed or maintained.
- Conduct continuous system inspection to minimize potential wildfire risk.

2. PURPOSE OF THE WILDFIRE MITIGATION PLAN ("WMP")

PWP's overarching goal is to provide safe, reliable, and economic electric service to its local community. To meet this goal, PWP constructs, maintains, and operates its electrical lines and equipment in a manner that minimizes the risk of catastrophic wildfire posed by its electrical lines and equipment.

This WMP describes the range of activities that PWP is taking to mitigate the threat of power-line ignited wildfires, including its various programs, policies, and procedures. This plan is subject to be approved annually by the Pasadena City Council and is implemented by the General Manager of PWP. This plan complies with the requirements of California Public Utilities Code ("PUC") 8387 for publicly owned electric utilities to prepare a wildfire mitigation plan by January 1, 2020, and annually thereafter.

PWP's efforts to mitigate catastrophic wildfires align with the City's goals to provide safe and reliable service to the citizens of Pasadena. The plan goals are reflected in PWP's short- and long-term CIP budget planning.

3. ORGANIZATION OF THE WMP

This WMP includes the following elements:

- Objectives of the plan.
- Roles and responsibilities for carrying out the plan.
- Identification of key wildfire risks and drivers.
- Description of wildfire prevention, mitigation, and response strategies and programs.

- Metrics for evaluating the performance of the plan and identifying areas for improvement.
- Review and validation of the plan.
- Provide commentary for future improvements to further mitigate wildfire risk.

4. OBJECTIVES OF THE WMP

Minimize Sources of Ignition

The primary goal of this WMP is to minimize the probability that PWP's sub-transmission and/or distribution system may be the origin or contributing source for the ignition of a wildfire. PWP has evaluated prudent and cost-effective improvement options to its physical assets, operations, and training that can help to meet this objective. PWP has implemented those changes in design and construction standards consistent with this evaluation.

Improve Resiliency of the Electric Grid

The secondary goal of this WMP is to improve the resiliency of PWP electric grid. As part of the development of this plan, PWP assesses new industry practices and technologies that will reduce the likelihood of an interruption (frequency) in service and improve the restoration (duration) of service.

Identify Unnecessary or Ineffective Actions

Another goal for this Wildfire Mitigation Plan is to measure the effectiveness of specific wildfire mitigation strategies. Where a particular action, program component, or protocol is determined to be unnecessary or ineffective, PWP will assess whether a modification or replacement is merited. This plan will also help determine if more cost-effective measures would produce the same or improved results.

Wildfire Response and Recovery

During a wildfire event, PWP staff will follow the policies and procedures outlined in the latest "*Emergency Response Plan"*. PWP utility staff have the following obligations regarding fire prevention, response, and investigation:

- Initiate Emergency Response in accordance with the Emergency Response Plan.
- Take all reasonable and practicable actions within the limits of their powers to prevent and suppress fires resulting from PWP electric facilities.
- Follow PWP protocols during Wind Advisories and Red Flag Warnings.

5. COORDINATION WITH WATER AGENCIES OR DEPARTMENTS

PWP benefits from internal communication between the Water Division and Power Division of the department. Coordination of staff and resources for wildfire mitigation is handled directly between personnel.

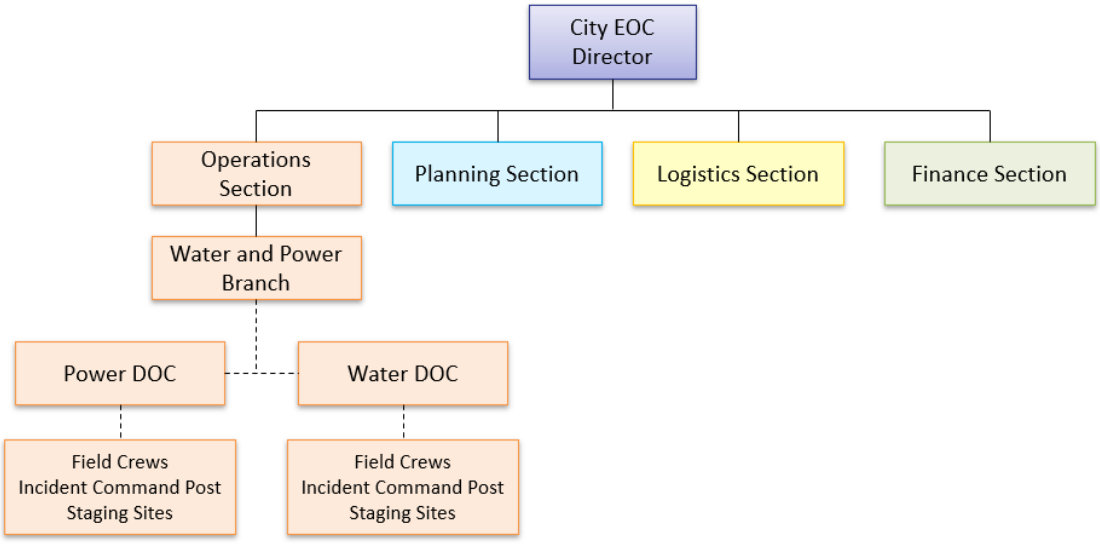
It will be the responsibility of PWP Power Delivery staff to ensure that all pumping stations that require power for the purposes of water line pressurization are a priority consideration for energization or back-up generator dispatch.

