Oregon Public Utility Commission

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 See, report docket number: RE 107
Report is required by: 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.



February 27, 2020

VIA ELECTRONIC FILING

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

Attn: Filing Center

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 two major events that occurred January 11–17, 2020, and January 15–20, 2020, in the Company's southern Oregon reliability reporting region.

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

If you require further information regarding this report, please contact Heide Caswell, Director, Engineering and Environmental, at (503) 813-6216.

Sincerely,

Etta Lockey

Vice President, 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: January 11 and January 15-20, 2020

Date Submitted: February 27, 2020

Primary Affected Locations: Oregon

Primary Cause: Pacific Coast storm

Exclude from Reporting Status: Yes

Report Prepared by: April Brewer

Report Approved by: Heide Caswell/Larry Young/Milton Buker

January 11-20, 2020 Oregon Winter Storm Series

During the second week in January 2020 a series of Pacific Coast storms impacted Oregon customers' reliability, beginning with a lengthy outage affecting a remote section of Oregon. This storm event was later augmented by a multi-day winter storm that impacted a large section of the company's southern Oregon service area.

Lemolo Outage - Event Description and Summary

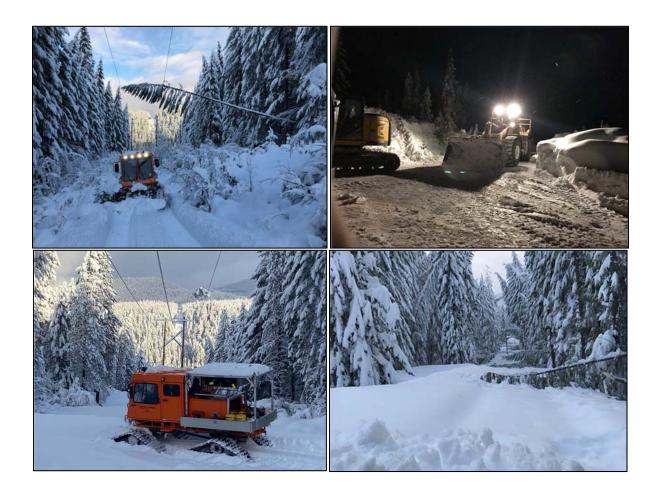
On January 11, 2020, 179 customers served by the Lemolo circuit experienced an outage when high winds and heavy snow downed equipment. The Lemolo circuit is located in the Umpqua National Forest, serving rural customers and recreational facilities around Diamond Lake. The circuit is located 80 miles to the east of Roseburg. On the morning of January 11, the Toketee Control Operator reported the field recloser on the Lemolo line had opened. A linemen from Roseburg was dispatched to patrol the area. Upon arrival, the lineman notified dispatch of the conditions and that 12 spans of line were down due to snow loaded trees falling through the lines. The lineman requested snow cats and additional crews to assist in clearing and accessing damaged equipment. One tree crew and two contract crews were dispatched to the area.

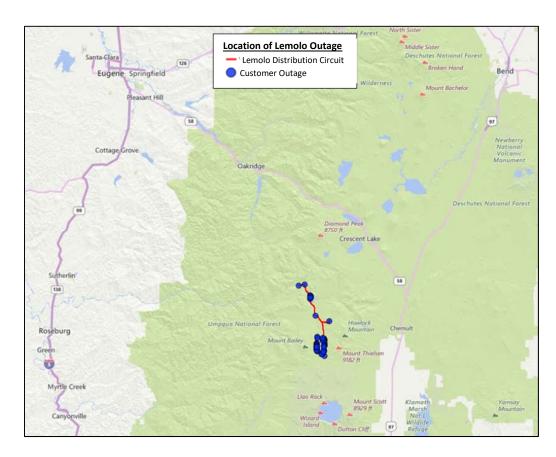
On January 13, as crews worked to clear the area of downed trees and snow, the storm picked up again with heavy snow and high winds. During the storm, snow loaded trees and high winds began to down additional trees, so restoration activities were suspended due to concerns with the crews' safety. This second storm event caused additional damage to the company's facilities and added another 14 inches of snow for crews to work through, slowing restoration activities. Approximately 185 trees were cut or knocked down in the right of way and had to be cleared with use of heavy equipment and additional vegetation personnel. Excavators moved snow and trees in the evenings so crews could access the area.

