

Wildfire Mitigation Plan

Power & Water Resources Pooling Authority (PWRPA)

Version 1.2

BACKGROUND

This Wildfire Mitigation Plan (“WMP”) was prepared in accordance with Public Utilities Code Section 8387 as amended by Stats. 2019, Ch. 79 (AB 1054)(Effective July 12, 2019) and Stats. 2019, Ch. 410 (SB 560)(Effective October 2, 2019). Section 8387 requires that each local publicly owned electric utility shall:

1. Construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment.
2. Before January 1, 2020, prepare a WMP in accordance with statutory criteria.
3. After January 1, 2020, prepare an updated WMP annually and submit it to the California Wildfire Safety Advisory Board on or before July 1 of that calendar year.
4. At least once every three years, prepare and submit a comprehensive WMP revision to the California Wildfire Safety Advisory Board.

This WMP describes the range of activities that PWRPA is taking or considering, to mitigate the threat of electrical infrastructure ignited wildfires, including its various strategies and procedures. The WMP will represent best efforts to implement industry best practices in a prudent and reasonable manner.

OVERVIEW OF PWRPA’S ELECTRICAL EQUIPMENT

This WMP pertains only to the facilities that comprise PWRPA’s electrical infrastructure. At most delivery points, PWRPA utilizes, but does not own, the electric lines and equipment of its Participants to deliver retail electricity. The Participants own the electric infrastructure and are responsible for complying with all rules relating to electric system safety. PWRPA has ownership interests in five systems comprised of electric poles, lines and transformers through a separate Distribution Facility Agreement (“DFA”) with Reclamation District 108, Glenn Colusa Irrigation District and Santa Clara Valley Water District. The DFA provides that each Participant has the responsibility to operate and maintain PWRPA’s electrical infrastructure that is used to serve the respective Participant’s electrical delivery point.

ORGANIZATION OF THE WILDFIRE MITIGATION PLAN

	Public Utilities Code
Section 1 - Objectives of the WMP	8387(b)(1), 8387(b)(2)(B)
Section 2 - Roles and responsibilities for carrying out the WMP	8387(b)(2)(A)
Section 3 – Identification of wildfire risks and risk drivers	8387(a), 8387(b)(2)(J), (K), (L)
Section 4 - Description of wildfire prevention & mitigation strategies	8387(b)(2)(C), (H), (I)
Section 5 – De-energizing systems, restoration of service	8387(b)(2)(F), (M)
Section 6 – Notification of customers and first responders	8387(b)(2)(G)
Section 7 - Metrics for evaluating the WMP performance and identifying areas for improvement; monitor & audit plan; present risk	8387(b)(2)(D), (E), (L), (N)
Section 8 – Public notice of the WMP, updates and independent audit.	8387(b)(1), (3), 8387(c)

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1. OBJECTIVES OF THE WILDFIRE MITIGATION PLAN (PUB UTIL CODE §§ 8387(b)(1), 8387(b)(2)(B))

The objectives of PWRPA’s WMP are to:

1. Minimize the probability that PWRPA’s electrical infrastructure may be the origin or contributing source for the ignition of a fire.
2. Protect PWRPA’s electrical infrastructure from wildfire damage and improve the resiliency of the water-related systems powered by PWRPA’s electrical infrastructure. This includes mitigating fire fuels located in the areas likely to be a threat to PWRPA’s electrical infrastructure.

2. ROLES AND RESPONSIBILITIES (PUB UTIL CODE § 8387(b)(2)(A))

This plan is subject to the direct supervision by the PWRPA Board of Directors (“Board”) and will be implemented by the PWRPA General Manager (“GM”). The Participant-specific roles and responsibilities for WMP execution are shown in the table below.