6. COORDINATION WITH COMMUNICATION INFRASTRUCTURE PROVIDERS

PWP coordinates with communication infrastructure providers through the Southern California Joint Pole Committee (SCJPC) for planned overhead projects (pole replacements, anchoring, etc.). At least 45 days prior to construction, the final design is discussed and negotiated, and a Form 2 Joint Pole Agreement is used for all information. Prior to an undergrounding project, such as an underground utility district conversion of overhead assets to underground, coordination happens many years prior in the design phase to alleviate conflicts from the get-go. Coordination continues through the construction of the district, with the SCJPC still involved in processing the paperwork related to the replenishment of all the poles and anchors. In an emergency event, communication is direct, unless repair or replacement work is retroactive, after PWP staff have provided temporary repairs to communication facilities to allow for communications companies to return after the event to make final repairs.

7. STANDARDIZED EMS

PWP has an Emergency Response Plan ("ERP") which establishes the framework for handling power-related emergency incidents in a consistent and coordinated manner to restore service to customers safely and efficiently. The scope of ERP is to provide guidance on the incident management structure, incident level classifications, activation levels, and the concept of operations needed to meet electrical service restoration objectives. In the event the City's Emergency Operation Center ("EOC") is also activated, PWP will operate within the Water and Power Branch of the EOC Operations Section, as shown below:



8. WILDFIRE RISKS AND DRIVERS – SYSTEM DESIGN AND MAINTENANCE

Risks and Drivers Associated with Topographic and Climatological Risk Factors

Within PWP's service territory and the surrounding areas, the primary risk drivers for wildfire are the following:

- Extended drought
- Vegetation and their relative density
- Weather conditions (High winds and/or Heatwaves)
- Terrain
- Electrical ignition sources

Risks Associated with Design, Construction and Maintenance

Overhead electric systems are particularly vulnerable to all weather conditions including high winds. Contact with vegetation can disrupt power line operation, and cause sparks.

PWP tracks outages by a variety of causes and analyzes this information periodically to identify trends and improve mitigation measures. The mitigation measures identified by this analysis are primarily focused on improving service reliability and, have an ancillary effect of reducing wildfire risk.

PWP continues to identify risks which inform the improvement of its design and construction standards. This ongoing improvement cycle builds on the experience and knowledge of predecessor plans to ensure that PWP equipment does not pose significant wildfire risk.

PWP Risk Assessment

PWP serves a population of over 140,000 residences with over 68,166 electrical meters. The number of customers and assets within Tier 2 and Tier 3 areas are reflected in the tables below:

PWP Asset Statistics within Tier 2 (Elevated) Area – With Voluntary Inclusion Area		
Type of Asset:	Number of Assets:	Percentage of Total Assets:
Customer Meters	3,388	5.05%
Power Poles	1483	13.38%
Primary Overhead Conductor Miles	27.9	15.30%

PWP Asset Statistics within Tier 3 (Extreme) Area		
Type of Asset:	Number of Assets:	Percentage of Total Assets:
Customer Meters	115	0.17%
Power Poles	37	0.33%
Primary Overhead Conductor Miles	1.74	0.32%

High Fire Threat District

PWP directly participated in the development of the CPUC's Fire-Threat Map,[1] which designates a High-Fire Threat District. In the map development process, PWP served as a territory lead, and worked with utility staff and local fire & government officials to identify the areas of PWP's service territory that are at an elevated or extreme risk of power line ignited wildfire. PWP has incorporated the High Fire Threat District ("HFTD") into its construction, inspection, maintenance, repair, and clearance practices, where applicable.

Changes to CPUC Fire Threat Map

While coordinating with the Pasadena Fire Department an additional area was identified to be included and considered with the same standards and requirements as the CPUC Tier 2 area. PWP voluntarily considers the area west of the Arroyo Seco flood control channel and south of the 134 freeway as part of its Tier 2 fire threat area in addition to the state approved CPUC fire treat map tier 2 areas (see Exhibit "A").

Feeders in High Fire Threat Districts

Tier 3 HFTD Feeders
Vinedo (Served by VS633 in V5168, Pos 2 - Goes OH further north)
WW-13 (N/o Pole 8568MP, in front of 3375 Florecita Dr., and Secondaries N/o Pole 21593MP w/ XFMR 8310.)
Tier 2 HFTD Feeders
Vinedo (B/T PS17-20 on Pole 18721MP NE Corner of Altadena and New York, and Bradley Ckt tie at Pole 20673MP)
WW-13 (Windsor Well 17/4 Ckt fed by Lincoln)
PW-1 (Patrician Way 17/4 Ckt fed by Laguna)
F-2 (Downstream of VS 4kV7, but with only select OH)

[1] Adopted by CPUC Decision 17-12-024.

B-8 (mostly UG, with select OH that can be de-energized)
Grove (Only 1 OH Primary Lateral (Pole 21702MP), and select OH secondary laterals)
Lincoln (Downstream of 9252MP, feeds Well pumper services in the wash.)
LV-1 (Linda Vista 17/4 Ckt fed by Grove)
Laguna (as select OH Lateral that can be de-energized)
Arroyo *(all UG)*
H-2 (mostly up Sierra Madre Villa Rd.)
Voluntary Equivalent Tier 2 HFTD Feeders
LL-3 (Laguna Lake 17/4 Ckt fed by Arroyo)
ER-1 (Eagle Rock 17/4 Ckt fed by Laguna)
SR-1 (San Rafael 17/4 Ckt fed by Arroyo)
Ave-64 (Avenue Sixty-Four 17/4 Ckt fed by Laguna)
Laguna (as select OH Lateral that can be de-energized)
Arroyo *(all UG)*

9. ENTERPRISE-WIDE SAFETY RISKS

Power outages can disable water booster stations during an emergency, which could result in fire fighter's loss of their ability to combat fires. Extended loss of power at public and private communication facilities could limit the ability to communicate during an emergency. Extended loss of power at traffic signals could cause traffic congestion, which would limit the ability to respond to outages as well as different emergency responders. Loss of power for street lighting could cause public safety impacts. Hospitals and other health services and Public Safety Facilities are also a consideration.