In total, two internal crews (one from Bend and another from Roseburg), four external line crews, and four tree crews worked to restore service. Over the course of the outage crews experienced heavy snow and high winds; in total five and one- half feet of snow fell during the

of four days and wind gusts were as high as 55 mph. Crews were often pulled from restoration activities for safety as the storm persisted. Of the 179 service meters in the area, only a few customers were at their residences when the outage occurred. Due to the remote location and limited services in the area, residences and businesses are prepared for outage events, and many have their own power generators. Local businesses are also provided with a direct line to the company's regional general manager. In addition to providing several company communication notices to customers on a daily basis, the regional general manager was in regular communication with customers during the outage event. By the evening of January 17, crews had completed the rebuild of the line and were able to restore power. The photos below were taken by crews as they worked to repair damaged equipment.

Event Outage Sun	nmary
# Interruptions (sustained)	1
Total Customer Interrupted (sustained)	179
Total Customer Minutes Lost	1,499,929
State Event SAIDI	2.43 Minutes
CAIDI	8,379
Major Event Start	1/11/2020 11:52 PM
Major Event End	1/17/2020 11:55 PM





Lemolo Restoration Resources and State Estimated Major Event Costs ¹

Personnel Resources												
Estimator	Relay Tech	1										
Field Journeyman	18	Substation Journeyman	1									
Garage Mechanic	3	Contract crewman	5									
General Foreman	1	Flagger	2									
Warehouseman	1	Tree crewman	13									
		TOTAL	46									

Materials										
# Poles (D)	3	Insulators	113							
Approx. Conductor Line (feet)	17,560	Line splices	245							
# Crossarms	16	Guy wire	250							

Estimate \$	Labor	Contract Resources	Materials	Overheads	Total
Capital	\$ 42,317	\$294,407	\$10,281	\$70,428	\$417,433
Expense	\$33,331	\$52,052	\$0	\$2,713	\$85,383
Total	\$75,648	\$346,459	\$10,281	\$73,141	\$502,816

¹ Data provided represents specific system records for personnel, resources, and costs; and is specific to the event, not 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.

3 of 8

Winter Storm - Event Description and Summary

On the morning of January 15, 2020, customers in Grants Pass and Roseburg began experiencing outages as a second wave of a winter storm involving high winds and snow began impacting service across the region. By evening the number of weather-related outages due to fallen trees and damaged equipment had grown. Within a span of less than 12 hours (from 7:45 p.m. on January 15 to 7:45 a.m. on January 16) over 21,000 customer interruptions were experienced, and concurrent outages for the state grew from seven outage events to more than 100 outage events. Although crews were able to begin some restoration activities, the number of new outage events outpaced restoration efforts. By the evening of January 17, concurrent outage events had peaked at 198 events.

At 7:00 a.m. on January 16, the Pacific Power Emergency Operations Center was activated, and operations personnel were mobilized, assessing the situation, and dispatching additional crews from across the state. Crew management was critical during this storm event. Not only had crews been dispatched to the Umpqua National Forest to rebuild the Lemolo circuit, but the company's service area in northern California was also experiencing outages related to the storm. As the storm progressed, many crews were forced to wait till daylight before damage assessments could be made. The storm damage was widespread and primarily in rural locations, slowing travel time for employees. Coordination between the Oregon Department of Transportation and local public works agencies was crucial to respond to road conditions and ensure debris was cleared from roadways to allow for safe travel for restoration activities.

In the late afternoon of January 16, a series of outbound calls were placed to customers notifying them of the likelihood of continued overnight outages; accommodations were also made with local community based organizations to establish warming centers. Additional outbound calls were made the following morning to provide customers updated information. The storm began to subside on January 17, making it easier for company crews and local public works agencies to clear roads and downed vegetation. As roadways became accessible, equipment assessment, crew assignments, and repairs were positively affected.