Strategy or Program	Lead Person
Vegetation Management, Section 4.1	GCID – Kevin Nelson RD 108 – Jordon Navarrot SCVWD – John Brosnan
Facility Inspections, Section 4.2	GCID – Kevin Nelson RD 108 – Jordon Navarrot SCVWD – John Brosnan
Operational Awareness, Section 4.4	GCID – Kevin Nelson RD 108 – Jordon Navarrot SCVWD – John Brosnan
Wildfire Response & Recovery, Section 5	GCID – Chris Cesa RD 108 – Jordon Navarrot SCVWD – John Brosnan
Reclosing & De-energization, Section 5.2	GCID – Chris Cesa RD 108 – Jordon Navarrot SCVWD – John Brosnan
Notification, Section 6	GCID – Chris Cesa RD 108 – Jordon Navarrot SCVWD – John Brosnan
WMP Evaluation, Section 7	PWRPA – General Manager

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3. WILDFIRE RISK AND RISK DRIVERS (PUB UTIL CODE §§ 8387(a), 8387(b)(1), 8387(b)(2)(J), (K), (L))

3.1. ENTERPRISE SAFETY AND WILDFIRE RISK

PWRPA is authorized to provide retail electricity anywhere in California. However, PWRPA does not have a designated service territory and its electrical infrastructure comprises five specific geographic locations. PWRPA evaluated the level of wildfire risk to the PWRPA electrical infrastructure by reviewing the history of events, outages, accidents, and/or equipment failures at each delivery point. There have been no forced outages, wildfires or other emergencies at any delivery point served by PWRPA electrical infrastructure.

3.2. EQUIPMENT DESIGN AND OPERATIONAL RISK

PWRPA's designs and constructs its electric facilities to meet or exceed CPUC General Orders ("GO") 95 and 128, PG&E Standards, and any applicable local codes, ordinances and authority having jurisdiction. Overhead design criteria: GO 95 light loading, max loading, 25F, 8# wind. All construction meets criteria for PG&E raptor-safe construction and Wildlife Protection STD. DWG. ES 061149. Unless noted to the contrary, all equipment, materials, and labor shall be furnished in accordance with the applicable sections of the latest revisions of the following:

- Institute of Electrical and Electronics Engineers (IEEE)
- Underwriter's Laboratories (UL)
- National Electrical Manufacturers Association (NEMA)
- National Electrical Code (NEC)
- National Electrical Safety Code (NESC)

The above listed codes and standards are referenced to establish minimum requirements and wherever these Technical Specifications require higher standards of materials or workmanship than required by the codes and standards, these Technical Specifications shall apply.

3.3. TOPOGRAPHIC & CLIMATOLOGICAL RISK

Within the areas that could possibly be affected by PWRPA's electrical infrastructure, the primary risk drivers associated with geography and climate for wildfire are the following: (a) extended drought; (b) vegetation type and density; (c) extreme weather events; (d) lightning; (e) low humidity; and (f) high winds.

3.4. CPUC HIGH FIRE THREAT DISTRICTS

In 2018, the California Public Utilities Commission (CPUC) completed the development of the statewide Fire Threat Map that designates areas of the state at an elevated risk of electric line-ignited wildfires. This updated map incorporated historical fire data, fire-behavior modeling, assessments of fuel, weather modeling, and host of other factors. The CPUC's Fire Threat Map includes three Tiers/Levels of fire threat risk. Tier 1 (White) consists of areas that have the lowest hazards and risks. Tier 2 (Orange) consists of areas where there is an *elevated risk* for destructive utility-associated wildfires. Tier 3 (Red) consists of areas where there is an *extreme risk* for destructive utility-associated wildfires. No portions of PWRPA's electrical infrastructure is located in, or adjacent to, designated Tier 2 and 3 wildfire threat areas.

