PacifiCorp

Public Safety Power Shutoff (PSPS)
Public Briefing

August 4, 2021

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Vice President T&D Operations
Introduction

Presenter: Allen Berreth, VP of T&D Operations

Topics:
- PacifiCorp’s CA Assets / PSPS Zones
- Vegetation Threats & Mitigation Measures
- Grid Hardening Improvements & Impacts to PSPS
- PSPS Decision Making Framework
- Community Resource Centers
- Mitigation of Impacts to AFN & Medical Baseline Customers
- Public Education & Outreach
- External Collaboration & Feedback
PacifiCorp’s California Service Territory

General Stats

PacifiCorp provides electricity to approximately **45,000 customers** via **63 substation**, **2,520 miles** of distribution lines, and **about 800 miles** of transmission lines across nearly **11,000** square miles of which just under half is classified as HFTD.

HFTD Stats

Approximately **1,200 miles** or **36%** of all overhead lines are located within the HFTD.

- **850 miles** of overhead distribution lines in the HFTD;
- **350 miles** of transmission lines in the HFTD.
PacifiCorp’s CA PSPS Zone Summary

- PacifiCorp has identified two extreme risk geographic locations generally centered around Tier 3
- These locations are subdivided into 5 discrete zones
- Approximate impact:
  - 20 circuits
  - 9 substations
  - 259 line-miles
  - 10,351 customers

<table>
<thead>
<tr>
<th>PSPS Name</th>
<th>Substation</th>
<th># of Circuits</th>
<th>Customers</th>
<th>Distribution OH</th>
<th>Distribution UG</th>
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<tbody>
<tr>
<td>1</td>
<td>Happy Camp Seiad, Happy Camp</td>
<td>3</td>
<td>865</td>
<td>48.4</td>
<td>5.9</td>
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<td>2</td>
<td>Weed Weed, International Paper</td>
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<td>2,589</td>
<td>90.5</td>
<td>62.1</td>
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<td>3</td>
<td>Mt. Shasta Mt. Shasta</td>
<td>6</td>
<td>5,074</td>
<td>86.4</td>
<td>76.7</td>
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<tr>
<td>4</td>
<td>Dunsmuir N &amp; S Dunsmuir, Nutglade</td>
<td>5</td>
<td>1,806</td>
<td>30.0</td>
<td>8.6</td>
</tr>
<tr>
<td>5</td>
<td>Snowbrush</td>
<td>1</td>
<td>17</td>
<td>4.2</td>
<td>1.2</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>9 Substations</strong></td>
<td><strong>20</strong></td>
<td><strong>10,351</strong></td>
<td><strong>259.5</strong></td>
<td><strong>154.5</strong></td>
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Vegetation Threats & Mitigation Measures

Vegetation threats pose significant risk to the electrical system

- Threat trees pose fall in risk
- Thick, dense vegetation canopy pose blow in / contact risk

Short Term Mitigation Measures:
- Incremental vegetation inspections in high-risk locations
- Reduction of high-risk tree inventory
- Radial Pole Clearing to reduce fuel
- Situational Awareness through data collection

Long Term Mitigation through System Hardening:
- Covered Conductor
- Fault Detection
- System Automation
Grid Hardening Improvements & PSPS Impacts

- PSPS is a mitigation tool implemented as a last resort due to extreme risk
- Long term mitigation of risk is achieved through grid hardening
- Therefore, grid hardening is targeted at extreme risk PSPS locations
  - Installation of Covered Conductor
  - Replacement of Wooden Poles
  - Installation of System Automation Equipment
  - Replacement of Small Diameter Conductor
- Impacts to PSPS risk anticipated in 2022:

<table>
<thead>
<tr>
<th>#</th>
<th>Construction Activity</th>
<th>Planned Completion</th>
<th>Status</th>
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<tbody>
<tr>
<td>10</td>
<td>Rebuild 2.5 miles to covered conductor, re-conductoring the main line portion (north ring fence) of circuit 5G77. Taps on this line are not included.</td>
<td>2021</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Rebuild 8.5 miles to covered conductor the Siskiyou Lake portion of circuit 5G79.</td>
<td>2022</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Rebuild 3.0 miles to covered conductor the Deetz Road portion of circuit 5G77.</td>
<td>2022</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Rebuild 2.4 miles to covered conductor, re-conductoring the main line portion (south ring fence) of circuit 5G79. Taps on this line are not included.</td>
<td>2021</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Rebuild 29.7 miles to covered conductor the NW portion of circuit 5G76.</td>
<td>2023</td>
<td></td>
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PSPS Decision Making Framework

