



e-FILING REPORT COVER SHEET

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REPORT NAME: Major Event Report

COMPANY NAME: Pacific Power

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes

If yes, please submit only the cover letter electronically. Submit confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

If known, please select designation: RE (Electric) RG (Gas) RW (Water) RO (Other)

Report is required by: OAR OAR 860-023-0161

Statute

Order

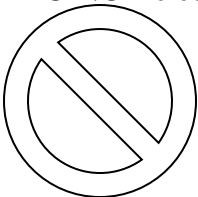
Other

Is this report associated with a specific docket/case? No Yes

If yes, enter docket number: RE 107

List applicable Key Words for this report to facilitate electronic search:  
Major Event Report

**DO NOT electronically file with the PUC Filing Center:**



- Annual Fee Statement form and payment remittance or
- OUS or RSPF Surcharge form or surcharge remittance or
- Any other Telecommunications Reporting or
- Any daily safety or safety incident reports or
- Accident reports required by ORS 654.715

**Please file the above reports according to their individual instructions.**



825 NE Multnomah, Suite 2000  
Portland, Oregon 97232

November 28, 2016

***VIA ELECTRONIC FILING***

Public Utility Commission of Oregon  
201 High Street SE, Suite 100  
Salem, OR 97301-3389

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 Company) submits the enclosed report describing a major event that occurred October 13 - 15, 2016, in the Company's Oregon service area.

The Company 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, Engineering and Environmental, at (503) 813-6216.

Sincerely,

R. Bryce Dalley  
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:	October 13-15, 2016
Date Submitted:	November 28, 2016
Primary Affected Locations:	Oregon
Primary Cause:	Weather
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell/Larry Young/David O'Neill/Debbie Guerra

**Event Description**

On Monday, October 10, 2016 the National Weather Service issued a weather alert related to possible storm conditions at the end of the week. Based on the increasing confidence level of the weather service on October 11 the company sent out a media release encouraging customers to prepare for potential storm conditions. Information shared indicated a storm of a magnitude equivalent to the October 12, 1962 Columbus Day Storm, alerting staff that substantial storm-related impacts would likely be felt within the region. On October 12 field personnel initiated processes to evaluate internal and external resourcing capabilities in light of these forecasts. Emergency action center personnel were put on stand-by for possible activation. Coordination of emergency action plans occurred, including updates to the State of Oregon Emergency Support Function 12 (ESF12) about the company's preparation activities. On Thursday, October 13 the NWS held a webinar to further advise affected parties about the upcoming storm, during which it also distributed updated forecast information.