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4. WILDFIRE PREVENTION AND MITIGATION STRATEGIES (PUB UTIL CODE §§ 8387(b)(2)(C), (H), (I))

4.1. VEGETATION MANAGEMENT

This strategy reduces vegetation near to PWRPA electrical infrastructures. This also includes fire fuels mitigation and other work in order to prevent the system from causing a fire and to protect the system from fire. PWRPA meets or exceeds the minimum industry standard vegetation management practices. For distribution level facilities, PWRPA 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. The recommended time-of-trim guidelines do not establish a mandatory standard, but instead provide useful guidance to utilities. PWRPA will use specific knowledge of growing conditions to determine the appropriate time of trim clearance in each circumstance.

GO 95, RULE 35, TABLE 1					
Case	Type of Clearance	N/A	Supply Conductors, 750 - 22,500 Volts	N/A	N/A
13	Radial clearance of bare line conductors from tree branches or foliage		18 inches		

GO 95 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	
Radial clearances for any conductor of a line operating at 2,400 or more volts, but less than 72,000 volts	4 feet	N/A

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4.2. FACILITY INSPECTIONS

These strategies consist of assessment and diagnostic activities as well as associated corrective actions. The practices in this category aim to ensure all infrastructure is in working condition and vegetation adheres to defined minimum distance specifications. Inspection plays an important role in wildfire prevention.

- Glenn Colusa Irrigation District: Abatement staff monitors the vegetation conditions on all of its ditch banks and well sites at least weekly, and dispatches personnel to mow and/or spray these areas on an as-needed basis in order to maintain minimal vegetation growth and safe conditions. Shut-off procedures are described in Section 5.
- Reclamation District 108 (RD 108): When operating, lateral 8 Pump Station is inspected daily and a maintenance log is completed. Vegetation management is performed as needed. RD108 also has a SCADA system that detects irregularities at Lateral 8 Pump Station. In the event of irregularities, including power failure, the system will send an automated message to the System A operator (employee(s) on call 24/7 to respond to these alarms). Shut-off procedures are described in Section 5.
- Santa Clara Valley Water District (SCVWD): The distribution facility is located immediately adjacent to the Advanced Recycling Water Treatment Facility and is observed on a daily basis.
- Joint poles and adjacent infrastructure owned by PG&E: PWRPA's infrastructure are intervening facilities as defined in Federal law. Accordingly, they are interconnected with PG&E electrical infrastructure. The first pole in PWRPA's infrastructure is immediately adjacent to the last pole in PG&E's. For joint pole fire prevention, PWRPA shall inform PG&E when PWRPA identifies any compromised poles due to damage or wildfire susceptibility. PWRPA coordinates with PG&E throughout the year when work on its system may affect PG&E's equipment or if PWRPA identifies safety issues.

4.3. OPERATIONAL AWARENESS

These strategies consist of proactive, day-to-day actions taken to mitigate wildfire risks. The practices in this category aim to ensure PWRPA is prepared in high-risk situations, such as dry, windy environmental conditions. PWRPA will operate the system in a manner that will minimize potential wildfire risks including taking all reasonable and practicable actions to minimize the risk of a catastrophic wildfire caused by PWRPA electric facilities. PWRPA will take corrective action for deficiencies when the staff witnesses or is notified of improperly install or maintained fire protection measures.

5. WILDFIRE RESPONSE & RECOVERY (PUB UTIL CODE §§ 8387(b)(2)(F), (M))

The PWRPA electrical infrastructure at four sites located at Glenn Colusa Irrigation District and Reclamation District 108 provide electrical service to onsite agricultural water pumps only. The PWRPA electrical infrastructure at Santa Clara Valley Water District provides electrical service for onsite water pumping at the Advanced Recycled Water Treatment Facility. No electrical service is provided to the public, health care facilities or telecommunications infrastructure and, therefore, no public safety impacts would occur if a power shut-off procedure was implemented. Therefore, the only load impacted by deenergization would be that of the respective PWRPA Participant. Site-specific information cards are

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included in the WMP as Exhibit A.