• PacifiCorp uses a range on inputs in its assessment and decision-making process:
  ✓ Weather Forecasting & Risk
  ✓ Localized System Impact Assessment
  ✓ Real Time Local Conditions
  ✓ Dynamic Input from Local Partners

• The following metrics are used as part of the inputs in decision making:
  o **Hourly Fosberg Fire Weather Index (FFWI)** combines temperature, relative humidity, and 10-minute wind-speed factored into a single weather index correlated to influence on fire spread.
  o **The Keetch-Byram Drought Index (KBDI)** assesses the risk of fire by representing the net effect of evapotranspiration and precipitation in producing cumulative moisture deficiency.
  o **Localized Vapor Pressure Deficit (VPD)** measures the department from normal dryness in a shorter term to complement KBDI.
  o Forecasted wind speeds and potential sustained gusts.
Community Resource Centers

- Community Resource Centers (CRCs) Provide:
  - Shelter from environment
  - Air conditioning
  - Potable water
  - Seating and tables
  - Restroom facilities
  - Refrigeration for medicine and/or baby needs
  - Interior and area lighting
  - On-site security
  - Communications capability such as Wi-fi access, SatPhone, Radio, Cellular phone etc.
  - Televisions
  - On-site medical support (EMT-A at a minimum, Paramedic preferred)
  - Charging stations

- PacifiCorp has planned / established CRCs in coordination with county and tribal leadership:

<table>
<thead>
<tr>
<th>General Area</th>
<th>PSPS Zone Name</th>
<th>CRC Identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siskiyou County</td>
<td>Happy Camp PSPS Zone</td>
<td>Headway Building, Karuk Wellness Center (Happy Camp)</td>
</tr>
<tr>
<td></td>
<td>Weed / Snowbrush PSPS Zone</td>
<td>Weed Community Center, Karuk Wellness Center (Yreka)</td>
</tr>
<tr>
<td></td>
<td>Mt Shasta PSPS Zone</td>
<td>Mt Shasta Community Center</td>
</tr>
<tr>
<td></td>
<td>Dunsmuir PSPS Zone</td>
<td>Dunsmuir Community Center</td>
</tr>
<tr>
<td>Del Norte County</td>
<td>Cave Junction PSPS Zone</td>
<td>Selma Community Center, Cave Junction Senior Center, Cave Junction High School</td>
</tr>
</tbody>
</table>

- Multiple CRC locations within 10-20 miles of PSPS zones
- Additional locations can be established quickly during an event if needed
PSPS Mitigation – Community Resiliency

Pacific Power’s Community Resiliency Program includes funding to support Portable Generators, Technical Assistance, and Energy Storage:

- **Portable Generator Grants** Grant Funding to support the purchase of portable renewable backup generators that may be dispatched to provide power to vulnerable community members during an interruption in the utility power supply.

  2020: No requests for funding

- **Energy Storage Grants** Grant funding to support the installation of energy storage at critical facilities.

  2020: One project requested / awarded funding [General Store, 20 kW, 220 kWh storage]

- **Technical Assessment** Technical assessments to evaluate the potential costs and benefits of adding energy storage and associated technologies to critical facilities.

  2020: One project requested technical support

NEW in 2021

- **Mobile & Deployable EV Charging** PacifiCorp is procuring deployable EV charging equipment for dispatch to impacted communities during PSPS events; equipment will be located at community resource centers.

- **Under Development:**
  - Battery backup options are currently being evaluated for medically vulnerable customers and immediate deployment
  - Generator rebate program for customers located within a high risk or PSPS Zone under evaluation

2021 Application Time Period: July 13, 2021 - November 30, 2021
Public Education & Outreach

Customer Survey Conducted from October 27, 2020 – November 25, 2020

Survey Participation

✓ 595 Total Surveys Completed
  ➢ 80 Phone Based Surveys
  ➢ 515 Web Based Surveys

Major Takeaways

✓ Most commonly recalls channels for wildfire prevention were social networking and TV news.
✓ Respondents rated the Pacific Power website as the most useful and clear source of information.
✓ 68% reported to be more aware of wildfire safety communications in than in May 2020.
✓ 71% recall seeing, hearing, or reading the phrase “Public Safety Power Shutoff or PSPS”, up significantly from May 2020.
✓ 26% are aware of a PSPS map on Pacific Power’s website, a significant increase since May 2020.
✓ Among those reporting that they rely on electricity for medical needs, 1/3 are aware of additional notices, up significantly from May.

