Joint Investor-Owned Utilities 2020

PSPS Workshop

PSPS: Reducing the Scale, Scope and Frequency

March 29, 2021
Late Season RFWs & PSPS

In 2020, there were 4 late-season RFW/PSPS events out of a total of 11 RFW/PSPS events for the season

<table>
<thead>
<tr>
<th>Date</th>
<th>Thu 11/26</th>
<th>Fri 11/27</th>
<th>Sat 11/28</th>
<th>Sun 11/29</th>
<th>Mon 11/30</th>
<th>Tue 11/31</th>
<th>Wed 12/2</th>
<th>Thu 12/3</th>
<th>Fri 12/4</th>
<th>Sat 12/5</th>
<th>Sun 12/6</th>
<th>Mon 12/7</th>
<th>Tue 12/8</th>
<th>Wed 12/9</th>
<th>No RFWs 12/10 through 12/22</th>
<th>Wed 12/23</th>
<th>Thu 12/24</th>
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<tbody>
<tr>
<td>RFW</td>
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<td>FPI</td>
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**Red Flag Warning 11/26-11/28**
- Top 20 Average Gusts: 48 mph
- Wind Speed Records: 0
- Peak Gust: **56 mph**
- Stations Reaching 95%: 75
- Station Reaching 99%: 8
- PSPS Customers Notified: 2,739
- PSPS Customers affected: 0
- CRCs Opened: 0

**Red Flag Warning High Wind Warning 12/2-12/4**
- Top 20 Average Gusts: 71 mph
- Wind Speed Records: 43
- Peak Gust: **94 mph**
- Stations Reaching 95%: 170
- **Station Reaching 99%: 126**
- PSPS Customers Notified: 95,000
- PSPS Customers affected: **73,000**
- CRCs Opened: 10 (2,667 cars)

**Red Flag Warning High Wind Warning 12/7-12/8**
- Top 20 Average Gusts: 59 mph
- Wind Speed Records: 2
- Peak Gust: **82 mph**
- Stations Reaching 95%: 145
- Station Reaching 99%: 67
- PSPS Customers Notified: 50,483
- PSPS Customers affected: **15,300**
- CRCs Opened: 6 (415 cars)

**Red Flag Warning 12/23-12/24**
- Top 20 Average Gusts: 57 mph
- Wind Speed Records: 2
- Peak Gust: **71 mph**
- Stations Reaching 95%: 152
- Station Reaching 99%: 66
- PSPS Customers Notified: 30,394
- PSPS Customers affected: **6,797**
- CRCs Opened: 4 (59 cars)
2020 PSPS Event Summary

**Peak Winds**

- Sep 8-9: 20 MPH
- Oct 26-27: 40 MPH
- Dec 2-4: 60 MPH
- Dec 7-8: 80 MPH
- Dec 23-24: 100 MPH

**Circuit Segments De-Energized**

- Sep 8-9: 49 Customers
- Oct 26-27: 395 Customers
- Dec 2-4: 73K Customers
- Dec 7-8: 15.3K Customers
- Dec 23-24: 6.8K Customers

**Damage/Hazard Found**

- Sep 8-9: 0
- Oct 26-27: 0
- Dec 2-4: 0
- Dec 7-8: 0
- Dec 23-24: 0

**Average Outage Duration**

- Sep 8-9: 10 Hours
- Oct 26-27: 10 Hours
- Dec 2-4: 30 Hours
- Dec 7-8: 40 Hours
- Dec 23-24: 30 Hours

**Longest Outage Duration**

- Sep 8-9: 10 Hours
- Oct 26-27: 10 Hours
- Dec 2-4: 60 Hours
- Dec 7-8: 40 Hours
- Dec 23-24: 20 Hours
2013-2021 weather data collected from the SDG&E weather network indicates an increase in occurrences of high wind events over the last several years.
Generator Programs
- Generator Grant Program – 1,334 units
- Generator Assistance Program – 2,284 customer rebates
- Whole Facility Generators – 80 customers

Microgrid – 5 Sites
- Ramona Air Attack Base, Butterfield Ranch, Shelter Valley, Cameron Corners, Julian Town Center – 348 customers
- Renewable options beginning in 2021