- Glenn Colusa Irrigation District: If incoming power needs to be shut off, GCID staff will call PG&E's Ag Hotline at (877) 311-3276 and request a shutdown at the nearby PG&E meter. In the event of fire, the operator will call 911 or the Sacramento River Fire District at (530) 458-0200.
- Reclamation District 108 (RD 108): The System A operator that monitors Lateral 8 Pump Station will shut off power in the event of an emergency. If incoming power needs to be shut off, RD108 staff will call PG&E's Ag Hotline at (877) 311-3276 and request a shutdown at the nearby PG&E meter 1010126474. In the event of fire, the operator will call 911 or the Sacramento River Fire District at (530) 458-0200.
- Santa Clara Valley Water District (SCVWD): If incoming power needs to be shut off, SCVWD staff will call PG&E's Hotline at (800) 743-5000 and request a shutdown at the nearby PG&E meter. In the event of fire, the operator will call 911 or the San Jose Fire Department Station 29 at (408) 794-7000.

5.1. RESTORATION OF SERVICE

In the event of a wildfire or other emergency event, PWRPA will restore power in cooperation with the affected Participant. The PWRPA Participant will notify the PWRPA General Manager to track the event and response activities as described in Section 7. PWRPA may also engage contractors on an as-needed basis.

5.2. RECLOSING AND DEENERGIZATION

PWRPA will shut off power when directed to by the local Fire Department, Police, Cal Fire, or other emergency responding agencies. This must be performed by PG&E at the adjoining pole. Otherwise, PWRPA will not preemptively shut off power during high fire threat periods unless the fire is actually threatening the PWRPA electrical infrastructure.

6. PUBLIC SAFETY AND NOTIFICATION (PUB UTIL CODE §§ 8387(b)(2)(G))

The PWRPA electrical infrastructure at four sites located at Glenn Colusa Irrigation District and Reclamation District 108 provide electrical service to onsite agricultural water pumps only. The PWRPA electrical infrastructure at Santa Clara Valley Water District provides electrical service for onsite water pumping at the Advanced Recycled Water Treatment Facility. No electrical service is provided to the public, health care facilities or telecommunications infrastructure and, therefore, no public safety impacts would occur if a power shut-off procedure was implemented. PWRPA will maintain a proactive outreach and education strategy to create public awareness of fire threats, fire prevention, and available support during a wildfire or large power outages.

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7. EVALUATION OF THE PLAN (PUB UTIL CODE §§ 8387(b)(2)(D), (E), (L), (N))

7.1. METRICS FOR MEASURING PLAN PERFORMANCE

PWRPA will track the performance of this Wildfire Mitigation Plan by recording the : (1) number of fire ignitions; and (2) conductors down at a site served by PWRPA electrical infrastructure. For purposes of this metric, a fire ignition is defined as follows: (a) PWRPA facility was associated with the fire; (b) the fire was self-propagating and of a material other than electrical facilities; (c) the resulting fire traveled greater than one linear meter from the ignition point; and (d) PWRPA had knowledge that the fire occurred. For the purposes of the second metric, a wires-down event includes any instance where an electric conductor falls to the ground or onto a foreign object.

7.2. IMPACT OF METRICS ON PLAN

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

7.3. MONITORING AND AUDITING THE PLAN

PWRPA will measure the effectiveness of specific wildfire mitigation strategies. PWRPA will assess the merits of modifications. This plan will also help determine if more cost-effective measures would produce the same or improved results. Review of this WMP will occur annually and any lessons learned will have the highest priority for improving steps in the WMP, any reference programs, and the process for implementation. The PWRPA Board of Directors will review this WMP on an annual basis.

