Community Wildfire Safety Program
HUMBOLDT COUNTY

April 23, 2020
Safety
Meeting Purpose and Discussion Topics

MEETING PURPOSE

• Share progress on important work to prevent wildfires and reduce PSPS impacts
• Co-create solutions to local issues
• Partner to prepare for PSPS events in 2020

We understand how busy your teams must be responding to COVID-19 and appreciate your time

DISCUSSION TOPICS:

☑ 2020 PSPS IMPROVEMENTS
☑ LOCAL PROJECTS
☑ 30-YEAR WEATHER ANALYSIS
☑ EVENT COORDINATION AND INFORMATION SHARING
☑ DISCUSSION

All data is preliminary and based on early 2020 work planning. Data as of March 2020. Following the wildfires in 2017 and 2018, some of the changes included in this document are contemplated as additional precautionary measures intended to further reduce future wildfire risk.
## 2020 PSPS Improvements

<table>
<thead>
<tr>
<th><strong>GOAL</strong></th>
<th><strong>INITIATIVES</strong></th>
</tr>
</thead>
</table>
| **SMALLER IN SIZE** | Reduce the number of customers impacted by PSPS events by one-third compared to 2019 |  - Installing *sectionalizing devices* on the transmission and distribution systems capable of redirecting power and limiting the size of outages  
  - Developing *microgrids* that use generators to keep the lights on  
  - Conducting *targeted undergrounding* as part of system hardening |
| **SHORTER IN DURATION** | Restore customers twice as fast after severe weather has passed |  - Adding *more field crews* to speed inspection of lines  
  - Expanding *helicopter fleet* from 35 to 65 for aerial line inspections  
  - Commissioning two new *airplanes* for aerial line inspections  
  - Utilizing *infrared equipment* to inspect at night |
| **SMARTER FOR CUSTOMERS** | Provide more accurate/timely communications and additional resources |  - Enhancing *meteorology technology* to pinpoint severe weather  
  - Bolstering *website capacity*  
  - Improving *customer alerts* and notifications  
  - Upgrading *Community Resource Centers*  
  - Improving *coordination* with local agencies and critical service providers |
| | Deliver more assistance before, during and after a PSPS event |  - Working with the *California Foundation for Independent Living Centers* and other *Community Based Organizations* to support vulnerable customers  
  - Making it *easier for eligible customers to join the Medical Baseline program*  
  - Expanding *in-language communications* |

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Humboldt County Overview

CPUC High Fire-Threat District Map
Humboldt County

1,755 total overhead distribution miles
634 in Tier 2 | 64 in Tier 3 | 40% in HFTD

371 total overhead transmission miles
120 in Tier 2 | 24 in Tier 3 | 39% in HFTD

25 total substations

67,100 total customers served
6,800 (10%) Customers in HFTD

2,100 total Medical Baseline Customers

400 total critical facilities

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<table>
<thead>
<tr>
<th>WILDFIRE SAFETY AND CUSTOMER SUPPORT PROGRAM EFFORTS</th>
<th>2019 COMPLETE</th>
<th>2020 TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weather Stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhancing weather forecasting and modeling</td>
<td>22 STATIONS</td>
<td>IN PROGRESS*</td>
</tr>
<tr>
<td>High-Definition Cameras</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving real-time monitoring of high-risk areas and conditions</td>
<td>4 CAMERAS</td>
<td>IN PROGRESS*</td>
</tr>
<tr>
<td>Community Resource Centers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide basic power needs and up-to-date information</td>
<td>8 EXECUTED</td>
<td>5 TARGETED</td>
</tr>
<tr>
<td>System Hardening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stronger poles, covered lines and/or targeted undergrounding</td>
<td>8 LINE MILES</td>
<td>0 LINE MILES</td>
</tr>
<tr>
<td>Sectionalizing Devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separating the grid into small sections for operational flexibility</td>
<td>5 DEVICES</td>
<td>15 DEVICES</td>
</tr>
<tr>
<td>Temporary Microgrids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safely energize customers during a PSPS event</td>
<td>0 EXECUTED</td>
<td>2 POSSIBLE</td>
</tr>
<tr>
<td>Enhanced Vegetation Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspecting, pruning and removing vegetation</td>
<td>29 LINE MILES</td>
<td>50 LINE MILES</td>
</tr>
</tbody>
</table>

*Locations identified on a monthly basis

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Local Projects
Transmission lines carry high-voltage electricity over long distances, like the freeways of the electric system. The higher the voltage, the more power that line is carrying.