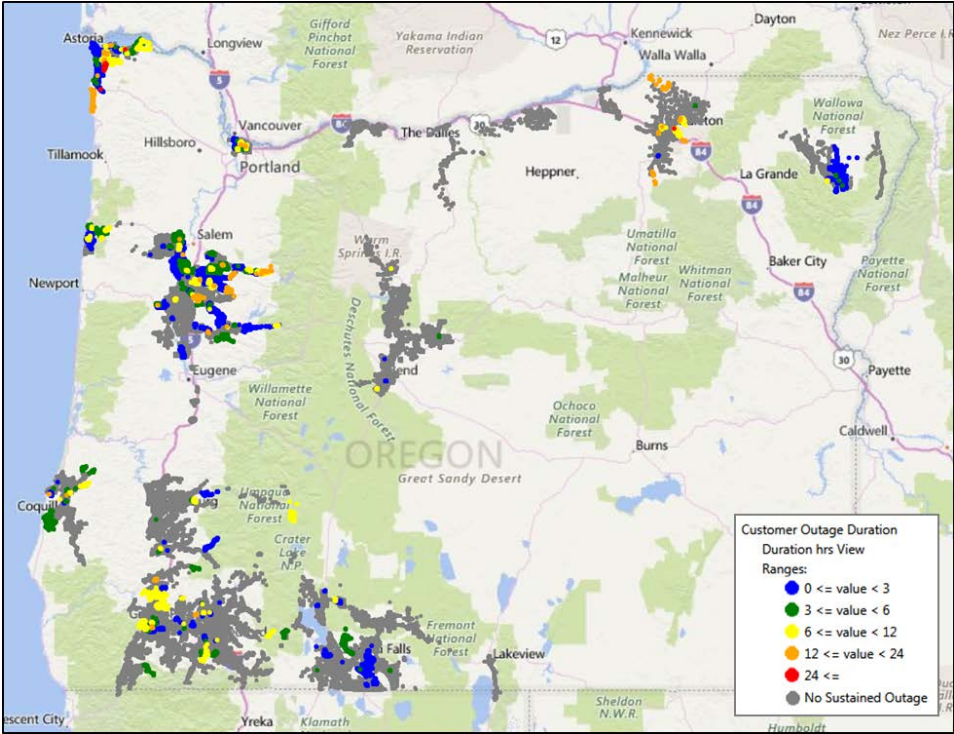
On October 13 the first in a series of extratropical storms arrived, primarily impacting coastal communities served by Pacific Power. It had its biggest impacts along the North Coast, where 73% of the storm's customer interruptions were experienced. On Friday, October 14, operations continued to respond to scattered outages through the service area. The second storm was forecasted to arrive on Saturday, October 15, with heavy rain and high winds expected across the Pacific Northwest. On the morning of October 15 the Pacific Power Emergency Action Center was activated in response to another approaching storm, also extratropical, and remnants of Typhoon Songda. During the afternoon of October 15 strong winds and heavy rain affected service to customers within much of Pacific Power's service area. It interrupted service to approximately 29,000 customers at peak, with many customers impacted repeatedly. The districts that were affected included Albany, Coos Bay, Grants Pass, Stayton, and Portland. 417 internal and external resources were deployed to restore service. At the storm's peak at 2:43 PM there were (18,562 customers without service. The Pacific Power Emergency Action Center deactivated during the evening of October 15 turning oversight for normal operations and final restoration activities to local operations.

Event Outage Summary	
# Interruptions (sustained)	400
Total Customer Interrupted (sustained)	65,146
Total Customer Minutes Lost	11,103,124
State Event SAIDI	18.8 Minutes
CAIDI	170
Major Event Start	10/13/16 12:00 AM
Major Event End	10/15/16 11:49 PM

### Restoration Summary

High winds and heavy rain caused tree failures resulting in damaged wire, poles and equipment. All available employees were dispatched to assist in restoration activities in impacted districts as they experienced weather-triggered outages. Several contract line crews and tree crews were mobilized prior to the storm in various districts to assist as needed, in expectation of storm impacts that had been predicted through the weather service. During the storm 257 internal personnel and an additional 150 contract vegetation personnel and 88 contract line crew personnel focused on restoration activities. Crews worked around the clock to restore power. Due to the nature of the storm fronts timing, some customers experienced multiple power interruptions. Also, restoration efforts were impacted by the continuous nature of the wind and rain, which deterred storm restoration. In spite of this, during the three day event 72% of all sustained customer outages were restored within 3 hours.

There were no company or commission customer complaints made regarding the major event. 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.
65,146	46,920	18,223	3

## Restoration Resources

Personnel Resources	
Service Coordinators	15
Collectors	12
Mechanic	13
Meter Reader	18
Metermen	7
Estimators	17
Warehouse Workers	20
General Foremen	12
Journeyman	142
Other support personnel	1
<b>TOTAL</b>	<b>257</b>

Materials	
Crossarms	102
Crossarm brace	51
Insulators	190
Cutouts	135
Line fuses	417
Line splices	1,719
Distribution Poles	13
Pole mounted transformers	32
Conductor	25,214 ft
Guy wire	500 ft

