



e-FILING REPORT COVER SHEET

COMPANY NAME: PacifiCorp d/b/a Pacific Power

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes If yes, submit a redacted public version (or a cover letter) by email. Submit the confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

Select report type: RE (Electric) RG (Gas) RW (Water) RT (Telecommunications)
 RO (Other, for example, industry safety information)

Did you previously file a similar report? No Yes, report docket number: RE 107

Report is required by: OAR 860-023-0161

Statute

Order

Note: A one-time submission required by an order is a compliance filing and not a report (file compliance in the applicable docket)

Other

(For example, federal regulations, or requested by Staff)

Is this report associated with a specific docket/case? No Yes, docket number: RE 107

List Key Words for this report. We use these to improve search results.

Major Event Report

Send the completed Cover Sheet and the Report in an email addressed to PUC.FilingCenter@state.or.us

Send confidential information, voluminous reports, or energy utility Results of Operations Reports to PUC Filing Center, PO Box 1088, Salem, OR 97308-1088 or by delivery service to 201 High Street SE Suite 100, Salem, OR 97301.

May 11, 2021

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
Attn: Filing Center
201 High Street SE, Suite 100
Salem, OR 97301-3398

RE: RE 107—PacifiCorp Major Event Report

In compliance with OAR 860-023-0161, PacifiCorp d/b/a Pacific Power (PacifiCorp or the Company) submits the enclosed report describing a major event that occurred March 28-29, 2021, affecting the Company's Central Oregon reliability reporting region as well as areas outside the reporting region.

PacifiCorp requests to exclude the outage information for this event from both its network performance reporting and customer guarantee failure payments.

If you require further information regarding this report, please contact Heide Caswell, Director, Asset Performance and Wildfire Mitigation, at (503) 813-6216.

Sincerely,



Shelley McCoy
Director, Regulation

Enclosure

Cc: Lori Koho – Administrator, Safety, Reliability, and Security Division

Report to the Oregon Public Utility Commission
Electric Service Reliability - Major Event Report

Event Date: March 28-29, 2021

Date Submitted: May 11, 2021

Primary Affected Locations: Oregon

Primary Cause: Windstorm

Exclude from Reporting Status: Yes

Report Prepared by: April Brewer

Report Approved by: Heide Caswell, Milton Buker

Event Customer Impact and Outage Summary

| Event Outage Summary | |
|---|------------------|
| # Interruptions (sustained) | 124 |
| Total Customer Interrupted (sustained) | 14,903 |
| Total Customer Minutes Lost | 6,828,952 |
| State Event SAIDI | 10.95 Minutes |
| CAIDI | 458 |
| Major Event Start | 3/28/21 12:00 AM |
| Major Event End | 3/29/21 8:12 PM |

On the afternoon of March 28, 2021, Central Oregon began experiencing a series of significant outage events as high winds downed trees across the area. From 1:35 p.m. to 7:35 p.m. the operating area of Bend and Madras experienced 21 outage events, a significant amount for an operating area that sees an average of only two to three outages per day. In addition, wind and tree related outages occurred in Pendleton, Portland, Albany, and Coos Bay. Over the course of the event outage durations ranged from 18 minutes to 2 days 21 hours 15 minutes, with an average duration of 7 hours 38 minutes.

During the high wind event service in Central Oregon was severely impacted, as shown in Figure 1. The southern portion of the map shows the concentrated significant impacts to distribution feeds from the China Hat Substation. This area was the most significantly impacted during the major event, when broken branches and trees damaged equipment. In addition, access to patrol and repair of damaged equipment was impeded by trees and debris on the road, requiring cross country access. Over 80% of the approximately 6,542 customers served from the China Hat substation experienced an outage; 3,111 of these customers were out for over 10 hours. Line crews from Portland and Albany, along with two tree crews were dispatched to Central Oregon

to assist in restoration support. Figures 2 and 3 show wind gusts measurements in Central Oregon during the major event. ¹