Electric Transmission Line  PG&E Facility
- 60 kV  ▲ Substation
- 115 kV
- 230 kV
- 500 kV

2019 Peak Load: 122 MW

This data is also publicly available at:
- PGE Wildfire Mitigation Plan
- County Energy Commission (CEC) website: https://cecgis-caenergy.opendata.arcgis.com/
Humboldt Bay Generation Station (HBGS) Update

We are working to keep as much of Humboldt County energized as is safely possible during future PSPS events.

**COMPLETED**

- HBGS control modifications
- Secured local permitting to initiate testing
- Low load testing of HBGS engines to serve local only needs

**IN PROGRESS**

- Equipment and switching analysis (April)
- Field equipment and substation modifications (May)
- Islanding test to verify the ability of the HBGS to supply local area (May)

We will continue to fine-tune the system based on the test results and are making additional transmission upgrades to improve functionality and provide more options for various islanding scenarios.

ABOUT HBGS

Islanding HBGS will help us provide local power when transmission service is lost to the area for any reason.

Our goal is to complete HBGS Islanding by May 2020.

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We’re installing real-time tools to better understand how severe weather can impact our system and proactively respond to potential threats.

Targeting one station roughly every 20 circuit-miles in high fire-threat areas by 2022.

22 Weather stations installed to date

MAP LEGEND:
- PG&E Weather Station installed
- PG&E Weather Station planned
- Remote Automated Weather Stations (RAWS) within PG&E’s service area

Data is publicly available at mesowest.utah.edu
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We’re supporting the installation of new HD cameras in high fire-threat areas, which allow PG&E and first responders to monitor wildfires in real time.

This will increase our coverage to more than 90 percent of our service area by 2022.

MAP LEGEND:
- PG&E HD Camera installed
- PG&E HD Camera planned
- Non-PG&E Camera that looks into PG&E’s service area

Images are publicly available at alertwildfire.org
Our goal is to work together to identify and secure multiple CRC locations within each county/tribe in our service area.

**Proposed CRC Locations in Your Community**

1. Hoopa Valley Tribe Gymnasium, Humboldt (IN LICENSE NEGOTIATIONS)
2. Arcata Community Center, Arcata (IN LICENSE NEGOTIATIONS)
3. Blue Lake Roller Rink, Blue Lake (IN LICENSE NEGOTIATIONS)
4. Karuk Tribe Department of Natural Resources, Orleans (IN LICENSE NEGOTIATIONS)
5. Firemen’s Pavilion, Fortuna (IN LICENSE NEGOTIATIONS)

During a PSPS event, the locations will be made available on [pge.com/pspsupdates](http://pge.com/pspsupdates) and via social media, local news and radio.

*Locations will be activated as needed, depending on event scope and potential customer impacts.*

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Our system hardening work involves:

- Installing stronger and more resilient poles that will be set deeper in the ground to better withstand high winds.
- Re-framing poles to increase the separation of the conductors.
- Replacing bare conductors with larger, covered conductors.
- Installing more poles than previously needed to support the weight of the covered conductor and to meet new utility standards.
- No longer using trees to support PG&E infrastructure.
- Adding down guys and anchors to some poles to prevent leaning or falling.
- Targeted undergrounding of select overhead lines.

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We’re installing new sectionalizing devices to limit the number of customers impacted during a PSPS event.

**MAP LEGEND:**
- Orange dot: Potential distribution sectionalizing device
- Blue area: Area potentially removed from scope due to planned sectionalizing (distribution level event only)
- Pink area: New area now in scope
- Purple area: No change from 2019
- Purple triangle: PG&E Substation

**Note:** Map reflects projects in planning and/or underway and is subject to change.

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We are working to lessen PSPS impacts through establishing additional temporary microgrids that can utilize backup generation sources to keep portions of communities energized.

In 2020, PG&E will have a portfolio of temporary generation assets that will support some of these microgrid locations across our service area.

50+ sites currently being considered across PG&E’s service area
Enhanced Vegetation Work in Your Community

We are exceeding state vegetation and fire safety standards by addressing vegetation that poses a higher potential for wildfire risk to maximize the safety of our customers and communities.

2020 TARGET 50 LINE MILES

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30-Year Weather Analysis
PG&E analyzed 30 years of high-resolution data covering ~80 billion data points, as well as 26 years of wildfire data in our service area to help determine the average likelihood and frequency of a PSPS event.