## State Estimated Major Event Costs

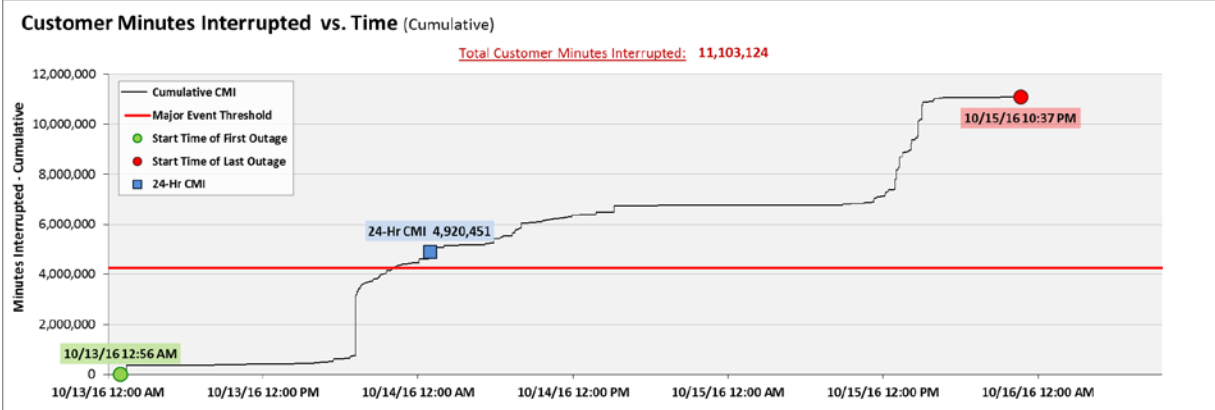
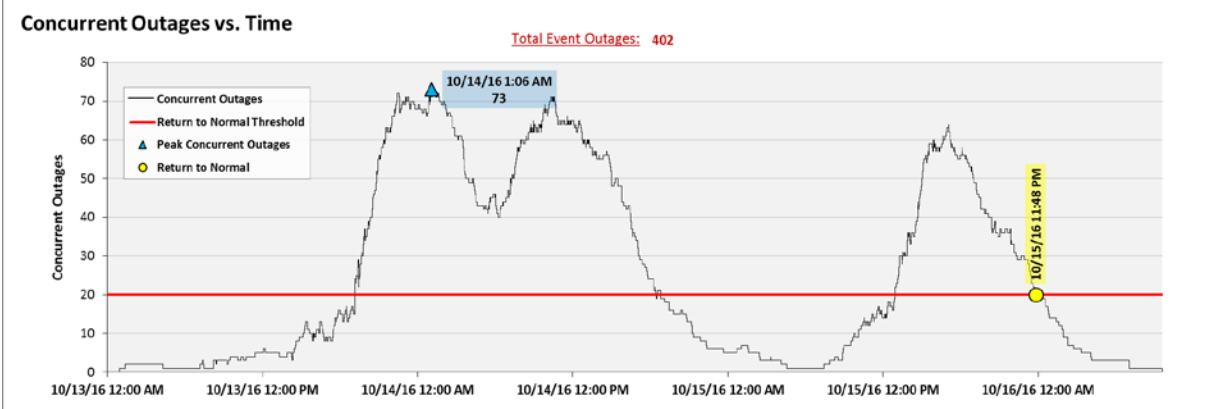
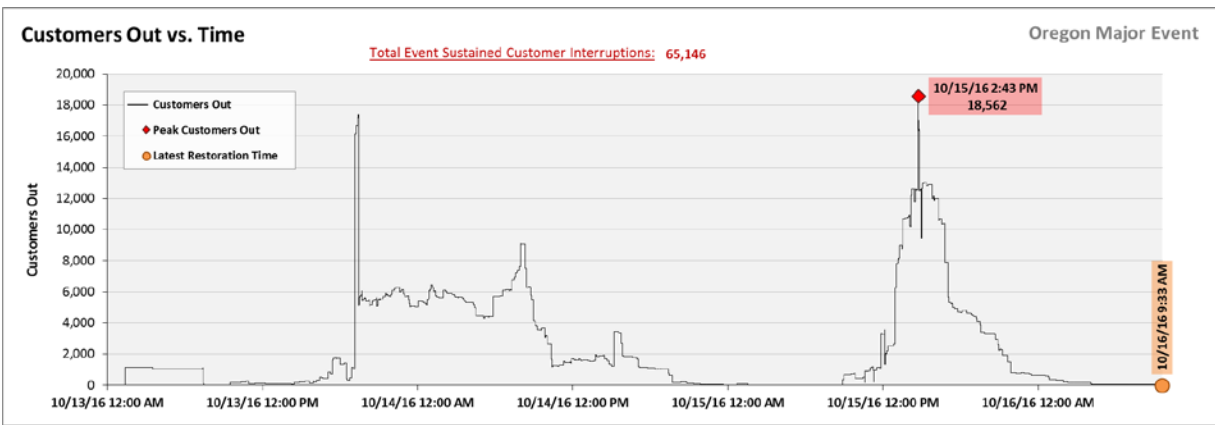
Estimate \$	Labor	Material	Contract Resources *	Total
<b>Capital</b>	\$88,000	\$71,000	\$75,000	<b>\$234,000</b>
<b>Expense</b>	\$839,264	\$469,000	\$586,643	<b>\$1,894,907</b>
<b>Total</b>	<b>\$927,264</b>	<b>\$540,000</b>	<b>\$661,643</b>	<b>\$2,128,907</b>