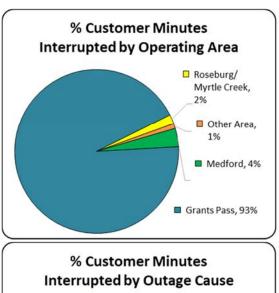
By the evening of January 17, area assessments were completed in Medford and Roseburg and the majority of services were restored. As service was restored in Medford and Roseburg, Pacific Power crews and contractors were redeployed to assist with restoration efforts in rural Josephine County, which experienced the largest number of outages, and other areas impacted by the storm. The company continued to work with local public works agencies to clear roads, while vegetation crews worked to remove debris from power lines. The company continued its outbound calls to customers to keep them informed of restoration progress.

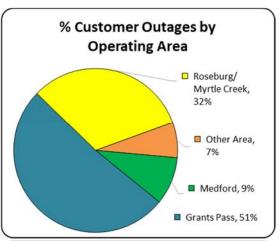
On January 20, the Pacific Power Emergency Operations Center was deactivated. Restoration work during the event was challenging due to the volume and location of the outages. Most of the outages were geographically dispersed throughout remote areas where snow-cats and other special equipment were needed to deal with site conditions and rugged terrain. Over 300 personnel worked to clear downed trees and make repairs following the winter storm.

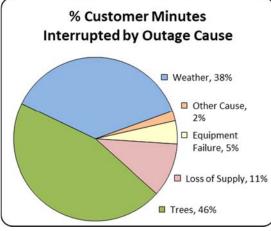
During the event, 453 Pacific Power linemen, tree crewmen, support staff, and contractors assisted in restoring service to customers. In addition to personnel, 64 poles, 200 crossarms,

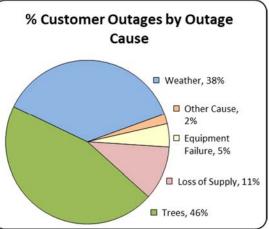
7,352 line splices, and approximately 77,102 feet of conductor were needed to restore power. There were no complaints received by the company and one commission complaint made regarding the major event.

Event Outage Sun	nmary
# Interruptions (sustained)	667
Total Customer Interrupted (sustained)	54,441
Total Customer Minutes Lost	45,662,455
State Event SAIDI	74 Minutes
CAIDI	839
Major Event Start	1/15/20 5:53 AM
Major Event End	1/20/20 8:55 PM

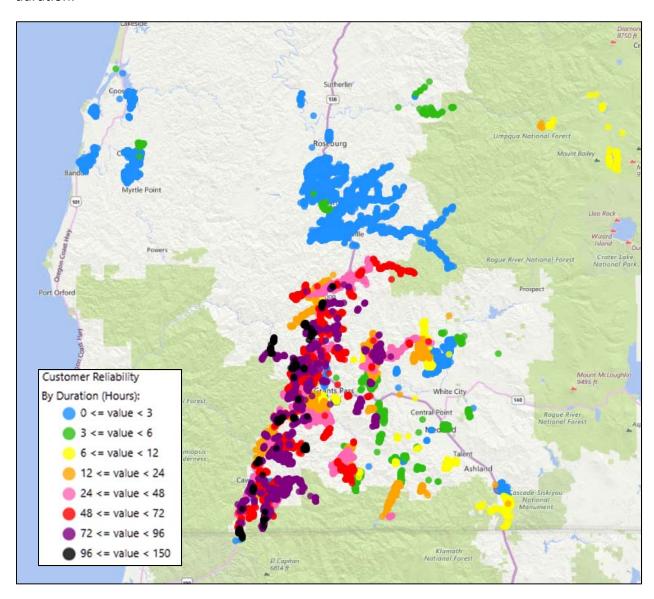








The graphic below displays the customer outages during the event colored by cumulative outage duration.



Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.	48-72 Hrs.	72-96 Hrs.	96+ Hrs.
54,441	22,457	21,230	5,530	3,654	1,522	48

Restoration Resources and State Estimated Major Event Costs²

Personnel Resources													
Line Crewman	103	Meterman	4										
Estimator	12	Substation Relay Tech	2										
Service Coordinator	9	Substation Wireman	6										
Collector	4	Safety Specialist	2										
General Foreman	4	Tree crewman	70										
Stores/Logistics	15	Contract Crewman	197										
Operations Manager	9	Flaggers	16										
		TOTAL	453										

	Mate	erials	
# Poles (D)	63	Cutouts	175
# Poles (T)	1	Line fuses	1,471
Approx. Conductor Line (feet)	77,102	Line splices	7,352
# Transformers	44	Guy wire	3,750
# Crossarms	200	Bird Guard	66
Insulators	1,783	Regulator	1

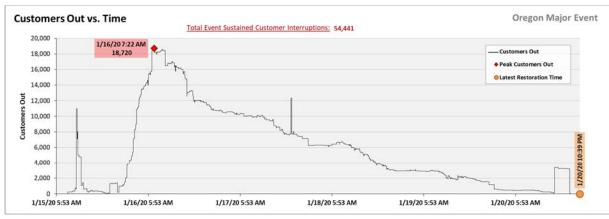
Estimate \$	Labor	Contract Resources	Materials	Overheads	Total
Capital	\$138,521	\$642,674	\$105,567	\$141,244	\$1,028,006
Expense	\$1,654,365	\$2,091,196	\$161,092	\$147,291	\$4,053,944
Total	\$1,792,886	\$2,733,870	\$266,659	\$288,535	\$5,081,950

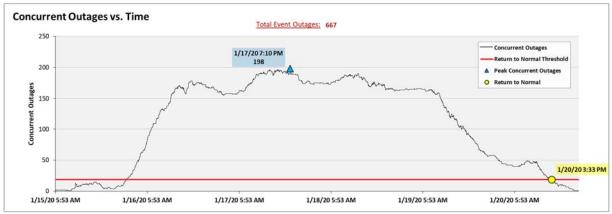
Major Event Declaration

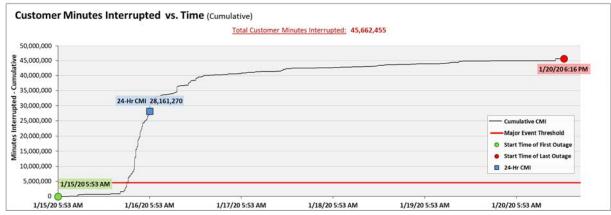
PacifiCorp designates these events and the consequences thereof a major event in accordance with OAR 860-023-0161. This is a major event because it exceeded the design or operating limits of the system, and the Major Event Threshold for Oregon as calculated annually by the company according to IEEE 1366-2003 methodology (commonly referred to as the 2.5 beta method). The company's 2020 Oregon reliability threshold is 4,480,143 customer minutes lost (7.26 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, not 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 1/15/2020 through 1/20/2020							Customers Restored by Intervals								Major Event Only - metric by operating area customer counts		
	PacifiCorp Major Events Report Customer Analysis*	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	54,620	3%	47.462.204	668	1,982,346	31,425	22,457	21,230	5,530	3,654	1,522	227	440/	23.79	0.028	863		