The following weather model data points were analyzed:

- Wind Speed
- Dead Fuel Moisture (4 Types)
- Wind Gust
- Live Fuel Moisture
- Temperature
- Fosberg Fire Weather Index
- Relative Humidity
- National Fire Danger Rating System Outputs (4 Main Outputs)
- Precipitation

During an event, the meteorology model is updated and run 4x daily.

PG&E collaborates with the following agencies:

- US Forest Service
- National Weather Service
- Northern and Southern California Geographic Area Coordination Center
- CALIFIRE
- External fire agencies
- San Jose State University Fire Weather Research Lab

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The following is a conservative estimate of potential PSPS events in your community based on 30 years of data when FPI and OPW met the PSPS criteria threshold.

**Note:** Additional factors are considered before turning power off for safety such as red flag warning days or conditions on the ground during winter months.

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Event Coordination and Information Sharing
Emergency Operations Center (EOC) Coordination

PG&E will offer the following resources to support local EOCs during a PSPS event:

**Local EOC Liaison** can be embedded in a county or tribe’s local EOC, upon request.

**Assigned Liaison Representative** will be assigned to each county and tribe to act as a single point of contact during an event.

**GIS Technical Specialist** can be embedded in a county or tribe’s local EOC upon request; remote support is also available, if preferred.

**Third-Party Representative** such as cities, counties, tribes, water agencies and telecom providers may request to send a representative to observe the PG&E EOC during a PSPS event.

**YOUR LOCAL REPRESENTATIVES**

**Dave Hotchkiss**  
Public Safety Specialist leads outreach to State and County OES and other emergency responders  
Phone: 628-249-9813 | Email: David.Hotchkiss@pge.com

**Alison Talbott**  
Local Public Affairs leads outreach to city/county elected and staff  
Phone: 707-502-5769 | Email: Alison.Talbott@pge.com

**Carl Schoenhofer**  
Division Leadership Team Lead leads outreach to PG&E community and customer groups/associations  
Phone: 707-320-3201 | Email: Carl.Schoenhofer@pge.com

**Reno Franklin**  
Tribal Liaison leads outreach to tribal groups  
Phone: 707-694-4783 | Email: Reno.Franklin@pge.com

**Deanna Contreras**  
Media Rep serves as main point of contact between PG&E and local media  
Phone: 707-477-4397 | Email: Deanna.Contreras@pge.com

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Once PG&E’s Emergency Operations Center (EOC) is activated, we will provide information through the following:

**Regional Twice-Daily Briefings at the Local Level**
- Hosted by Assigned Liaison Representatives for counties and tribes.
- Event-specific information changes will be reviewed.
- Opportunity to resolve local issues and ask questions.

**Once-Daily Cooperator Call**
- Call will be 15-30 minutes and provide the latest high-level updates.
- Local and tribal agencies within the service area are welcome to join the call, as well as critical facilities.

**Event-Specific Information**
- Up-to-date information will be provided twice-daily at regular intervals.
- Information provided will include counties and tribes in scope, estimated time of de-energization, estimated time of restoration, number of Medical Baseline customers and number and types of critical facilities in scope.

When and where possible, we will strive to provide timely information to emergency service agencies in advance of notifying customers.
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The portal includes the following:

**Before an Event**
- PSPS Planning Maps (GIS, KMZ)
- Potential CRC Location Information
- List of Critical Customers
- List of Medical Baseline Customers

**During an Event**
- Event-specific Information and Maps (GIS, PDF, KMZ)
- Activated CRC Location Information
- Summary of Affected Customers
- Summary of Affected Medical Baseline Customers

**NOTE:** Though we are going to open the portal to all public safety partners (including telecom, water agencies and hospitals), not all partners will receive confidential customer data.

CONCEPTUAL LAYOUT

1,268 portal users as of 3/31/2020
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CRCs provide customers and residents with a safe, energized, ADA accessible location with basic resources, as well as up-to-date information.

The following resources will be available:

- Heating and cooling
- Power strips to charge devices
- Bottled water
- Non-perishable snacks/fruit
- Wi-Fi service
- Coffee/tea
- Blankets
- ADA-compliant toilets and hand washing stations
- Security personnel
- Chairs and tables
Working Together to Support Our Most Vulnerable Customers During a PSPS Event

PG&E is funding the California Foundation for Independent Living Centers (CFILC) to execute the Disaster Access and Resources Program, which will provide qualifying customers access to resources to help prepare for disasters and extended power outages.