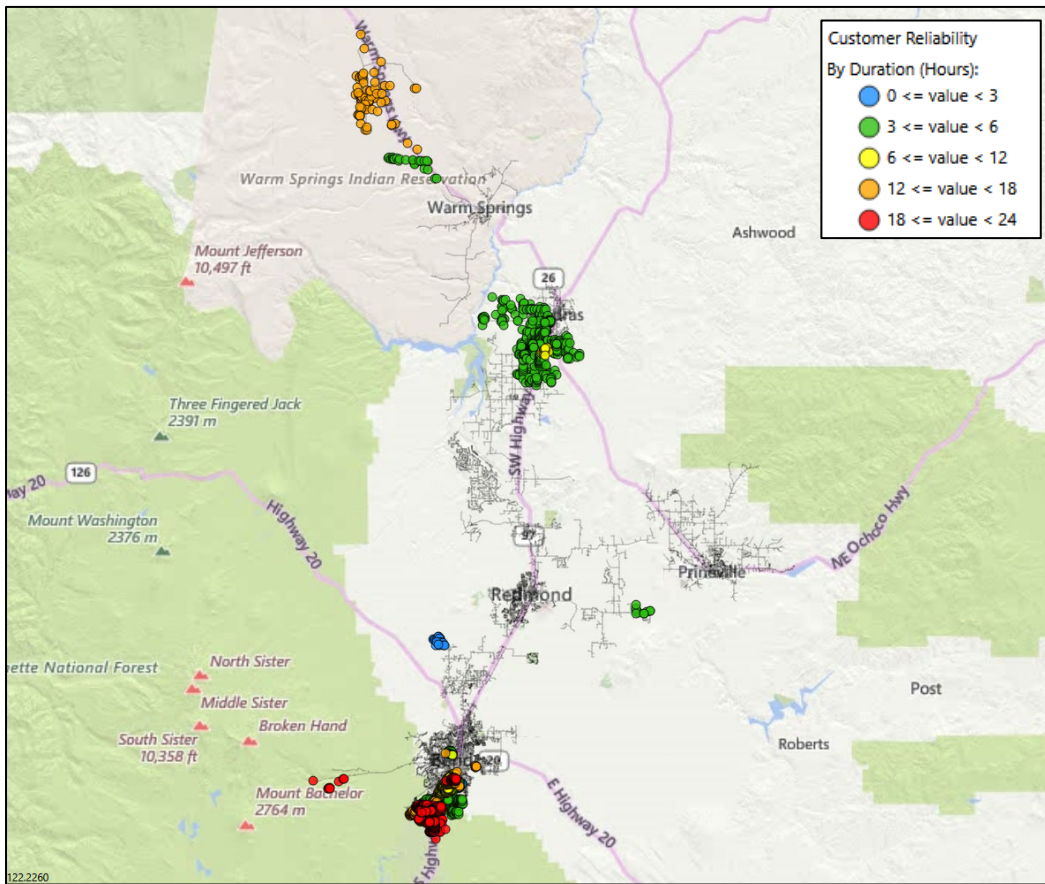


Figure 1: Central Oregon major event outages by duration.

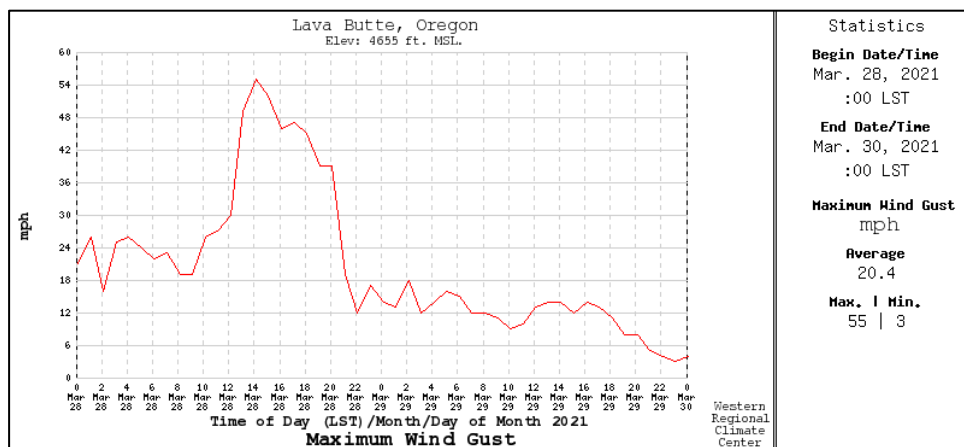


Figure 2. Lava Butte, Oregon RAS Wind Gust measurements March 28th through March 29th.

¹ Remote Automatic Weather Station (RAWS). <https://raws.dri.edu/>

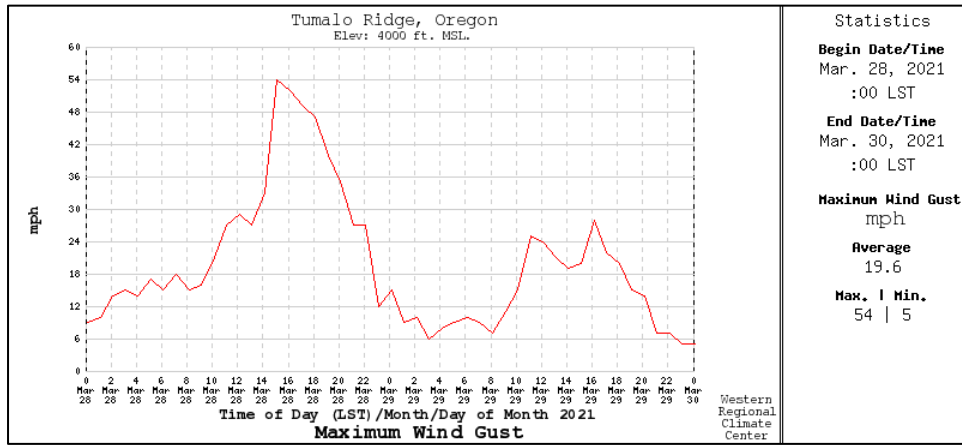


Figure 3. Tumalo Ridge, Oregon RAS Wind Gust measurements March 28th through March 29th.