PC	PACIFICORP	34,020	370	47,162,384	000	1,982,340	31,423	22,457	21,230	3,330	3,034	1,522	221	41%	25.79	0.028	803		
PP	Pacific Power	54,620	7%	47,162,384	668	799,297	31,425	22,457	21,230	5,530	3,654	1,522	227	41%	59.00	0.068	863		
OR	Oregon	54,620	9%	47,162,384	668	617,333	31,425	22,457	21,230	5,530	3,654	1,522	227	41%	76.40	0.088	863		
			I I							ı		ı							
OR	ALBANY	104	0%	30,543	4	32,228	-	5	99	-	-	-	-	5%	0.95	0.003	294		
OR	BEND/REDMOND	13	0%	1,859	7	67,328	-	8	5	-	-	-	-	62%	0.03	0.000	143		
OR	CLATSOP (ASTORIA)	1,145	5%	120,096	5	25,031	799	1,145	-	-	-	-	-	100%	4.80	0.046	105		
OR	COOS BAY/COQUILLE	696	3%	51,816	13	26,390	2,606	664	32	-	-	-	-	95%	1.96	0.026	74		
OR	CORVALLIS	43	0%	2,664	2	29,956	12,208	43	-	-	-	-	-	100%	0.09	0.001	62		
OR	COTTAGE GROVE/J.CITY	114	1%	25,389	4	11,322	-	16	98	-	-	-	-	14%	2.24	0.010	223		
OR	DALLAS/INDEPENDENCE	3	0%	279	3	15,581	-	3	-	-	-	-	-	100%	0.02	0.000	93		
OR	ENTERPRISE	27	0%	4,730	2	5,476	-	20	7	-	-	-	-	74%	0.86	0.005	175		
OR	GRANTS PASS	27,963	54%	42,504,788	455	52,143	13,291	2,220	14,990	5,529	3,654	1,522	48	8%	815.16	0.536	1,520		
OR	HERMISTON	33	1%	12,730	5	4,829	5	1	32	-	-	-	-	3%	2.64	0.007	386		
OR	HOOD RIVER	16	0%	4,516	1	9,546	-	-	16	-	-	-	-	0%	0.47	0.002	282		
OR	KLAMATH FALLS	117	0%	31,895	13	37,763	-	20	97	-	-	-	-	17%	0.84	0.003	273		
OR	LEBANON	97	0%	17,437	8	20,901	-	17	80	-	-	-	-	18%	0.83	0.005	180		
OR	LINCOLN CITY	14	0%	2,037	6	12,330	-	11	3	-	-	-	-	79%	0.17	0.001	146		
OR	MADRAS	235	1%	4,288	3	17,235	-	234	1	-	-	-	-	100%	0.25	0.014	18		
OR	MEDFORD	5,108	6%	1,660,830	79	91,033	2,158	324	4,783	1	-	-	-	6%	18.24	0.056	325		
OR	PENDLETON	98	1%	25,361	8	12,943	-	10	88	-	-	-	-	10%	1.96	0.008	259		
OR	PORTLAND	455	1%	270,907	3	83,892	-	14	441	-	-	-	-	3%	3.23	0.005	595		
OR	ROSEBURG/MYRTLECREEK	17,664	41%	2,319,143	38	42,857	358	17,120	365	-	-	-	179	98%	54.11	0.412	131		
OR	STAYTON	636	5%	58,097	5	13,825	-	582	54	-	-	-	-	92%	4.20	0.046	91		
OR	WALLA WALLA	39	2%	12,978	4	2,312	-	-	39	-	-	-	-	0%	5.61	0.017	333		