10. WILDFIRE PREVENTION STRATEGIES

Wildfire Mitigation/Prevention Summary

PWP performs regular system analysis to help identify internal risks of ignition. Below is a list of PWP's identified system risks and the mitigation or prevention strategy for each risk:

PWP Risks and Mitigation Summary	
Type of Risk:	Mitigation Measures:
High Wind Event	• Enhanced Design Criteria in the High Fire Threat Areas • Blocking of reclosers during wind events
Vegetation Contact	• Vegetation Management Program
Conductor Failure	• All New overhead construction installs covered wire • New/Updated Construction Standards • Improved Protection settings • Detailed Overhead Asset Inspection Program
Pole / Hardware Failure	• Detailed Overhead Asset Inspection Program • Enhanced Design Criteria in the High Fire Threat Areas • New/Updated Construction Standards
Aging Infrastructure	• Enhanced Design Criteria in the High Fire Threat Areas • New/Updated Construction Standards

Wildfire Mitigation/Prevention Budget Measures

Given that all mitigation or prevention strategies come at some direct or indirect cost, Pasadena City Council has authorized the following Capital Improvement Projects ("CIP") and budgets for the purpose of Fire mitigation. Additionally, the Underground Utility Program ("UUP") funds CIPs dedicated to undergrounding overhead utility assets:

CIP#:	CIP Title:	Year of Inception:	Appropriated Budget Through FY 2025:
3257	Fire Threat Mitigation Tier 3 Areas	FY 2020	$4,230,000
3258	Fire Threat Mitigation Tier 2 Areas	FY 2020	$3,500,000
3217	Florecita Dr. Underground Utility District	FY 2023	$76,000

Accomplishments (Completed Projects)

- Installation of 17,000' of covered conductors in the Tier 2 Elevated Fire Area on Glen Oaks Blvd from Fairlawn Dr. to the El Mirador Radio tower and Reservoir. Additionally, 33 poles were replaced as part of this project. Completed in 2024.
- Installation of 9,000' covered conductors in Tier 2 Elevated Fire Area on Rosemont Ave. from Washington Blvd. to Arroyo Blvd. Additionally, 16 poles were replaced as part of this project. Completed in 2023.
- Executed a pole replacement project in the Tier 2 area on West Dr., totaling 23 poles, including sectional composite poles for extra durability. Completed in 2023.
- Focused inspection, repair, and replacement of overhead infrastructure in Tier 2 Elevated Fire Areas. Within the Tier 2 areas, 548 poles were inspected ahead of their GO165 schedule, 12

poles and 4 transformers were replaced, as well as 500' of covered conductor was installed, based on the inspections. Completed over 2021 and 2022.

- Installation of 7,500' of covered conductors in the Voluntary Tier 2 Elevated Fire Area surrounding Sequoia Dr., Anita Dr., Malcom Dr., Glenover Dr. and Glenullen Dr. Additionally, 14 poles were replaced as part of this project. Completed in 2020.
- De-energize 2,000' of primary voltage overhead electric system in Millard Canyon, located in Tier 3 Extreme Fire Area, by converting the high voltage system to a low voltage system. Completed in 2020.

Future Projects

- Ongoing targeted pole replacement and overloaded transformer replacement in the tier 2 fire threat area, based on recent inspection and modeling data.
- Conversion of the overhead high voltage (primary) lines to underground, within the Tier 3 Extreme Fire Area, along Canyon Close Rd. and Fox Ridge Dr., as part of the CIP budget dedicated to fire threat mitigation. Targeting FY 2025 for the construction of underground substructure and FY 2026 (First Half) for overhead high voltage conductor removal.
- Conversion of the overhead high voltage (primary) lines to underground, within the Tier 3 Extreme Fire Area, along Florecita Dr. and Crestford Dr. Targeting FY 2026 (First Half) for construction of underground substructure and FY 2026 (Second Half) for overhead high voltage conductor removal.
- In FY2026, plan and design an underground expansion project in Upper Hastings Ranch to provide a dedicated underground feed to Thomas Reservoir, including the transfer service from the overhead heavy H-4 distribution circuit to the newer and majority underground RANCH distribution circuit. Additionally, within this design, execute the conversion/transfer of the underground service to Don Bonito Reservoir from H-4 to RANCH. Lastly, incorporate design elements that will allow for future circuit conversion efforts related to the remaining H-4 distribution circuit assets. Future construction targeted for FY2027.

11. WEATHER MONITORING

PWP monitors current and forecasted weather data from the United States National Weather Service.

PWP assigns one of two operating conditions based on the relevant weather data and knowledge of local conditions:

(1) Normal: During normal conditions, no changes are made to operations or work policy.

(2) Red Flag: If the National Weather Service declares a Red Flag Warning for any portion of PWP's service territory, then PWP Dispatch Staff will disable automatic reclosing on field deployed reclosers in the high fire threat areas.

12. DESIGN AND CONSTRUCTION STANDARDS

PWP's electric facilities are designed and constructed to meet or exceed the applicable federal, state, or industry standards. PWP treats CPUC General Order ("GO") 95 as a key industry standard for the design and construction of overhead electrical facilities. PWP meets or exceeds all standards in GO 95. Additionally, PWP monitors and follows as appropriate the National Electrical Safety Code.