Resources include:

- Portable Backup Power
- Emergency Preparedness Assistance
- Accessible Transportation
- Hotel Vouchers and Food Stipends

APPLICATION PROCESS: The CFILC will determine who qualifies for resources. Medical needs and income will be taken into account. Applications will be accepted at CFILC locations.

Your local CFILC location is: 139 Fifth Street, Eureka, CA 95501

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Sharing the Message and Next Steps

You can help your community take steps to prepare:

- Encourage customers to update their contact info
  (Visit [pge.com/mywildfirealerts](https://pge.com/mywildfirealerts) or call 1-866-743-6589)

- Inform customers that they may be eligible for the Medical Baseline Allowance
  (Visit [pge.com/medicalbaseline](https://pge.com/medicalbaseline))

- Remind residents to participate in a local Community Wildfire Safety Program webinar
  (Visit [pge.com/wildfiresafety](https://pge.com/wildfiresafety))

- Share preparedness messages through your newsletter, website or social media

- Let us know about other outreach opportunities and ways we can partner

We want to coordinate with you on the following:
- Contact information
- Portal access
- CRC locations
- Critical facility information
- Event communications

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Weather Deep Dive
Probability of Outage Producing Winds (OPW)

KEY TAKEAWAYS

Datasets/Model
- PG&E 30-year climatology
- Outage activity from 2008 (over 300,000 unplanned events)

Analysis/Results
- Wind speeds were extracted for each outage record per location per hour from climatology
- Numerous wind-outage model fits were tested
- Operational high-resolution model predicts the frequency of unplanned outages based on location-specific wind-outage model

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### KEYS TAKEAWAYS

#### Datasets/Model
- PG&E 30-year climatology
- Fire Occurrence dataset from USFS (1992 – 2018)

#### Analysis/Results
- Benchmarked FPI against agency and utility best practices
- Evaluated dozens of parameters to determine best predictors of large fires
- Constructed over 4,000 FPI model variants for predictive analysis
- PG&E FPI outputs the probability of large fire occurrence

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**PG&E Utility FPI**

**Weather**
- Wind Speed,
- Temperature and
- Humidity

**Fuels**
- Dead Fuel Moisture
- and Live Fuel Moisture

**Land Type**
- Forest, shrub/brush
- or grass-land
dominated
The **Utility Fire Potential Index** and **Outage Producing Winds Model** are used in unison to analyze what conditions existed during the most catastrophic fires in California history to forecast when ignitions are most likely to intensify into catastrophic fires.

### Integrating FPI and OPW Models

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Fire Potential Index (FPI)</th>
<th>Outage Producing Winds (OPW)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario: Winter Storm</strong></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td><strong>Scenario: Blue Sky Day in February/March</strong></td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Scenario: Wind Event with Dry Fuels</strong></td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td><strong>Scenario: Hot/Dry Summer Day</strong></td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

- **Scenario: Winter Storm**
  - **High Outage Probability**
  - **Low Probability of an Ignition Becoming a Large Fire**

- **Scenario: Blue Sky Day in February/March**
  - **Low Outage Probability**
  - **Low Probability of an Ignition Becoming a Large Fire**

- **Scenario: Wind Event with Dry Fuels**
  - **High Outage Probability**
  - **High Probability of an Ignition Becoming a Large Fire**

- **Scenario: Hot/Dry Summer Day**
  - **Low Outage Probability**
  - **High Probability of an Ignition Becoming a Large Fire**

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Discussion
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### Wildfire Risks Across PG&E’s Service Area

<table>
<thead>
<tr>
<th></th>
<th>PG&amp;E SYSTEM-WIDE</th>
<th>HUMBOLDT COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric customers served</td>
<td>5.5M</td>
<td>67,100</td>
</tr>
<tr>
<td>Electric customers in HFTD</td>
<td>505,600</td>
<td>6,800</td>
</tr>
<tr>
<td>Overhead distribution line miles</td>
<td>81,000</td>
<td>1,755</td>
</tr>
<tr>
<td>Overhead distribution line miles in HFTD</td>
<td>25,500</td>
<td>698</td>
</tr>
<tr>
<td>Overhead transmission miles</td>
<td>18,200</td>
<td>371</td>
</tr>
<tr>
<td>Overhead transmission miles in HFTD</td>
<td>5,500</td>
<td>144</td>
</tr>
</tbody>
</table>

Numbers are approximate

Source: California Public Utilities Commission

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Wildfire Mitigation Plan 2019 vs 2020 By the Numbers