7.4. IDENTIFYING AND CORRECTING DEFICIENCIES IN THE PLAN

PWRPA Participants' staff and qualified external stakeholders are encouraged to report Wildfire Mitigation Plan deficiencies or potential deficiencies to the PWRPA General Manager as soon as possible when observed. The General Manager shall evaluate each reported deficiency and, if the deficiency is determined to be a valid plan deficiency, it shall be entered into a log with the following information: (a) date discovered; (b) description of the deficiency; (c) priority based on deficiency severity; (d) assigned corrective action including the date when it must be completed by; (e) assigned staff responsible for completing the corrective action; and (f) date corrected.

7.5. MONITORING THE EFFECTIVENESS OF INSPECTIONS

PWRPA will perform inspections on either a 5-year, 10 year, or annual cycle, based on GO 95 or fire mitigation recommendations. Any areas found that need improvement or appear hazardous will be documented with a work order, given a priority, and the work order will be tracked. When completed the work order will have a close date.

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8. PUBLIC NOTICES, UPDATES AND AUDIT (PUB UTIL CODE §§ 8387(b)(1), (3), 8387(c))

8.1. PLAN PREPARATION AND NOTICES

PWRPA shall:

1. Before January 1, 2020, prepare a WMP in accordance with statutory criteria and present it in a publicly-noticed meeting.
2. After January 1, 2020, prepare an updated WMP annually, present it in a publicly-noticed meeting and submit it to the California Wildfire Safety Advisory Board on or before July 1 of that calendar year.
3. At least once every three years, prepare and submit a comprehensive WMP revision to the California Wildfire Safety Advisory Board.

8.2. INDEPENDENT AUDITOR

PWRPA shall use a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of this Wildfire Mitigation Plan. The report will be available on PWRPA's website. The report and findings shall be presented to the PWRPA Board of Directors at a public meeting.

2020 Update: In the second quarter of 2020, this WMP was reviewed by the Hamilton City Fire Department Chief and the Sacramento River Fire District Chief. Site visits with PWRPA and Fire Department personnel were conducted. Since these evaluators are the first responders for the PWRPA sites, the: (a) WMP vegetation management plans were discussed, reviewed and confirmed as acceptable; and (b) the emergency response plans were discussed, updated and confirmed as acceptable.

ATTACHMENT A

SITE-SPECIFIC INFORMATION CARDS

Glenn Colusa Irrigation District

Contact:

Point of receipt: PG&E Capay Substation

Voltage: 12 kV

Point of delivery: Well No. 2 located 1200 feet north of State Highway #32 and 225 feet west of County Road 203, Glenn County, California.

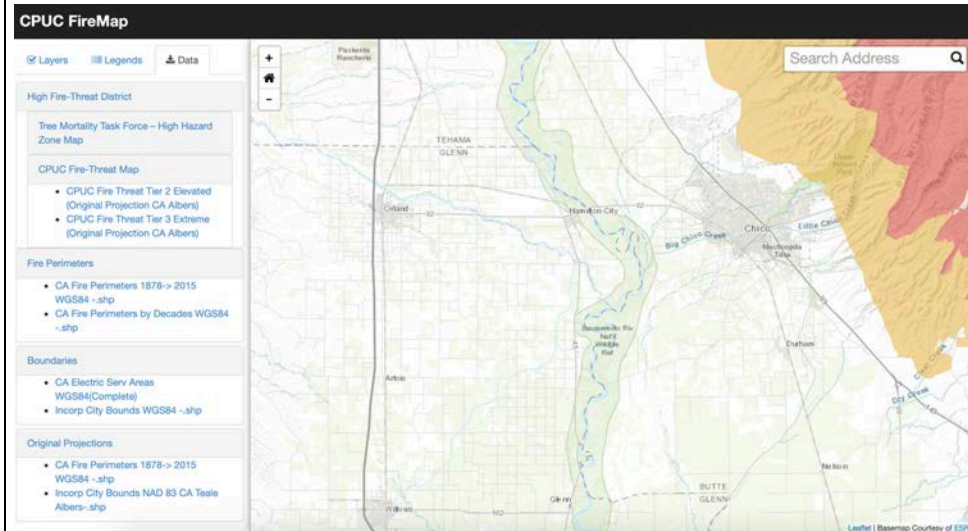
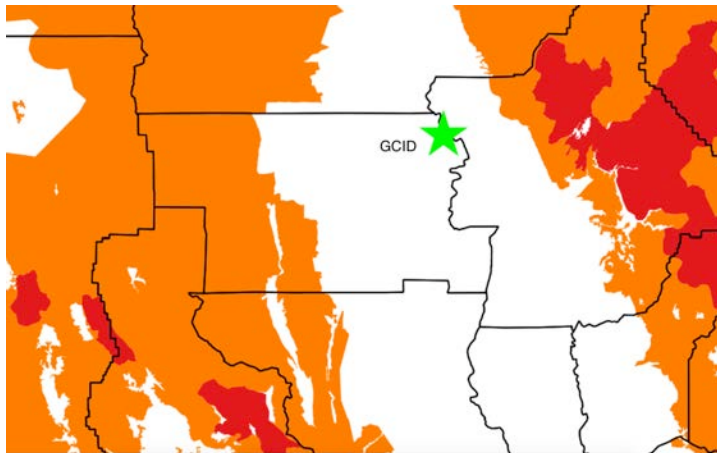
Voltage: 12 kV