PWP currently deploys the following notable fire mitigation design requirements:

- Installing Covered Conductor (Tree Wire) for high voltage (primary) conductor installations, replacements, and upgrades.
- Removing and replacing low voltage (secondary) bare open wire with covered triplex conductor.
- Installing new more robust poles that pass enhanced wind loading requirements.
- Increased primary conductor spacing.
- Installing non-expulsion-based fuses in elevated fire threat areas.
- Enhanced replacement criteria for aging infrastructure in the high fire threat areas.
- Where feasible, undergrounding of high voltage (primary) lines within the Tier 3 Extreme fire threat areas.

PWP Power Delivery Division has a Master Plan (see hyperlink) that details its replacement strategies and the criteria it utilizes to allocate resources to infrastructure replacements. Fire Threat areas are a factor driving resource allocation for all capital projects. PWP is also assessing the need for mobile substation equipment as part of its master plan and fire threat risk mitigation strategies.

13. VEGETATION MANAGEMENT

PWP meets or exceeds the minimum industry standard vegetation management practices. For transmission-level facilities that PWP solely owns, PWP complies with NERC FAC-003, where applicable. For both transmission and distribution level facilities where PWP is the base owner, PWP –where applicable- meets: (1) Public Resources Code section 4292; (2) Public Resources Code section 4293; (3) GO 95 Rule 35; and (4) the GO 95 Appendix E Guidelines to Rule 35. These standards require significantly increased clearances in the High Fire Threat District. The recommended time-of-trim guidelines do not establish a mandatory standard, but instead provide useful guidance to utilities. PWP employs specific knowledge of growing conditions and tree species to determine the appropriate time of trim clearance in each circumstance.

GO 95, Rule 35, Table 1					
Case	Type of Clearance	Trolley Contact, Feeder and Span Wires, 0-5kv	Supply Conductors and Supply Cables, 750 - 22,500 Volts	Supply Conductors and Supply Cables, 22.5 - 300 kV	Supply Conductors and Supply Cables, 300 - 550 kV (mm)
13	Radial clearance of bare line conductors from tree branches or foliage	18 inches	18 inches	¼ Pin Spacing	½ Pin Spacing
14	Radial clearance of bare line conductors from vegetation in the Fire-Threat District	18 inches	48 inches	48 inches	120 inches

Appendix E
Guidelines to Rule 35

The radial clearances shown below are recommended minimum clearances that should be established, at time of trimming, between the vegetation and the energized conductors and associated live parts where practicable. Reasonable vegetation management practices may make it advantageous for the purposes of public safety or service reliability to obtain greater clearances than those listed below to ensure compliance until the next scheduled maintenance. Each utility may determine and apply additional appropriate clearances beyond clearances listed below, which take into consideration various factors, including: line operating voltage, length of span, line sag, planned maintenance cycles, location of vegetation within the span, species type, experience with particular species, vegetation growth rate and characteristics, vegetation management standards and best practices, local climate, elevation, fire risk, and vegetation trimming requirements that are applicable to State Responsibility Area lands pursuant to Public Resource Code Sections 4102 and 4293.

Voltage of Lines	Case 13	Case 14
Radial clearances for any conductor of a line operating at 2,400 or more volts, but less than 72,000 volts	4 feet	12 feet*
Radial clearances for any conductor of a line operating at 72,000 or more volts, but less than 110,000 volts	6 feet	20 feet*
Radial clearances for any conductor of a line operating at 110,000 or more volts, but less than 300,000 volts	10 feet	30 feet*
Radial clearances for any conductor of a line operating at 300,000 or more volts	15 feet	30 feet*

* PWP's Standard tree trimming practice will follow the State's guidelines on time-of-trim clearance. PWP coordinates with customers to reduce the trimming clearance, however, costs associated with modifications, additional patrols, or enhanced trimming practices will be funded by the requesting customers.