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>2019 COMPLETE</th>
<th>2020 TARGET</th>
<th>2020 PROGRESS</th>
</tr>
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<tbody>
<tr>
<td><strong>SYSTEM HARDENING</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Stronger poles, covered lines and/or targeted undergrounding</td>
<td>171 LINE MILES</td>
<td>241 LINE MILES</td>
<td>43 LINE MILES</td>
</tr>
<tr>
<td><strong>ENHANCED VEGETATION MANAGEMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspecting, pruning and removing vegetation</td>
<td>2,498 LINE MILES</td>
<td>1,800 LINE MILES</td>
<td>573 LINE MILES</td>
</tr>
<tr>
<td><strong>HIGH-DEFINITION CAMERAS</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Improving real-time monitoring of high-risk areas and conditions</td>
<td>133 CAMERAS</td>
<td>200 CAMERAS</td>
<td>19 CAMERAS</td>
</tr>
<tr>
<td><strong>WEATHER STATIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhancing weather forecasting and modeling</td>
<td>426 STATIONS</td>
<td>400 STATIONS</td>
<td>35 STATIONS</td>
</tr>
<tr>
<td><strong>SECTONALIZING DEVICES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separating the grid into small sections for operational flexibility</td>
<td>287 DEVICES</td>
<td>592 DEVICES</td>
<td>85 DEVICES</td>
</tr>
<tr>
<td><strong>TRANSMISSION LINE SWITCHES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enabling targeted transmission outages to lessen downstream customer impacts</td>
<td>0 DEVICES</td>
<td>23 DEVICES</td>
<td>6 DEVICES</td>
</tr>
<tr>
<td><strong>COMMUNITY RESOURCE CENTERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe, energized locations for customers to receive basic resources and information</td>
<td>111 SITES ACTIVATED</td>
<td>201 SITES TARGETED</td>
<td>1 SITE READY</td>
</tr>
</tbody>
</table>

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Prioritizing Wildfire Mitigation Activities

PG&E prioritizes wildfire mitigation work by evaluating which circuits in our service area are at the highest risk for wildfire. This is a dynamic and ongoing process.

We look at three key factors when determining a circuit’s risk for wildfire:

1. **Likelihood of an ignition**
2. **How quickly a fire could spread** in that location and potential impact
3. **How easy it is to get in and out** of the area in the event of a fire

Working to include **PSPS likelihood** as an additional criteria

Circuits at the greatest risk for wildfire are prioritized for:
- Inspections and repairs
- Enhanced vegetation management
- System hardening

**NOTE:** In some cases, PG&E made changes to the prioritization order of circuits based on other factors (i.e., environmental issues, safety, planned projects, geographic access and weather).
Undergrounding

The process for identifying priority circuits for undergrounding includes the following steps:

- **IDENTIFY** overhead circuits with highest wildfire risk.
- **REVIEW** of circuits by PG&E or contract staff specialized in electric systems, fire prevention and suppression, construction and environmental impact.
- **CONSIDER** if elimination of high-risk assets is possible (including if customers or communities can be served through alternate means).
- **DETERMINE** the most effective, timely and feasible approach. If undergrounding is not feasible, a hardened and/or relocated overhead system can be pursued.
- **CONFIRM** chosen risk mitigation approach and design (asset elimination, undergrounding or hardened overhead) will reduce wildfire risk.

We will engage with local officials throughout this process to discuss decision factors and considerations. **Note that undergrounding is a complex process that can take years to complete. We will continue to take immediate wildfire safety measures while work is planned.**
Our updated System Inspections Program evaluates our electric infrastructure on an ongoing basis to find and fix potential risks to the safety and reliability of our system.

- **Continuing in 2020**, we will evaluate Tier 2 and Tier 3 areas more frequently, while infrastructure in non-high fire-threat areas will be inspected at least every six years.

- **In 2020**, we plan to inspect more than 15,000 miles of electric lines, which includes:
  - All lines in Tier 3 areas
  - One-third of all lines in Tier 2 areas
  - Additional line miles in non-high fire-threat areas
PG&E is exploring the ability to support communities and customers to develop their own multi-customer or community-level microgrids as a way to reduce PSPS impacts.

This may include sponsoring enhanced technical support for project development, project tools and in some cases, one-time matching funds.