In addition to Central Oregon, the balance of the state also experienced outages, many as a result of high winds or other storm-related impacts. Figure 3 shows the outages experienced during the major event across the state. Notably Portland and Pendleton both experienced outages which resulted from high winds. In Pendleton, eight customers experienced an outage lasting 2 days 21 hours 15 minutes, when high winds downed 12 poles.

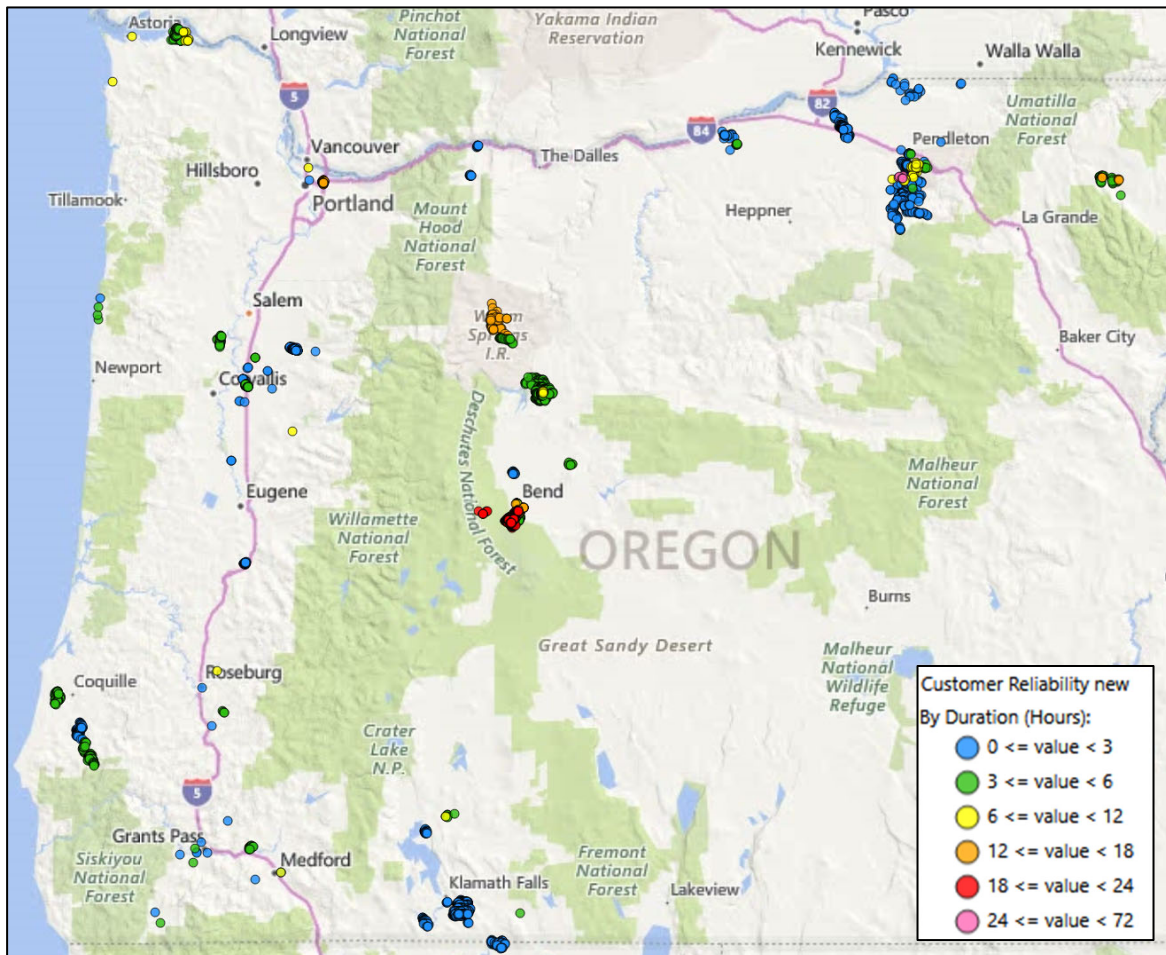
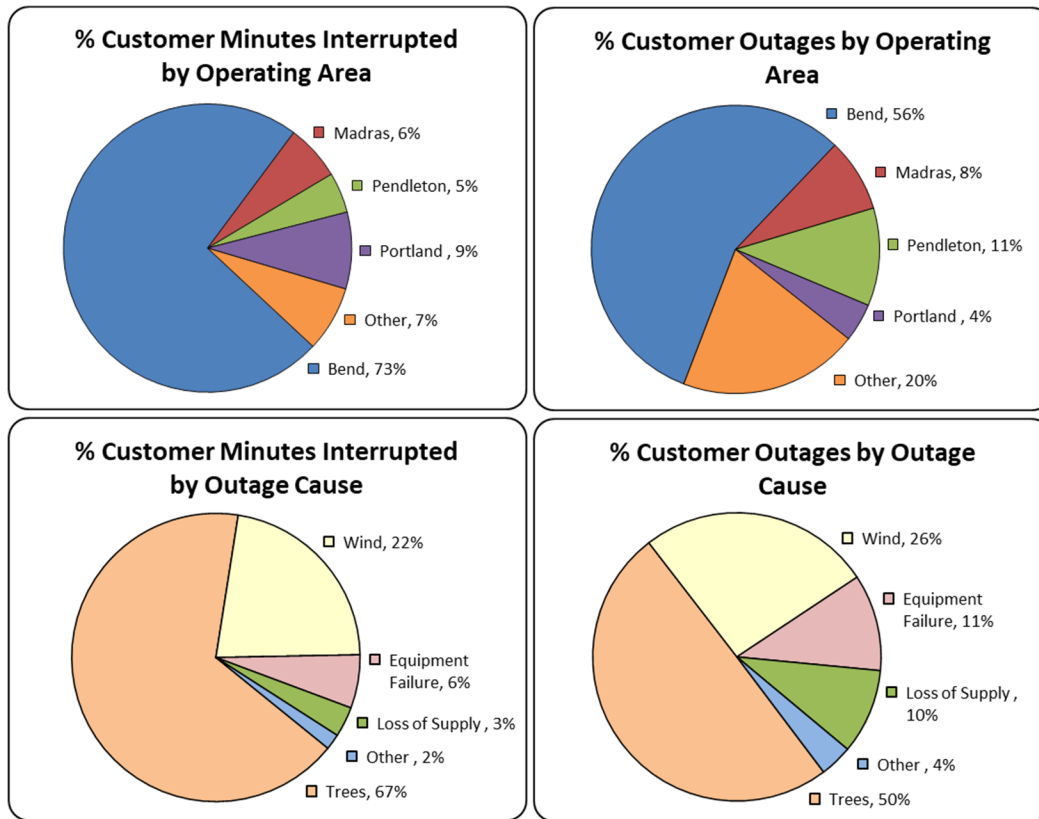