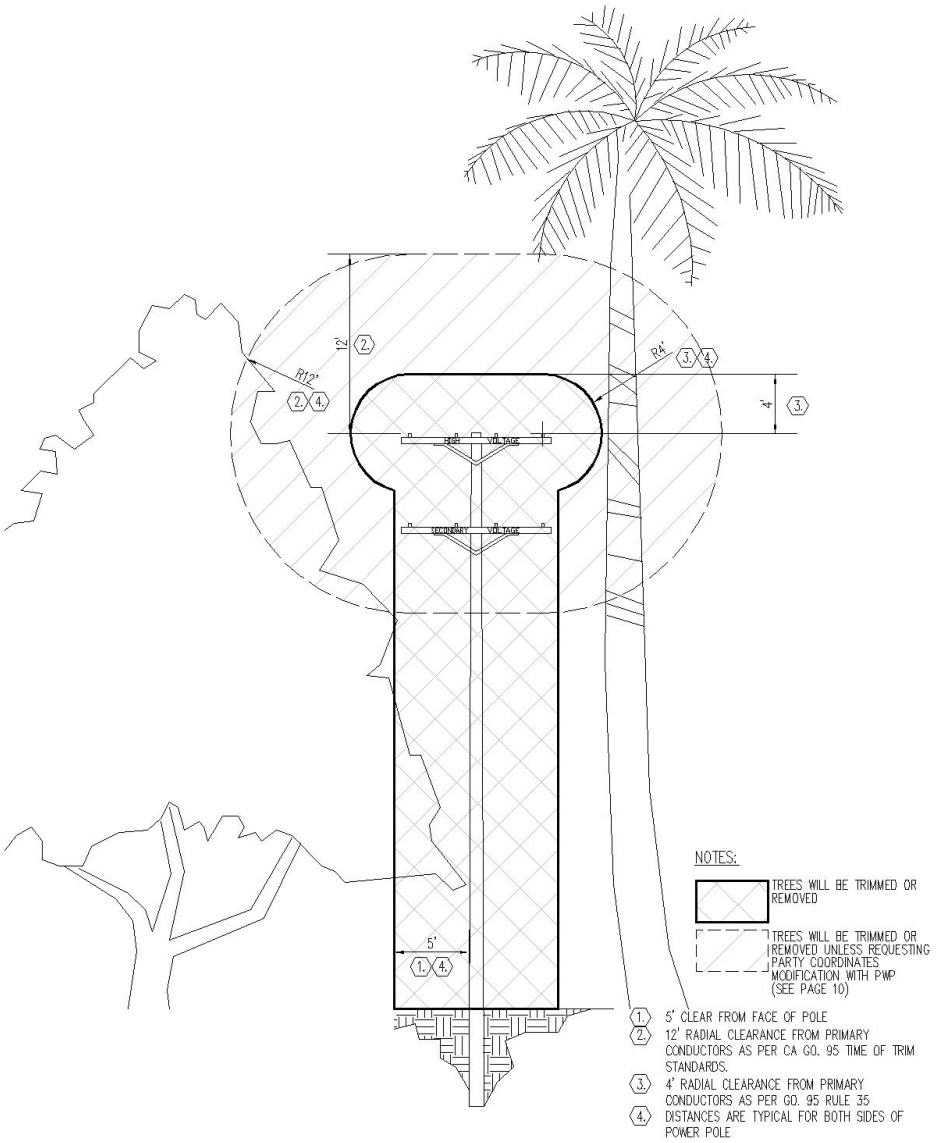


FIGURE 1

14. INSPECTIONS

PWP meets or exceeds the minimum inspection requirements provided in CPUC GO 165 and CPUC GO 95, Rule 18. Additionally, PWP staff use their knowledge of the specific environmental and geographical conditions to determine when areas require more frequent inspections.

If PWP staff discovers a facility in need of repair that is owned by an entity other than PWP, PWP will issue a notice of repair to the facility owner and work to ensure that necessary repairs are completed promptly.

15. WORKFORCE TRAINING

PWP has implemented work rules and complementary training programs for its workforce to help reduce the likelihood of the ignition of wildfires. During Pasadena's apprenticeship programs, apprentices are taught how to install and maintain overhead covered wire, inspect overhead assets for potential failures and how to ensure the system has properly installed protection. In the office, the engineering department uses its standards to train staff of the enhanced design requirements in high fire threat areas, such as reduced overload criteria for transformers and lower age threshold for pole replacements during routine work.

16. RECLOSER POLICY

PWP will disable automatic reclosing on field deployed reclosers in the high fire threat areas if the National Weather Service declares a Red Flag Warning for any portion of PWP's service territory.

17. DE-ENERGIZATION

PWP has the authority to preemptively shut off power due to fire-threat conditions or when power lines are compromised; however, this option will only be used in extraordinary circumstances. PWP will make a case-by-case decision to shut off power based on the following considerations:

- Red Flag Warnings issued by the National Weather Service for fire weather zones that contain PWP circuits.
- PWP staff assessments of local conditions, including wind speed (sustained and gust), humidity and temperature, fuel moisture, fuel loading and data from weather stations.
- Real-time information from staff located in areas identified as at risk of being subject to extreme weather conditions.
- Input from fire experts and vegetation experts.
- Input from local and state fire authorities regarding the potential consequences of wildfires in select locations.
- Alternative ways to reroute power to affected areas.
- Awareness of mandatory or voluntary evacuation orders in place.
- Expected impact of de-energizing circuits on essential services.
- Other operational considerations to minimize potential wildfire ignitions, including the blocking of reclosers on the identified circuit(s).
- On-going fire activity throughout PWP territory and California.
- Ability to notify customers.
- Notifications to local governments and public officials.
- Potential impacts to communities and customers.

Impact to safety due to loss of power could result in:

- De-energization of life support systems.

- Loss of operational traffic signals that do not have a back-up system.
- Loss of power to water well sites / pumping stations.
- Loss of power to sewer systems.
- Loss of elevator operation in all buildings.

18. COMMUNITY OUTREACH AND PUBLIC AWARENESS

Customer Notification Protocols

Planned Outages:

PWP's current Outage Notification Procedure (Exhibit "B") is to provide advance notification to customers that will be impacted by planned power outages utilizing its "Everbridge" software notification system. This notification protocol will typically provide two advanced notices (3 or 7 days, and 24 hours) to customers that are known to fall within the outage area.

Unplanned Outages:

If an unplanned event causes a power outage, PWP customers can receive updates by calling power outage hotline at (626) 744-4673 or visiting the outage map available of PWP's website:

https://ww5.cityofpasadena.net/water-and-power/outage-map/

Public Safety Power Shutoff:

Although it is not currently the intent of PWP to preemptively deenergize portions of the city during periods of elevated fire risk, PWP retains the right to do so provided it has considered all the factors outlined under "De-energization" section above. In an event when PWP decides to deenergize power lines, due to fire-threat conditions or when power lines are compromised, PWP will make every effort to provide notification to impacted customers if feasible.

In FY2026 PWP will look to procure a vendor to provide a feasibility study and proposed logistics of a Public Safety Power Shutoff ("PSPS") program, with feedback and information provided by the City Council, PWP, other City Departments (when relevant), and the public.