Forward Looking Strategy

✓ Continue utilizing current strategy but consider adding messaging targeted at critical customers and those with medical needs.
✓ Continue leveraging TV news and social networks to educate customers about PSPS events.
✓ Promote company website as a source of information.
✓ Evaluate efficiency of communications via newspapers and direct mail.
✓ Continue providing timely and accurate notifications prior to a PSPS event with an increased awareness of those relying on electricity for medical needs.
✓ Continue increasing awareness of PSPS designations and map availability on the Pacific Power website (nearly a 100% increase in results from May to November).

PSPS Mapping & Transparency

Working to update and enhance website material, including real time PSPS status updates.
AFN & Medical Baseline Customers

CARE Program – Update in 2021

- All applications and re-certification forms were updated with the following:
  - Forms are mailed to residential and master-meter customers to enroll in the discounted rate schedule or to re-certify and remain on the rate.
  - Applications for Group Living Facilities and Agricultural Employee Housing updated.
  - Tracking response rate for evaluation.

Medical Customers

- Due to the pandemic, customers can self-certify as a medical customer
- All medical customers are coded as AFN customers
- Post pandemic, all customers receiving an application for medical certification will receive information and will be able to identify as an AFN customer.

Medical Baseline Program

If you are a family member of someone with a disability, or someone without a disability who requires accessibility, financial or language support during a public safety power outage, the Medical Baseline Program may be available to you. This program helps ensure that no family is left without power if needed. If you qualify, we will provide an additional notification prior to a public safety power shut off. For more information, visit pacificpower.net/wildfire.

California Alternate Rates for Energy Program (CARE)

If you are facing a medical power shut off and you may be eligible for the CARE program. You can apply for CARE through your local utility or by contacting the Centralized Medical Holiday Program. You may be eligible for CARE if you are enrolled in a public assistance program such as Medi-Cal, Food Stamps, or Social Security or receive benefits from the Federal Benefits Enrollment Center (FBE) at Social Security Administration.

Outage preparedness

- Always have an emergency kit prepared at all times. This kit should include:
  - Smoke alarms
  - Flashlights
  - Bottled water
  - Batteries
  - Phone chargers
  - Important documents

- Batteries and other supplies must be kept up to date.

Medical Baseline 2019 2020 2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Medical Baseline Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>132</td>
</tr>
<tr>
<td>2020</td>
<td>127</td>
</tr>
<tr>
<td>2021</td>
<td>126</td>
</tr>
</tbody>
</table>

*28 Medical Baseline Customers live in a PDZ.
External Agency Coordination & Engagement

Communications Providers
Outreach to support preparedness:
- 8 communications providers / 4 located in PSPS Zones
- Initial outreach conducted to establish primary & secondary contacts:
  - Primary – 100%
  - Secondary – 50%
- Outreach continuing to improve preparedness and coordination

Engagement with Tribal Communities
Working to enhance coordination:
- Holding twice monthly meetings
- Established engagement with the Karuk Tribe newly hired emergency manager
- Continuing to coordinate and provide information to tribal communities via county emergency managers
- Establishing set meetings in the future

Engagement with Public Safety Partners
Working to enhance coordination:
- Collaborate formally through Annual Tabletop Exercises
  - May 25: Siskiyou County
  - May 27: Del Norte County
- Engage and maintain local situational awareness through applicable county emergency manager(s)

Feedback from External Agencies and Public Safety Partners

Aspects Working Well
- Joint Information System coordination has been established and will continue to be a valuable partnership
- State, County, local and private emergency management plans are aligned and function well together
- Partnerships established between state, county, local and private agencies to support coordination with access and functional needs populations

Areas to Watch
- Continued work through established partnerships is needed to improve coordination with Access and Functional Needs population
- Additional public outreach to customers to all customers regarding wildfire risk and mitigation strategies is needed
- Communications providers have limited bandwidth for some areas requiring secondary and tertiary contingency plans
Thank you