Figure 3: Oregon major event outages by duration.

Figures 4 and 5 outline the percentage of customer minutes interrupted and customer outages experienced by operating areas and also by cause code.



To date, there has been one commission complaint made regarding this major event. There have been no company complaints concerning this event.

The following table shows the amount of total customer outages experienced (separated as individual outage events), and the restoration duration intervals.

| Restoration Intervals | | | | |
|---------------------------|----------|-------------|----------|----------|
| Total Customers Sustained | < 3 Hrs. | 3 - 24 Hrs. | 1-2 Days | 2-3 Days |
| 14,903 | 3,006 | 11,889 | 0 | 8 |

Restoration Resources, Cost, and Damaged Equipment ²

| Personnel Resources | | | |
|----------------------------------|----|---------------------------|------------|
| Estimator | 6 | Foreman | 5 |
| Substation crewmembers | 8 | Support Staff | 3 |
| Line crewmembers | 62 | External Contract Crewman | 36 |
| Warehouse support | 2 | Tree Crewman | 11 |
| Total Personnel Resources | | | 133 |

| Materials | | | |
|-------------------------------|-------|--------------|-----|
| # Poles (D) | 20 | Cutouts | 5 |
| # Poles (T) | 2 | Line splices | 108 |
| Approx. Conductor Line (feet) | 1,534 | Arrester | 1 |
| # Transformers | 11 | Insulators | 110 |
| # Crossarms | 10 | | |