Public Awareness

The PWP website contains a section on electrical safety to better inform the customer base.
https://ww5.cityofpasadena.net/water-and-power/electricsafety/

19. RESTORATION OF SERVICE

When weather and environmental factors stabilize to safe conditions, PWP Power Delivery Staff will patrol the overhead section of the de-energized line to ensure that the circuit is ready for re-energization. After the circuit is determined to be safe, PWP patrol staff will inform PWP Dispatch that the line appears safe for energization and PWP Dispatch will follow standard communications protocol to re-energize the circuit.

20. METRICS AND ASSUMPTIONS FOR MEASURING PLAN PERFORMANCE

PWP tracks two metrics within the high fire threat districts (Tier 2 and Tier 3) of its service territory to measure the performance of this Wildfire Mitigation Plan: (1) number of PWP caused fire ignitions; and (2) electrical wires down.

PWP Caused Fire Ignitions

For purposes of this metric, a PWP Caused fire ignition is defined as follows:

- The fire was self-propagating and of a material other than electrical and/or communication facilities.
- The resulting fire traveled greater than 3.2 feet from the ignition point; and
- PWP has knowledge that the fire occurred.

Electrical Wires Down

The second metric is the number of distribution and transmission wires downed. For purposes of this metric, a wire down event includes any instance where an electric transmission or primary distribution conductor falls to the ground or on to a foreign object.

Fiscal Year	PWP Caused Fire Ignitions	High Voltage Electrical Wires Down
2020	0	0
2021	0	1
2022	0	2
2023	0	5*
2024	0	0

* = all but one wire down events happened during winter/spring rainstorm events, posing little to no fire ignition risk.

21. IMPACTS OF METRICS ON THE PLAN

In the initial years, PWP anticipates that there will be relatively limited data gathered through these metrics. However, as the data collection history becomes more robust, PWP will be able to identify areas of its operations and service territory that are disproportionately impacted. PWP will then evaluate potential improvements to the plan.

22. MONITORING AND AUDITING THE PLAN

Annual Updates

The annual review of the plan will be preceded by presenting the plan to PWP engineers and operations staff for comments and suggestions. Recommended changes to operating and design procedures will be

documented and evaluated against the Metrics collected to measure this plan's performance. If the PWP AGM of Power Delivery agrees that a modification will result in additional fire mitigation, the change will be presented as part of the annual update to the Pasadena City Council.

Plan Approval

The initial WMP was approved by the Pasadena City Council on 11/18/2019. The Pasadena City Council has subsequently approved WMP updates in December 2020, December 2021, December 2022, and December 2023. PWP obtained approval of this updated plan from the Pasadena City Council in May 2025. The Public can ask questions and provide comments during the City Council Public meeting. Both of the Wildfire Mitigation Plan and the Independent Evaluation are publicly available on PWP's website.

23. IDENTIFYING AND CORRECTING DEFICIENCIES

The Wildfire Safety Advisory Board ("WSAB") has reviewed PWP's 2024 WMP and provided general and specific recommendations, which PWP has incorporated in this updated WMP.

PWP's actions in implementing strategies identified in the WMP have been successful thus far, and PWP intends to continue these efforts.

The following are observations/challenges that PWP has encountered during the implementation of its WMP:

- When meeting the time-of-trim requirements, certain tree species would effectively be killed or removed by the trim requirements, butting up against the City's tree ordinance, and the City's desire to maintain the highest Arbor society honor. However, PWP is committed to meeting the time of trim requirements.
- Private property tree trimming comes with the need for extra care, as the increased trim requirements are a sensitive subject for property owners who value the visual appearance of their trees. Therefore, PWP has been meeting with the concerned customers to educate them about the need for trimming trees to keep them away from power lines and trying to address their concerns as much as possible.

24. MONITORING INSPECTION EFFECTIVENESS

Due to the rare nature of wildfire ignitions (none in PWP service territory) and wire down events (only four in five years, excluding a clustered set from a rainstorm event with negligible fire ignition risk due to the weather), these metrics cannot provide insight into inspection effectiveness. However, utility asset data that is generated by inspections provides information that helps prioritize replacement and upgrade work. Additionally, tracking total assets replaced or upgraded post-inspection past existing requirements necessary for aging infrastructure presents a positive record of capital project work.

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25. INDEPENDENT AUDITOR

PWP complies with Public Utilities Code section 8387(c) with any audit requirements. The 2022 WMP was reviewed by the City of Pasadena Fire Department in April 2022 and PWP has incorporated their suggestion(s) in this revision. The audit report is available on PWP's website, along with the WMP.

https://ww5.cityofpasadena.net/water-and-power/wildfire-mitigation-plan/

In 2026, PWP will renew the qualified independent evaluator report to provide updated recommendations for improvements for the WMP overall and for specific initiatives/projects.

26. SUMMARY OF KEY INITIATIVES, PROJECTS, AND PROGRAMS

KEY INITIATIVES, PROJECTS, AND PROGRAMS SUMMARY TABLE	
Grid Design, and Capital Projects	Upcoming (FY2026) Reporting Period Goals: • 0.48 miles of distribution undergrounding - $1.7 million • 2 miles of covered conductor - $1.0 million • 4 OH to UG service conversion rebates - $12,000 Prior (FY2025) Reporting Period Accomplishments: • 0.42 miles of distribution undergrounding - $1.3 million • 7.32 miles of covered conductor - $1.6 million (Citywide through March 1st, 2025) • 2 OH to UG service conversion rebates - $6,000 Totals projected by end of reporting period (since FY2016): • 2.53 miles of distribution undergrounding - $15.7 million • 33.26 miles of covered conductor - $7.1 million • 7 OH to UG service conversion rebates - $21,000 • 33 wood-to-composite pole replacements - $1.9 million • 0.4 miles of overhead HV distribution removed in lieu of LV - $12,000
Vegetation Management and Inspections	Current Reporting Period Goals: • 36 circuit mile of patrol inspections - $1.2 million • 2,000 detailed pole inspections - $200 thousand • 1,000 intrusive pole inspections - $200 thousand • 36 circuit miles of vegetation management - $4.3 million Prior Reporting Period Accomplishments: • 36 circuit mile of patrol inspections - $1.1 million • 2,385 detailed pole inspections - $173 thousand • 2,150 intrusive pole inspections - $192 thousand • 36 circuit miles of vegetation management - $4.1 million