To qualify for this program, microgrid projects must meet the following criteria:

- Serve areas that experienced a PSPS event in 2019
- Located in an area that could be safely energized during a PSPS event
- Serve one or more critical facility
- Supported by local governments and stakeholders

This program is currently under development and pending approval by the California Public Utilities Commission (CPUC).
## 2019 PSPS Overview

<table>
<thead>
<tr>
<th>EVENT DETAILS</th>
<th>JUNE 8 - 9</th>
<th>SEPT 23 - 26</th>
<th>OCT 5 - 6</th>
<th>OCT 9 - 12</th>
<th>OCT 23 - 25</th>
<th>OCT 26 - NOV 1</th>
<th>NOV 20 - 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSTOMERS IMPACTED</td>
<td>~22,000</td>
<td>~49,000</td>
<td>~12,000</td>
<td>~735,000</td>
<td>~179,000</td>
<td>~968,000</td>
<td>~49,000</td>
</tr>
<tr>
<td>COUNTIES IN SCOPE</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>35</td>
<td>18</td>
<td>39</td>
<td>11</td>
</tr>
<tr>
<td>CRCs OPEN</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>33</td>
<td>28</td>
<td>77</td>
<td>34</td>
</tr>
<tr>
<td>PEAK WIND GUSTS</td>
<td>63 mph</td>
<td>58 mph</td>
<td>51 mph</td>
<td>77 mph</td>
<td>80 mph</td>
<td>102 mph</td>
<td>75 mph</td>
</tr>
<tr>
<td>DAMAGE/HAZARDS</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>116</td>
<td>26</td>
<td>554</td>
<td>15</td>
</tr>
<tr>
<td>AVG. OUTAGE DURATION AFTER ALL CLEAR</td>
<td>5 HRS</td>
<td>7 HRS</td>
<td>4 HRS</td>
<td>25 HRS</td>
<td>5 HRS</td>
<td>22 HRS</td>
<td>10 HRS</td>
</tr>
<tr>
<td>AVG. OUTAGE DURATION TOTAL</td>
<td>16 HRS</td>
<td>16 HRS</td>
<td>14 HRS</td>
<td>37 HRS</td>
<td>24 HRS</td>
<td>55 HRS</td>
<td>25 HRS</td>
</tr>
</tbody>
</table>

**Note:** All data is subject to change based on ongoing data reconciliation.

All data is preliminary and based on early 2020 work planning. Data as of March 2020.

Following the wildfires in 2017 and 2018, some of the changes included in this document are contemplated as additional precautionary measures intended to further reduce future wildfire risk.
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<table>
<thead>
<tr>
<th>EVENT DETAILS</th>
<th>OCT 9 - 12</th>
<th>OCT 26 - NOV 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSTOMERS IMPACTED</td>
<td>~66,700</td>
<td>~66,800</td>
</tr>
<tr>
<td>CRCs OPENED</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>CRC VISITORS</td>
<td>~30</td>
<td>~4,070</td>
</tr>
</tbody>
</table>

Note: All data is subject to change based on ongoing data reconciliation.
As part of our wildfire risk monitoring, we will review transmission lines in the potentially affected area.

• While no single factor will drive a PSPS, some factors for a transmission-level event include:
  ✔ Severity and duration of weather
  ✔ Site-specific environmental conditions that increase wear
  ✔ Age and condition of the asset
  ✔ Status of recent repairs
  ✔ Real-time field observations

• If it is determined that a transmission line might be de-energized for safety, PG&E works closely with the California Independent System Operator to assess the system impacts.
PSPS Decision Framework Summary

Distribution (i.e., below 60kV) and select 115 kV

- Localized quantification of outage probability based on 11-year outage history and 30-year climatology analysis

- Calibrated to PG&E’s service area using 30-year climatology, historical fire occurrence and fire spread modelling

Transmission (i.e., 60/70kV, 115kV, 230 kV, 500 kV)

- Risk assessed based on enhanced and accelerated inspections for all T-line structures in high fire-threat areas in Q4 2018 – Q2 2019

- Determined wind speed threshold based on repair history and asset conditions; most conservative rating assumed for an entire T-line

- Real-time coordination studies with CAISO to determine direct and indirect impacts to grid integrity

- Grid stability and potential de-energization impacts considered (e.g., non-consequential loss, generation loss)

- Decision is made on a transmission line level that intersects within an FIA
Identifying Critical Customers and Facilities

Before, during and after a PSPS event, PG&E provides advanced communication (when possible) and prioritizes restoration to certain non-residential customers identified as “Critical.” These customers include:

- **Public Safety Impacting Customer**
  - **Public Safety Partner; Provides Emergency Services**
    - Emergency Services: Fire and police stations; 911 Dispatch; EOCs
    - Government Agencies: Government agencies critical to national defense/cybersecurity; Prisons and jails
    - Communications Services: Critical telecom infrastructure
    - Water Agencies: Critical potable water/wastewater treatment
    - Energy Sector: Publicly-owned utilities; Electric co-ops
    - Health Services: Emergency hospitals; Surgical centers

- **Supports Emergency Response Needs**
  - Emergency Services: Non-critical fire and police stations; Evacuation centers/shelters
  - Government Agencies: Local/state/national staging sites
  - Health Services: General hospitals; Hospice center; Kidney dialysis centers; Public Health Departments; etc.
  - Communications Services: Non-critical telecom infrastructure; Radio/TV broadcasting critical facilities
  - Chemical Sector: Fuel refineries; Hazardous materials facilities; etc.
  - Water Agencies: Non-critical potable water/wastewater treatment
  - Transportation: Major local and national public transportation

As we approach the 2020 wildfire season, we continue to enhance and validate our critical customer lists through internal process improvements and additional coordination with local governments. Outreach is expected to begin in April 2020.

In 2019, PG&E conducted outreach to all 267 cities and counties in our service area to receive feedback on which customers they deemed critical as well. Through this process:

- **85** Jurisdictions provided feedback
- **500+** Critical customers were added to database
- **800+** Critical facilities were confirmed in database
Following the wildfires in 2017 and 2018, some of the changes included in this document are contemplated as additional precautionary measures intended to further reduce future wildfire risk.

2,211 total contacts  14 total contacts
(as of 3/31/2020) Humboldt County

Contact List:

<table>
<thead>
<tr>
<th>LAST NAME</th>
<th>FIRST NAME</th>
<th>DEPARTMENT</th>
<th>TITLE</th>
<th>PRIMARY PHONE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coyne</td>
<td>Nicole</td>
<td>DHHS</td>
<td>General</td>
<td>707-267-5410</td>
<td><a href="mailto:ncoyne@co.humboldt.ca.us">ncoyne@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>McNally</td>
<td>Terrence</td>
<td>DHHS</td>
<td>General</td>
<td>707-441-5419</td>
<td><a href="mailto:tmcnally@co.humboldt.ca.us">tmcnally@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>Derby</td>
<td>Ryan</td>
<td>Office of Emergency Services</td>
<td>Office of Emergency Services Director</td>
<td>707-273-3500</td>
<td><a href="mailto:rderby@co.humboldt.ca.us">rderby@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>Muller</td>
<td>Heather</td>
<td>County Administration</td>
<td>County Health and human Services</td>
<td>707-267-5716</td>
<td><a href="mailto:dhhs@co.humboldt.ca.us">dhhs@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>Honsal</td>
<td>William</td>
<td>Sheriff's Department</td>
<td>Sheriff</td>
<td>707-268-3611</td>
<td><a href="mailto:hso@co.humboldt.ca.us">hso@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>McCray</td>
<td>Kurt</td>
<td>CAL FIRE</td>
<td>Local Cal Fire</td>
<td>707-725-4413</td>
<td><a href="mailto:kurt.mccray@fire.ca.gov">kurt.mccray@fire.ca.gov</a></td>
</tr>
<tr>
<td>Nilsen</td>
<td>Amy</td>
<td>County Administration</td>
<td>County Executive Officer</td>
<td>707-845-2795</td>
<td><a href="mailto:anilsen@co.humboldt.ca.us">anilsen@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>Robertson</td>
<td>Sean</td>
<td>Fire Department</td>
<td>Fire Chief (24-hour)</td>
<td>707-441-4000</td>
<td><a href="mailto:srobertson@hbfire.org">srobertson@hbfire.org</a></td>
</tr>
<tr>
<td>Ruddy</td>
<td>Amanda</td>
<td>County Administration</td>
<td>Environmental Health</td>
<td>707-445-6215</td>
<td><a href="mailto:aruddy@co.humboldt.ca.us">aruddy@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>Herbst</td>
<td>Jeana</td>
<td>Fire Department</td>
<td>Telegraph Ridge Fire Protection</td>
<td>707-601-4953</td>
<td><a href="mailto:jeanaherbst@gmail.com">jeanaherbst@gmail.com</a></td>
</tr>
<tr>
<td>Pereira</td>
<td>Sofia</td>
<td>Public Health</td>
<td>General</td>
<td>707-476-4957</td>
<td><a href="mailto:spereira2@co.humboldt.ca.us">spereira2@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>Bohn</td>
<td>Rex</td>
<td>County Administration</td>
<td>Chair of the Board</td>
<td>707-476-2391</td>
<td><a href="mailto:rbohn@co.humboldt.ca.us">rbohn@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>Immitt</td>
<td>Cybelle</td>
<td>County Administration</td>
<td>Community Development Service; Designated POC</td>
<td>707-267-9544</td>
<td><a href="mailto:cimmitt@co.humboldt.ca.us">cimmitt@co.humboldt.ca.us</a></td>
</tr>
<tr>
<td>Cavalli</td>
<td>Julia</td>
<td>Fire Department</td>
<td>Fire Safe Council</td>
<td>707-267-9544</td>
<td><a href="mailto:jcavalli1@co.humboldt.ca.us">jcavalli1@co.humboldt.ca.us</a></td>
</tr>
</tbody>
</table>