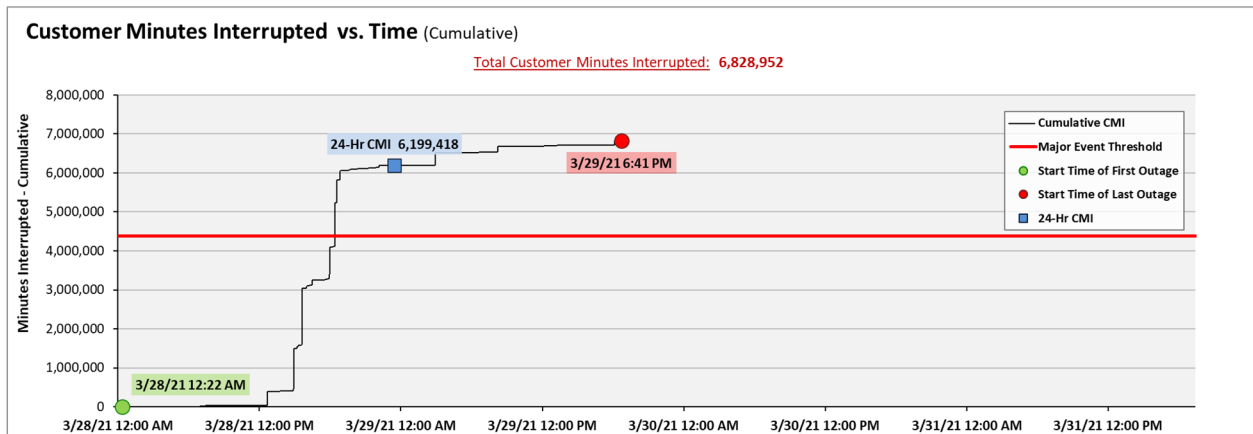
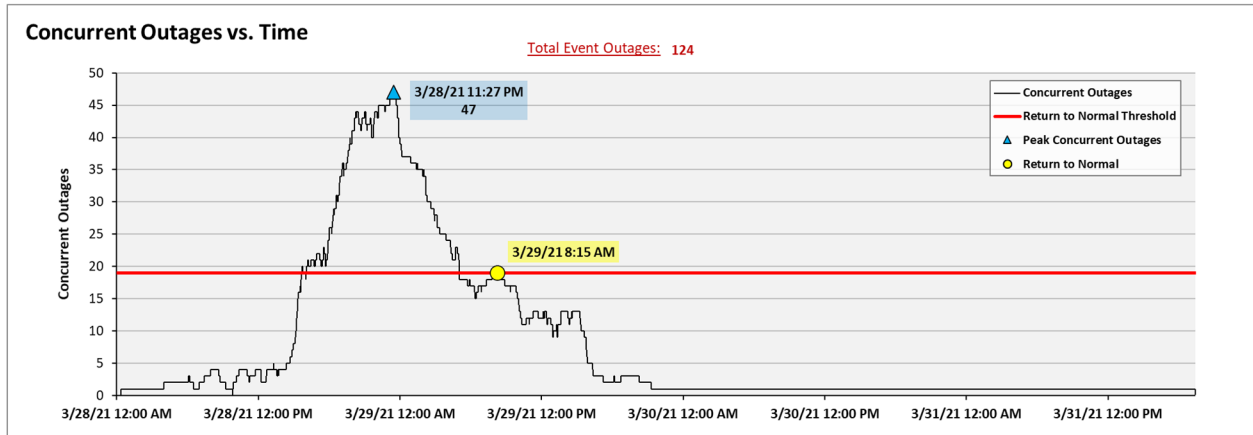
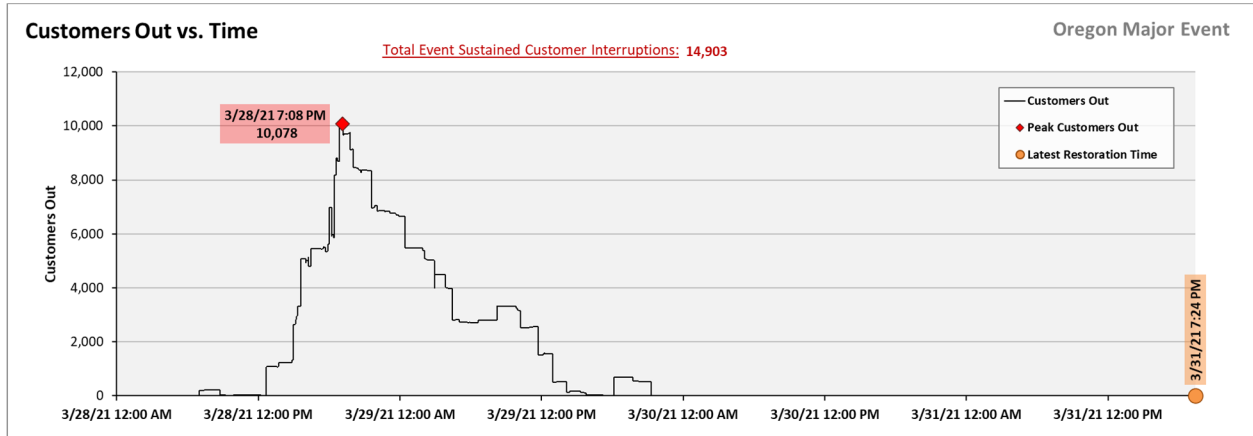
| Cost | | | | | |
|----------------|------------------|--------------------|-----------------|-----------------|------------------|
| Estimate \$ | Labor | Contract Resources | Materials | Overheads | Total |
| Capital | \$100,257 | \$231,573 | \$49,755 | \$34,127 | \$415,712 |
| Expense | \$101,665 | \$43,168 | \$1,490 | \$5,567 | \$151,889 |
| Total | \$201,921 | \$274,741 | \$51,245 | \$39,693 | \$567,600 |

Major Event Declaration

PacifiCorp designates these events and the consequences thereof a major event in accordance with OAR 860-023-0161. This is a major event because it exceeded the design or operating limits of the system, and the Major Event Threshold for Oregon as calculated annually by the company according to IEEE 1366-2003 methodology (commonly referred to as the 2.5 beta method). The company's 2021 Oregon reliability threshold is 4,375,975 customer minutes lost (7.02 Oregon SAIDI minutes) in a 24-hour period.