In 2024, PWP maintained its design criteria and standards, as well as its inspection and trimming requirements. The utility had no high voltage wire down incidents during the calendar year of 2024. Funding continued for Capital Improvement Programs dedicated to fire threat mitigation, totaling $1.85M in new appropriations this fiscal year. During the year, a major fire threat mitigation project was completed in the Tier 2 area, constituting 33 pole replacements and 17,000' of covered conductor installation. An engineering design for another fire threat mitigation project was completed, ready for construction next year. Additionally, another engineering design for the substructure necessary to underground the high voltage conductors on Canyon Close Rd and Fox Ridge Dr. was completed.

27. REVISION HISTORY

Revision History	
Date:	Revision:
11/18/2019	Initial Version
11/23/2020	Updated Section 4: Descriptions of City Council and General Manager Updated Section 5: Added System Risk information. Updated Section 5: Risk Assessment information Updated Section 6: Updated design and construction standards. Updated Section 6: Added Wildfire Budget Measures Updated Section 8: Added Cause Metrics for FY20
12/13/2021	Updated Section 1: Included background information about the utility. Updated section 5: Included a table to link risks with mitigation strategies. Updated Section 6: Added Wildfire Budget allocations for FY22. Updated Section 8: Added Cause Metrics for FY21.
10/10/2022	Updated All Sections to match WSAB context-setting template. Incorporated the Independent Auditor's recommendation. Updated the Metrics section.
09/27/2023	Updated the Metrics section. Updated status of projects. Updated financial appropriations for FY2024.
11/14/2024	Updated the Independent Auditor section. Updated the Metrics section. Updated status of projects. Updated financial appropriations for FY2025. Added notes for future plans regarding IE and PSPS. Added the Summary of Initiatives section.

DRAFTED BY: WILLIAM A. VARSH
CHECKED BY: DAVID BRATZLER AND BURHAN ALSHANTI

APPROVED BY:	TITLE	SIGNATURE	DATE
Varoojan Avedian	Assistant General Manager – Power Delivery		6/23/2025