Weather Station
- 30 new weather stations
- 30-second reads at 210 weather stations
- New geospatial tools and PSPS dashboard

Sectionalizing Device
- 23 new devices – 5,773 customers
- Helped divide circuits into smaller segments
- Reduces customers impacts from PSPS

Load Transfer - 7 Circuits
- Four communities – 156 customers
- Rincon Reservation, Viejas Reservation, Del Mar, San Clemente
2020 PSPS Customer Impact Reduction: Generators and Microgrids

- **1,334 portable battery-powered generators** to Medical Baseline customers
- **2,284 generator purchase rebates** to customer in HFTD
- **80 Whole-Home Generators**
- **Emergency Ops. Center: PSPS generator** to Alpine mental health facility

- **5 Microgrids** enabled to keep communities energized (non-renewable, renewable options online beginning in 2021)
  - Ramona Air-Attack Base
  - Cameron Corners
  - Butterfield Ranch
  - Shelter Valley
  - Julian Town Center
2020 PSPS Customer Impact Reduction: Weather Technology & Load Transfer/Switching

• New weather technology
  • 30 new weather stations
  • 30-second weather data available at over 210 weather stations
  • New PSPS dashboard and geospatial tool to monitor weather conditions

• Fire Potential Index
  • FPI normally used to inform operational decisions by areas in our service territory
  • Use it to also reduce PSPS impacts

• New load transfer/localized switching plans
  • Seven circuits
  • Four communities
2020 PSPS Customer Impact Reduction

Estimated PSPS Reductions in 2020 Events

- **December 2-4**
  - De-energized: 5,899
  - Sit Awareness Reductions: 7,332
  - PSPS Engineering Team Reductions: 73,977

30 second weather station reads and PSPS Engineering team mitigations resulted in **15% overall reduction**.

- **December 7-9**
  - De-energized: 15,528
  - Sit Awareness Reductions: 22,860
  - PSPS Engineering Team Reductions: 1,721

30 second weather station reads and PSPS Engineering team mitigations resulted in **61% overall reduction**.

- **December 23-24**
  - De-energized: 6,797
  - Sit Awareness Reductions: 19,195
  - PSPS Engineering Team Reductions: 156

The Fire Potential Index and PSPS Engineering team mitigations resulted in **74% overall reduction**.
2020 Fire Season: Customer Communications and Community Support

• In-Event Customer Communications
  • More than 10,000 PSPS App downloads
  • 31 roadside electronic message signs deployed
  • Notifications available in eight languages; this will be expanded to 22 languages in 2021

• Vulnerable Customer Communications
  • 700+ community orgs reached through County OES/Partner Relay
  • 200 Community Based Partner orgs amplified messaging

• Public Safety Partner Notification
  • 2,000+ touchpoints with public safety partners per event
  • 88% surveyed public safety partners satisfied with SDG&E communication
2020 PSPS Access and Functional Needs Support

SDG&E partners with regional & statewide organizations to identify and offer support to customers with access and functional needs during PSPS events

Available Services

- Readiness Support
- Enhanced Notifications
- Accessible Transportation
- Hotel Stays
- Food Delivery
- Resiliency Items
- Battery Back-up Programs
- Welfare Checks
## 2021 PSPS Impact Reduction

<table>
<thead>
<tr>
<th>WMP Program</th>
<th>2021 Number of Locations</th>
<th>2021 Customer PSPS Impact Reduction</th>
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<tbody>
<tr>
<td>PSPS Sectionalizing</td>
<td>10</td>
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<tr>
<td>Fixed Backup Power</td>
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<td>413</td>
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<tr>
<td>Resiliency Grant Programs</td>
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<td>2,000</td>
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<tr>
<td>Resiliency Assistance Programs</td>
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<td>1,250</td>
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<tr>
<td>Microgrids</td>
<td>6</td>
<td>578</td>
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<tr>
<td>Undergrounding</td>
<td>9</td>
<td>1,127</td>
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<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

*Weather events will dictate the actual number of customers reduced by the project*