² Data provided represents specific system records for personnel, resources, and costs; and is specific to the event, inclusive of state delineation. However additional resources whose participation did not get individually captured in transaction recording systems were utilized during the event, thus the data presented here effectively understates the resources, including cost, involved in restoring the system to normal.

Event Details



SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

PacifiCorp Major Event Report
Customer Analysis

| | Oregon | Customer Analysis 3/28/2021 through 3/29/2021 | | | | | Customers Restored by Intervals | | | | | | | | Major Event Only - metric by operating area customer counts | | |
|----|----------------------|--|---------------------------|-----------|-----------------------------------|----------------|---------------------------------|---------------|----------------|-----------------|-----------------|-----------------|----------|---|--|-------|-------|
| | | Sustained Customers Off | % Sustained Customers Off | CML | Number of Sustained Interruptions | Customer Count | < 5 min | 5 min - 3 hrs | 3 hrs - 24 hrs | 24 hrs - 48 hrs | 48 hrs - 72 hrs | 72 hrs - 96 hrs | 96 + hrs | % Sustained Customers Restored in 3 Hours PS4 | SAIDI | SAIFI | CAIDI |
| PC | PACIFICORP | 14,903 | 1% | 6,828,952 | 124 | 2,019,764 | 3,969 | 3,006 | 11,889 | - | 8 | - | - | 20% | 3.38 | 0.007 | 458 |
| PP | Pacific Power | 14,903 | 2% | 6,828,952 | 124 | 807,241 | 3,969 | 3,006 | 11,889 | - | 8 | - | - | 20% | 8.46 | 0.018 | 458 |
| OR | Oregon | 14,903 | 2% | 6,828,952 | 124 | 623,412 | 3,969 | 3,006 | 11,889 | - | 8 | - | - | 20% | 10.95 | 0.024 | 458 |
| OR | ALBANY | 655 | 2% | 130,575 | 2 | 32,925 | - | 3 | 652 | - | - | - | - | 0% | 3.97 | 0.020 | 199 |
| OR | BEND/REDMOND | 8,389 | 12% | 5,002,669 | 29 | 69,733 | - | 103 | 8,286 | - | - | - | - | 1% | 71.74 | 0.120 | 596 |
| OR | CLATSOP (ASTORIA) | 110 | 0% | 43,040 | 4 | 25,251 | - | - | 110 | - | - | - | - | 0% | 1.70 | 0.004 | 391 |
| OR | COOS BAY/COQUILLE | 986 | 4% | 161,330 | 3 | 26,382 | - | 342 | 644 | - | - | - | - | 35% | 6.12 | 0.037 | 164 |
| OR | COTTAGE GROVE/J.CITY | 361 | 3% | 20,469 | 1 | 11,390 | - | 361 | - | - | - | - | - | 100% | 1.80 | 0.032 | 57 |
| OR | DALLAS/INDEPENDENCE | 49 | 0% | 11,495 | 1 | 15,858 | - | - | 49 | - | - | - | - | 0% | 1 | 0.003 | 235 |
| OR | ENTERPRISE | 48 | 1% | 16,266 | 5 | 5,531 | - | 1 | 47 | - | - | - | - | 2% | 2.94 | 0.009 | 339 |
| OR | GRANTS PASS | 7 | 0% | 1,131 | 4 | 52,543 | - | 4 | 3 | - | - | - | - | 57% | 0.02 | 0.000 | 162 |
| OR | HERMISTON | 36 | 1% | 3,045 | 4 | 4,906 | 1,418 | 29 | 7 | - | - | - | - | 81% | 0.62 | 0.007 | 85 |
| OR | HOOD RIVER | 41 | 0% | 6,226 | 3 | 9,595 | - | 41 | - | - | - | - | - | 100% | 0.65 | 0.004 | 152 |
| OR | KLAMATH FALLS | 415 | 1% | 58,813 | 12 | 38,015 | 1,481 | 384 | 31 | - | - | - | - | 93% | 1.55 | 0.011 | 142 |
| OR | LEBANON | 3 | 0% | 646 | 3 | 21,085 | - | 2 | 1 | - | - | - | - | 67% | 0.03 | 0.000 | 215 |
| OR | LINCOLN CITY | 38 | 0% | 7,546 | 7 | 12,080 | - | 12 | 26 | - | - | - | - | 32% | 0.62 | 0.003 | 199 |
| OR | MADRAS | 1,228 | 7% | 425,872 | 6 | 17,692 | 1,070 | 24 | 1,204 | - | - | - | - | 2% | 24.07 | 0.069 | 347 |
| OR | MEDFORD | 92 | 0% | 18,146 | 3 | 89,893 | - | 1 | 91 | - | - | - | - | 1% | 0.20 | 0.001 | 197 |
| OR | PENDLETON | 1,636 | 13% | 309,838 | 21 | 13,036 | - | 1,522 | 106 | - | 8 | - | - | 93% | 23.77 | 0.125 | 189 |
| OR | PORTLAND | 641 | 1% | 588,337 | 7 | 85,630 | - | 14 | 627 | - | - | - | - | 2% | 6.87 | 0.007 | 918 |
| OR | ROSEBURG/MYRTLECREEK | 13 | 0% | 2,336 | 5 | 42,940 | - | 8 | 5 | - | - | - | - | 62% | 0.05 | 0.000 | 180 |
| OR | STAYTON | 153 | 1% | 20,899 | 3 | 13,707 | - | 153 | - | - | - | - | - | 100% | 1.5 | 0.011 | 137 |
| OR | WALLA WALLA | 2 | 0% | 273 | 1 | 2,320 | - | 2 | - | - | - | - | - | 100% | 0.12 | 0.001 | 137 |