EXHIBIT "A" – PWP Fire Threat Map

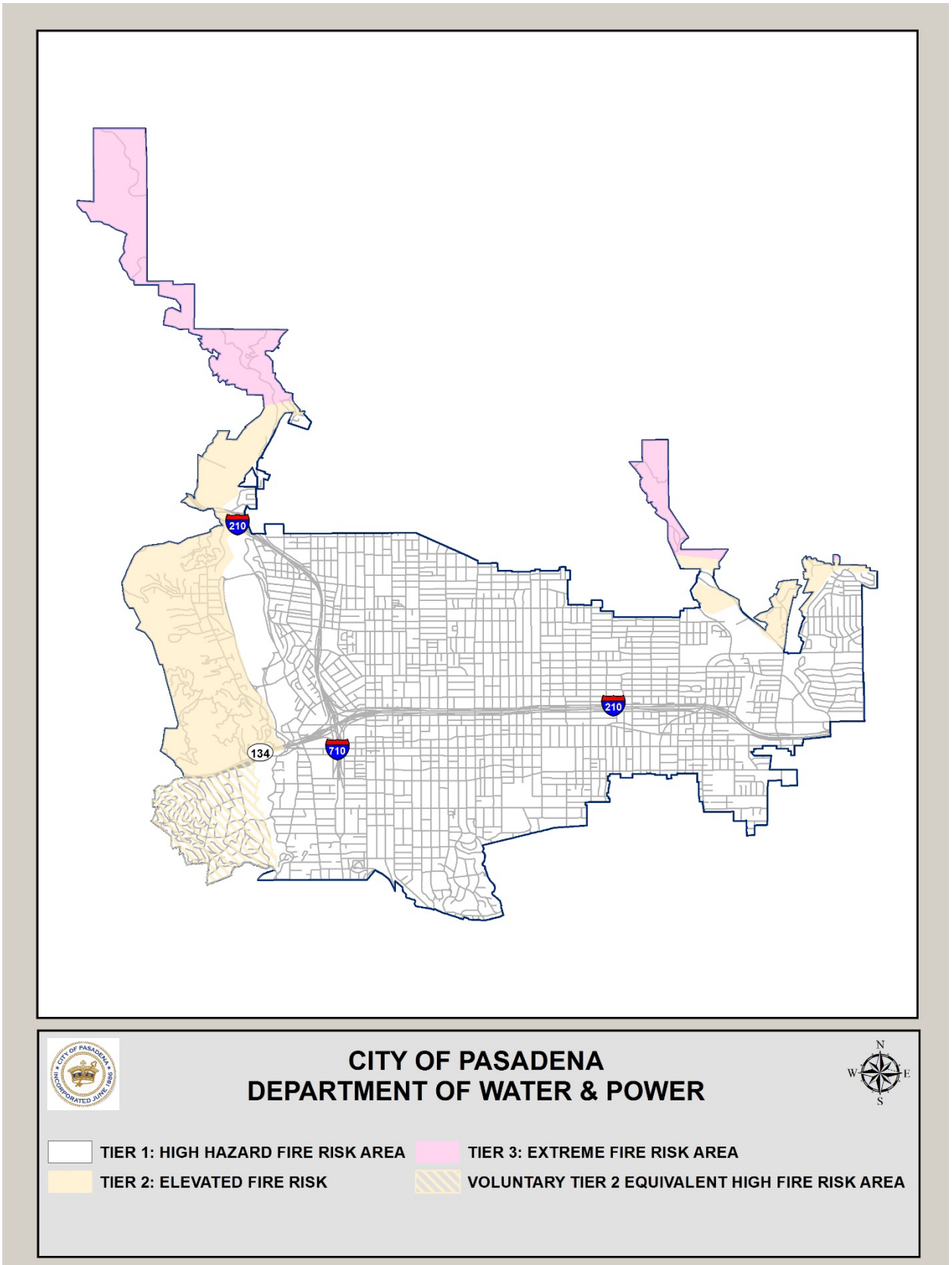


EXHIBIT "B" – Outage Notification References

Outage Notification Procedure (Planned Outages)

Purpose:

To establish guidelines for scheduling Everbridge Outage Management System ("OMS") notifications for requested Planned Notifications of Outages. Dispatch/Yard Office Assistants, Principal Power Dispatcher, Crew Supervisors, and OMS Administrator are responsible for following this protocol.

Procedure:

The Dispatch Office Assistant is the primary person who schedules the Everbridge OMS notifications. If the primary person is unavailable the below persons shall schedule the notifications.

By order:

1. Principal Power Dispatcher
2. Yard Office Assistants
3. OMS Administrator

Steps:

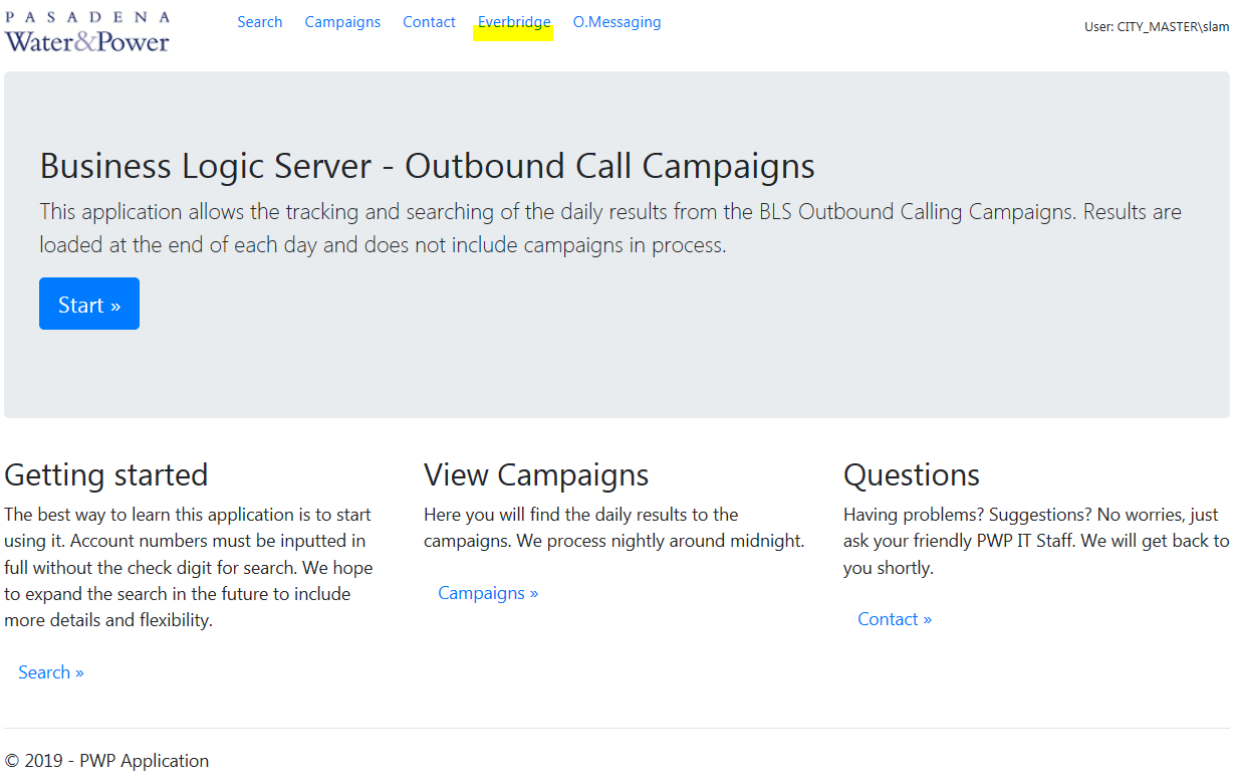
1. Crew Supervisors shall submit Everbridge OMS notifications request in accordance with table 1 below.

   NOTE for Crew Supervisors: If 1st Notification is not received, please notify Dispatch Office Assistant.

PLANNED OUTAGES (Days in Advance)	1st NOTIFICATION (Days in Advance)	2nd NOTIFICATION (Days in Advance)
10	7	1 (24 hours)
4	3	1 (24 hours)
Emergency <24hrs	As soon as possible before outage	None
Services Turn Off/On	None	None
Meter Testing	None	None
Customer Requested Shutdown	None	None

Table 1

2. Upon receipt of Notification of Planned Power Outage email, navigate to Everbridge-BLS website location. Currently: (http://svrwp-sam:3138/Home)
3. Click on Everbridge to launch application.



Once inside the Everbridge application, you will notice all currently scheduled campaigns. This list will only show scheduled campaigns.