PG&E's Ag Hotline (877) 311-3276

Hamilton City Fire Dept at (530) 826-0222



CPUC Fire Threat Map



Glenn Colusa Irrigation District

Contact:

Point of receipt: PG&E Orland B Substation

Voltage: 12 kV

Point of delivery: Well No. 3 located at 1200 Feet West of State Highway #45 and 400 Feet North of County Road 24, Glenn County, California.

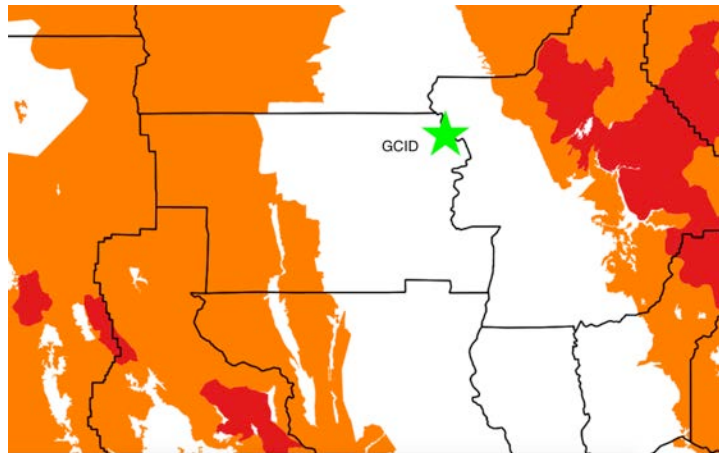
Voltage: 12 kV

PG&E's Ag Hotline (877) 311-3276

Hamilton City Fire Dept at (530) 826-0222



CPUC Fire Threat Map



CPUC FireMap

Layers Legends Data

High Fire-Threat District

Tree Mortality Task Force - High Hazard Zone Map

CPUC Fire-Threat Map

- CPUC Fire Threat Tier 2 Elevated (Original Projection CA Albers)
- CPUC Fire Threat Tier 3 Extreme (Original Projection CA Albers)