		Custor 1/15/2020	mer Interrupte through	d by Date 1/20/2020			Customers Restored by Intervals						-	Major Event Only - metric by state customer counts		
Date	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
1/11/2020	179	0%	1,499,929	1	617,333	-	-	-	-	-	-	179	0%	2.43	0.000	8,379
1/15/2020	16,290	3%	4,693,104	60	617,333	13,933	13,864	1,627	308	434	57	-	85%	7.60	0.026	288
1/16/2020	22,281	4%	35,567,187	238	617,333	11,308	953	12,181	4,635	3,026	1,438	48	4%	57.61	0.036	1,596
1/17/2020	7,066	1%	2,228,812	127	617,333	1,680	5,747	708	391	193	27	-	81%	3.61	0.011	315
1/18/2020	3,014	0%	1,173,549	106	617,333	1,688	1,211	1,743	59	1	-	-	40%	1.90	0.005	389
1/19/2020	2,299	0%	1,201,410	93	617,333	1,480	496	1,666	137	-	-	-	22%	1.95	0.004	523
1/20/2020	3,491	1%	798,392	43	617,333	1,336	186	3,305	-	-	-	-	5%	1.29	0.006	229

Data as of 2/21/2020

*numbers include Lemolo Outage which began on 1/11/2020

2/27/2020

PacifiCorp Major Event Report SSC by State Analysis

	Oregon	Event*		01/15/20	through 01/20/20			Month 01/01/20			through 01/31/20			YTD 1/1/2020 01/01/20			through 01/31/20		
	Oregon	Мајог	r Events Incl	uded	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	25.70	0.043	604	0.82	0.008	103	33.15	0.114	291	5.70	0.062	92	33.15	0.114	291	5.70	0.062	92
Comp	Power Company	62.23	0.091	682	0.54	0.005	99	71.59	0.169	424	7.51	0.078	96	71.59	0.169	424	7.51	0.078	96
ST	State	73.97	0.088	839	0.00	0.000	104	83.26	0.164	508	6.86	0.076	91	83.26	0.164	508	6.86	0.076	91
OR	ALBANY	0.05	0.000	294	-	-	-	0.45	0.004	119	0.41	0.004	111	0.45	0.004	119	0.41	0.004	111
OR	BEND/REDMOND	0.00	0.000	140	0.00	0.000	104	0.08	0.001	117	0.08	0.001	116	0.08	0.001	117	0.08	0.001	116
OR	CLATSOP (ASTORIA)	0.19	0.002	105	-	-	-	0.79	0.024	33	0.60	0.022	27	0.79	0.024	33	0.60	0.022	27
OR	COOS BAY/COQUILLE	0.08	0.001	74	-	-	-	0.55	0.004	134	0.46	0.003	157	0.55	0.004	134	0.46	0.003	157
OR	CORVALLIS	0.00	0.000	62	-	-	-	0.20	0.002	124	0.20	0.002	127	0.20	0.002	124	0.20	0.002	127
OR	COTTAGE GROVE/J.CITY	0.04	0.000	223	-	-	-	0.34	0.003	124	0.30	0.003	117	0.34	0.003	124	0.30	0.003	117
OR	DALLAS/INDEPENDENCE	0.00	0.000	93	-	-	-	0.21	0.001	186	0.21	0.001	186	0.21	0.001	186	0.21	0.001	186
OR	ENTERPRISE	0.01	0.000	175	-	-	-	0.06	0.000	182	0.05	0.000	183	0.06	0.000	182	0.05	0.000	183
OR	GRANTS PASS	68.85	0.045	1,520	-	-	-	69.42	0.050	1,390	0.57	0.005	123	69.42	0.050	1,390	0.57	0.005	123
OR	HERMISTON	0.02	0.000	386	-	-	-	0.04	0.000	378	0.02	0.000	370	0.04	0.000	378	0.02	0.000	370
OR	HOOD RIVER	0.01	0.000	282	-	-	-	0.11	0.001	155	0.10	0.001	151	0.11	0.001	155	0.10	0.001	151
OR	KLAMATH FALLS	0.05	0.000	273	-	-	-	0.31	0.002	171	0.25	0.002	159	0.31	0.002	171	0.25	0.002	159
OR	LAKEVIEW	- 0.00	- 0.000	- 100	-	-	-	0.02	0.000	87	0.02	0.000	87	0.02	0.000	87	0.02	0.000	87
OR OR	LEBANON	0.03	0.000	180 146	-	-	-	0.07	0.001	124 87	0.04 0.73	0.000	103 87	0.07 0.73	0.001	124 87	0.04	0.000	103 87
OR	LINCOLN CITY MADRAS	0.00	0.000	146	-	-	-	0.73 0.04	0.008	63	0.73	0.008	121	0.73	0.008	63	0.73	0.008	121
OR	MEDFORD	2.69	0.000	325	-	-	-	3.67	0.001	278	0.04	0.005	198	3.67	0.001	278	0.04	0.005	198
OR	PENDLETON	0.04	0.000	259	_	-		0.13	0.013	278	0.98	0.003	207	0.13	0.013	278	0.98	0.003	207
OR	PORTLAND	0.04	0.000	595		-		0.13	0.001	426	0.09	0.000	300	0.73	0.001	426	0.09	0.000	300
OR	ROSEBURG/MYRTLECREEK	1.33	0.001	47	_			4.78	0.002	114	1.02	0.001	76	4.78	0.002	114	1.02	0.001	76
OR	STAYTON	0.09	0.028	91				0.38	0.042	80	0.28	0.013	76	0.38	0.042	80	0.28	0.013	76
OR	WALLA WALLA	0.03	0.001	333	_	_	_	0.38	0.003	189	0.28	0.004	174	0.38	0.003	189	0.28	0.004	174

Event day calculations does not include the Lemolo outage from 1/11/2020, but the event is included in the Month and YTD calculations.

Data as/of 2/21/2020

> 2 2/27/2020