*Only current event specific metric impact shown. Does not include values from other events which may have occurred in other regions during the same time period.

| Date* | Customer Interrupted by Date 3/28/2021 through 3/29/2021 | | | | | Customers Restored by Intervals | | | | | | | | Major Event Only - metric by state customer counts | | |
|-----------|---|---------------------------|-----------|-----------------------------------|------------------------|---------------------------------|---------------|----------------|-----------------|-----------------|-----------------|----------|---|---|-------|-------|
| | Sustained Customers Off | % Sustained Customers Off | CML | Number of Sustained Interruptions | Average Customer Count | < 5 min | 5 min - 3 hrs | 3 hrs - 24 hrs | 24 hrs - 48 hrs | 48 hrs - 72 hrs | 72 hrs - 96 hrs | 96 + hrs | % Sustained Customers Restored in 3 Hours PS4 | SAIDI | SAIFI | CAIDI |
| 3/28/2021 | 12,832 | 2% | 6,199,418 | 92 | 623,412 | 3,969 | 2,712 | 10,112 | - | 8 | - | - | 21% | 9.94 | 0.021 | 483 |
| 3/29/2021 | 2,071 | 0% | 629,533 | 32 | 623,412 | - | 294 | 1,777 | - | - | - | - | 14% | 1.01 | 0.003 | 304 |