Fire Perimeters

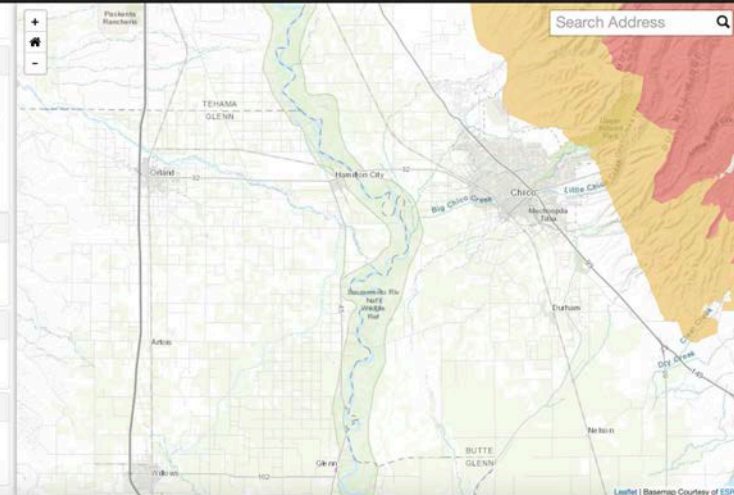
- CA Fire Perimeters 1878->2015 WGS84 -shp
- CA Fire Perimeters by Decades WGS84 -shp

Boundaries

- CA Electric Serv Areas WGS84(Complete)
- Incorp City Bounds WGS84 -shp

Original Projections

- CA Fire Perimeters 1878->2015 WGS84 -shp
- Incorp City Bounds NAD 83 CA Teale Albers -shp



Glenn Colusa Irrigation District

Contact:

Point of receipt: PG&E Hamilton A Substation

Voltage: 12 kV

Point of delivery: Well No. 4 located at 1200 Feet West of State Highway 45 and 10,000 Feet (1.9 miles) South of County Road 24, Glenn County, California.

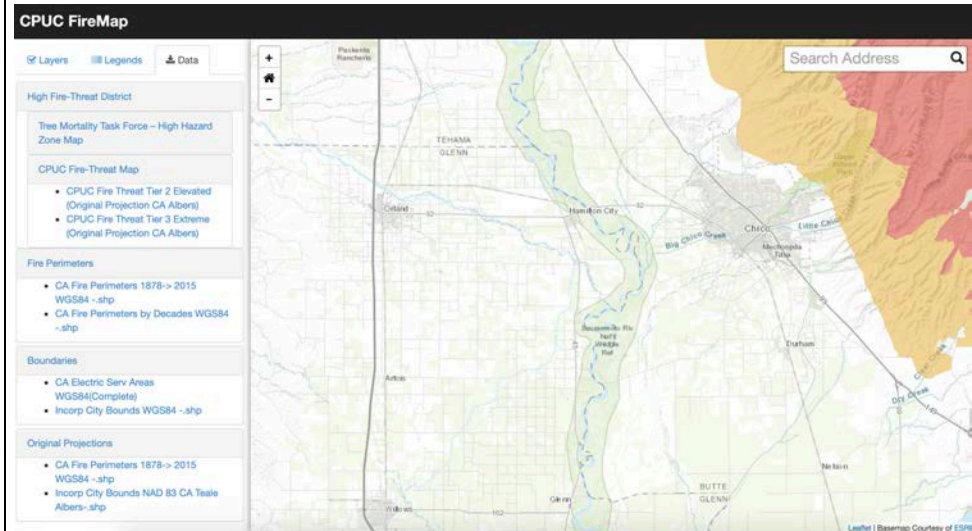
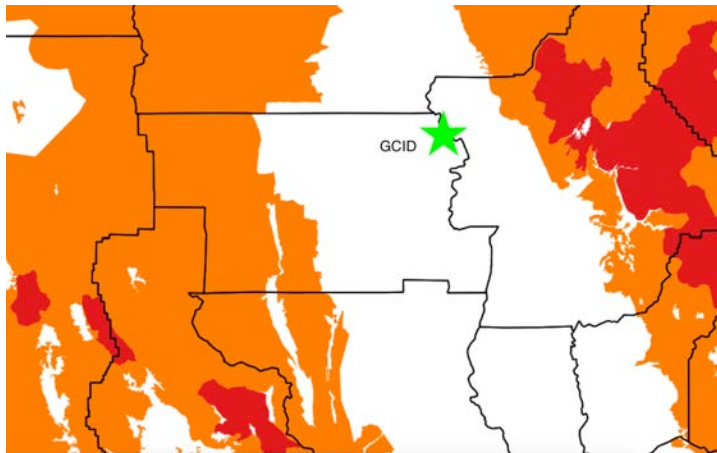
Voltage: 12 kV