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What is Medical Baseline?

- The Medical Baseline Program provides financial assistance to residential customers that have special energy needs due to certain qualifying medical conditions.
- Eligible customers may receive a “standard” Medical Baseline quantity of approximately 500 kilowatt-hours (kWh) of electricity and/or 25 therms of gas per month, in addition to regular baseline quantities.

Who Qualifies for Medical Baseline?

A licensed medical practitioner must certify that a full-time resident in your home is:

- Dependent on life-support equipment used in the home.
- A paraplegic, hemiplegic, quadriplegic or multiple sclerosis patient with special heating and/or air-conditioning needs.
- A scleroderma patient with special heating needs.
- Being treated for a life-threatening illness, compromised immune system or other medical condition with special heating and/or air-conditioning requirements necessary to sustain the patient’s life or prevent deterioration of the patient’s medical condition.

Applying for Medical Baseline

1. Complete the “Medical Baseline Allowance” application form. Forms can be found by visiting pge.com/medicalbaseline.
2. Mail the completed and signed application form to:
   
   PG&E
   Attention: Medical Baseline
   P.O. Box 8329
   Stockton, CA 95208

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PG&E has a dedicated weather forecasting webpage.

- Weather data and daily forecasting information, including a 7-Day PSPS potential lookahead.
- Lookahead shows when and where PG&E is forecasting the type of conditions that may lead to a PSPS event.
- See live weather information from the hundreds of weather stations PG&E has installed.
- View images from the more than 150 high-definition cameras PG&E has deployed in HFTD areas.
The Safety Action Center contains helpful information about wildfire risks and what customers can do before, during and after an emergency to keep their home, family or business safe.

VISIT:

safetyactioncenter.pge.com
Backup Power and Air Quality

We are providing resources to help customers determine if backup power is right for them as part of their preparedness plan.

A dedicated **website and fact sheet** on backup power options that include:

- **Tips for assessing energy needs** and choosing the right backup power option.
- **Alternatives to generators**, including portable power storage and battery technology.
- **Guidance for how to safely use** portable and permanent stand-by generators.
- **Financing options** including a list of resources.
- **A marketplace to search all major backup power retailers** and find energy efficient products.

Operating a backup generator may be subject to **air quality regulations**; for information visit [arb.ca.gov/app/dislookup/dislookup.php](http://arb.ca.gov/app/dislookup/dislookup.php).
Update Contact Info

Make sure PG&E has your current contact information by visiting pge.com/mywildfirealerts today!

If we need to turn off power for safety, we will attempt to contact PG&E account holders in advance by:

✓ Phone
✓ Text
✓ Email

Updates will also be provided through:

✓ Social media (Facebook, Twitter, Instagram)
✓ Local news
✓ Radio
✓ PGE.com
✓ Nixle
✓ Nextdoor

We will be following up with you to confirm the latest agency automated notification contacts and portal access users.

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Additional Preparedness Resources

prepareforpowerdown.com
Statewide education and awareness resource, led jointly by PG&E, San Diego Gas & Electric and Southern California Edison at the direction of the CPUC

ready.gov
Disaster preparedness information from the U.S. Department of Homeland Security

readyforwildfire.org
CAL FIRE’s wildfire preparedness website

cpuc.ca.gov/wildfiresinfo
Information on the CPUC’s wildfire safety efforts

caloes.ca.gov
California Governor’s Office of Emergency Services website

cafiresafecouncil.org/
California Fire Safe Council website

noaa.gov
National Oceanic and Atmospheric Administration website

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