| |
|------------|
| Data as of |
| 3/22/2021 |

PacifiCorp Major Event Report

SSC by State Analysis

| | Oregon | Event 03/28/21 through 03/29/21 | | | | | | Month 03/01/21 through 03/31/21 | | | | | | YTD FY2022 01/01/21 through 03/31/21 | | | | | |
|------|--|---------------------------------|--------|-------|----------------------|-------|-------|---------------------------------|-------|-------|------------------------|-------|-------|--------------------------------------|-------|-------|------------------------|-------|-------|
| | | Major Events Included | | | Major Event Excluded | | | Major Events Included | | | Major Events Excluded* | | | Major Events Included | | | Major Events Excluded* | | |
| | PacifiCorp Major Events Report SSC by State | SAIDI | SAIFI | CAIDI | SAIDI | SAIFI | CAIDI | SAIDI | SAIFI | CAIDI | SAIDI | SAIFI | CAIDI | SAIDI | SAIFI | CAIDI | SAIDI | SAIFI | CAIDI |
| PC | PacifiCorp | 5.99 | 0.020 | 296 | 0.61 | 0.004 | 138 | 12.43 | 0.078 | 159 | 6.69 | 0.061 | 110 | 121.76 | 0.392 | 311 | 20.71 | 0.187 | 110 |
| Comp | Pacific Power | 9.22 | 0.022 | 412 | 0.76 | 0.004 | 195 | 14.38 | 0.068 | 211 | 5.03 | 0.045 | 112 | 264.60 | 0.636 | 416 | 19.50 | 0.164 | 119 |
| ST | Oregon | 10.95 | 0.024 | 458 | - | - | - | 15.14 | 0.068 | 223 | 4.19 | 0.044 | 95 | 328.27 | 0.709 | 463 | 17.78 | 0.163 | 109 |
| OR | ALBANY | 0.209 | 0.0011 | 199 | - | - | - | 0.44 | 0.007 | 64 | 0.23 | 0.006 | 39 | 50.21 | 0.066 | 766 | 0.41 | 0.007 | 60 |
| OR | BEND/REDMOND | 8.025 | 0.0135 | 596 | - | - | - | 8.09 | 0.014 | 571 | 0.06 | 0.001 | 88 | 9.05 | 0.018 | 490 | 0.25 | 0.002 | 133 |
| OR | CLATSOP (ASTORIA) | 0.069 | 0.0002 | 391 | - | - | - | 0.13 | 0.001 | 180 | 0.06 | 0.001 | 109 | 11.19 | 0.039 | 284 | 1.03 | 0.008 | 123 |
| OR | COOS BAY/COQUILLE | 0.259 | 0.0016 | 164 | - | - | - | 0.36 | 0.002 | 162 | 0.10 | 0.001 | 158 | 5.57 | 0.025 | 223 | 0.51 | 0.005 | 105 |
| OR | CORVALLIS | - | - | - | - | - | - | 0.11 | 0.004 | 26 | 0.11 | 0.004 | 26 | 6.60 | 0.045 | 146 | 1.59 | 0.027 | 58 |
| OR | COTTAGE GROVE/J.CITY | 0.033 | 0.0006 | 57 | - | - | - | 0.05 | 0.001 | 74 | 0.01 | 0.000 | 218 | 0.15 | 0.001 | 177 | 0.03 | 0.000 | 181 |
| OR | DALLAS/INDEPENDENCE | 0.018 | 0.0001 | 235 | - | - | - | 0.06 | 0.000 | 212 | 0.05 | 0.000 | 205 | 65.80 | 0.038 | 1,713 | 0.29 | 0.002 | 165 |
| OR | ENTERPRISE | 0.026 | 0.0001 | 339 | - | - | - | 0.03 | 0.000 | 269 | 0.00 | 0.000 | 115 | 0.07 | 0.000 | 251 | 0.02 | 0.000 | 138 |
| OR | GRANTS PASS | 0.002 | 0.0000 | 147 | - | - | - | 0.46 | 0.003 | 132 | 0.46 | 0.003 | 132 | 10.58 | 0.191 | 56 | 1.49 | 0.015 | 100 |
| OR | HERMISTON | 0.005 | 0.0001 | 85 | - | - | - | 0.01 | 0.000 | 85 | 0.00 | 0.000 | 85 | 0.17 | 0.006 | 29 | 0.12 | 0.006 | 21 |
| OR | HOOD RIVER | 0.010 | 0.0001 | 152 | - | - | - | 0.02 | 0.000 | 133 | 0.01 | 0.000 | 123 | 0.23 | 0.001 | 175 | 0.15 | 0.001 | 149 |
| OR | KLAMATH FALLS | 0.094 | 0.0007 | 142 | - | - | - | 0.13 | 0.004 | 36 | 0.03 | 0.003 | 11 | 2.86 | 0.015 | 192 | 2.26 | 0.012 | 196 |
| OR | LAKEVIEW | - | - | - | - | - | - | 0.00 | 0.000 | 34 | 0.00 | 0.000 | 34 | 0.00 | 0.000 | 34 | 0.00 | 0.000 | 34 |
| OR | LEBANON | 0.001 | 0.0000 | 215 | - | - | - | 0.03 | 0.000 | 150 | 0.03 | 0.000 | 149 | 7.33 | 0.019 | 380 | 0.51 | 0.004 | 136 |
| OR | LINCOLN CITY | 0.012 | 0.0001 | 199 | - | - | - | 1.02 | 0.007 | 156 | 1.01 | 0.006 | 155 | 3.42 | 0.019 | 180 | 2.04 | 0.016 | 125 |
| OR | MADRAS | 0.683 | 0.0020 | 347 | - | - | - | 0.79 | 0.003 | 298 | 0.10 | 0.001 | 153 | 1.44 | 0.014 | 101 | 0.71 | 0.012 | 59 |
| OR | MEDFORD | 0.029 | 0.0001 | 197 | - | - | - | 0.71 | 0.005 | 145 | 0.68 | 0.005 | 143 | 2.47 | 0.018 | 136 | 1.81 | 0.013 | 136 |
| OR | PENDLETON | 0.497 | 0.0026 | 189 | - | - | - | 0.51 | 0.003 | 183 | 0.02 | 0.000 | 90 | 1.79 | 0.009 | 209 | 0.28 | 0.002 | 135 |
| OR | PORTLAND | 0.944 | 0.0010 | 918 | - | - | - | 1.60 | 0.008 | 196 | 0.66 | 0.007 | 92 | 62.93 | 0.129 | 487 | 2.91 | 0.020 | 145 |
| OR | ROSEBURG/MYRTLECREEK | 0.004 | 0.0000 | 180 | - | - | - | 0.45 | 0.004 | 112 | 0.44 | 0.004 | 111 | 1.14 | 0.010 | 118 | 0.97 | 0.008 | 119 |
| OR | STAYTON | 0.034 | 0.0002 | 137 | - | - | - | 0.16 | 0.002 | 76 | 0.12 | 0.002 | 68 | 85.21 | 0.045 | 1,886 | 0.41 | 0.003 | 132 |
| OR | WALLA WALLA | 0.000 | 0.0000 | 137 | - | - | - | 0.00 | 0.000 | 153 | 0.00 | 0.000 | 155 | 0.05 | 0.000 | 222 | 0.01 | 0.000 | 130 |

*may include other regional major event exclusions during the same period. Operating areas are calculated by the state frozen customer count metrics.

| |
|-----------------|
| Data as/of |
| 5/3/2021 |