PG&E's Ag Hotline (877) 311-3276

Hamilton City Fire Dept at (530) 826-0222



CPUC Fire Threat Map



Reclamation District 108

Contact: Jordon Navarrot (530) 682-4205

Point of receipt: PG&E Wilkins Slough Substation

Voltage: 12 kV

Point of delivery: Lateral 8 located 1.03 miles South of Tule Road, 0.5 miles East of Poundstone Road, 1.48 miles West of Highway 45, Colusa County, CA

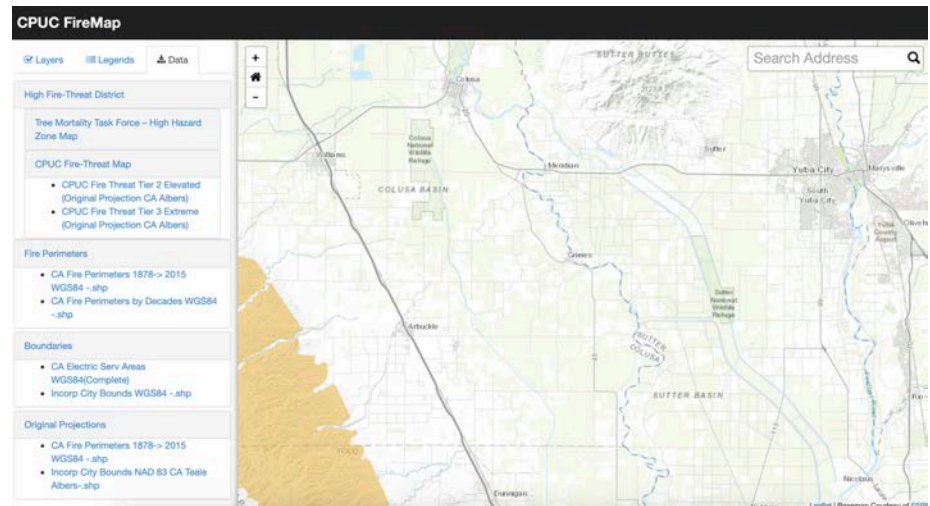
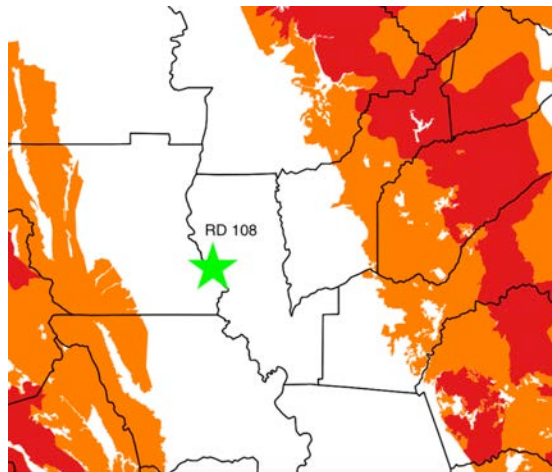
Voltage: 12 kV

PG&E's Ag Hotline (877) 311-3276

Sacramento River Fire District at (530) 458-0200



CPUC Fire Threat Map



Santa Clara Valley Water District

Contact: John Brosnan

Point of receipt: PG&E Substation

Voltage: 21 kV

Point of delivery: Advanced Recycled Water Treatment Facility at Zanker Road and Highway 237 in Santa Clara County, California.

Voltage: 21 kV

PG&E's Hotline (800) 743-5000

San Jose Fire Dept Station 29 at (408) 794-7000



CPUC Fire Threat Map