\*Includes vegetation costs

## 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 2016 Oregon reliability threshold is 4,262,263 customer minutes lost (7.2 Oregon SAIDI minutes) in a 24-hour period.

## 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 10/13/2016 through 10/15/2016				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 P54	SAIDI	SAIFI	CAIDI
PC	PACIFICORP	65,146	3%	11,103,124	400	1,868,631	21,184	46,920	18,223	3	-	-	-	72%	5.94	0.035	170
PP	Pacific Power	65,146	8%	11,103,124	400	771,210	21,184	46,920	18,223	3	-	-	-	72%	14.40	0.084	170
OR	Oregon	65,146	11%	11,103,124	400	591,456	21,184	46,920	18,223	3	-	-	-	72%	18.77	0.110	170
OR	ALBANY	3,621	12%	489,887	20	30,943	7,121	2,834	787	-	-	-	-	78%	15.83	0.117	135
OR	BEND/REDMOND	266	0%	39,777	5	61,061	-	218	48	-	-	-	-	82%	0.65	0.004	150
OR	CLATSOP (ASTORIA)	19,213	80%	3,643,756	71	24,146	820	13,855	5,355	3	-	-	-	72%	150.91	0.796	190
OR	COOS BAY/COQUILLE	2,355	9%	339,952	24	26,104	-	1,186	1,169	-	-	-	-	50%	13.02	0.090	144
OR	CORVALLIS	4,640	16%	350,520	7	29,072	-	3,793	847	-	-	-	-	82%	12.06	0.160	76
OR	COTTAGE GROVE/J-CITY	374	3%	21,281	1	10,983	-	374	-	-	-	-	-	100%	1.94	0.034	57
OR	DALLAS/INDEPENDENCE	3,430	23%	435,417	16	14,717	1,949	3,103	327	-	-	-	-	90%	29.59	0.233	127
OR	ENTERPRISE	1,152	22%	74,098	13	5,316	-	1,129	23	-	-	-	-	98%	13.94	0.217	64
OR	GRANTS PASS	3,147	6%	961,708	28	50,709	-	1,095	2,052	-	-	-	-	35%	18.97	0.062	306
OR	KLAMATH FALLS	1,140	3%	179,102	18	37,251	-	876	264	-	-	-	-	77%	4.81	0.031	157
OR	LEBANON	3,159	16%	546,236	31	20,090	185	2,518	641	-	-	-	-	80%	27.19	0.157	173
OR	LINCOLN CITY	3,062	26%	394,493	27	11,926	2,838	1,847	1,215	-	-	-	-	60%	33.08	0.257	129
OR	MADRAS	4	0%	1,418	2	16,476	-	-	4	-	-	-	-	0%	0.09	0.000	354
OR	MEDFORD	1,260	1%	255,413	34	87,494	76	916	344	-	-	-	-	73%	2.92	0.014	203
OR	PENDLETON	1,106	9%	591,077	18	12,762	-	58	1,048	-	-	-	-	5%	46.32	0.087	534
OR	PORTLAND	10,533	13%	1,477,328	24	79,156	8,192	8,745	1,788	-	-	-	-	83%	18.66	0.133	140
OR	ROSEBURG/MYRTLECREEK	665	2%	199,431	11	42,116	-	181	484	-	-	-	-	27%	4.74	0.016	300
OR	STAYTON	6,019	45%	1,102,233	50	13,254	3	4,192	1,827	-	-	-	-	70%	83.16	0.454	183

\*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 10/13/2016 through 10/15/2016				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 P54	SAIDI	SAIFI	CAIDI
10/13/2016	24,346	4%	4,441,945	143	591,456	6,403	17,489	6,855	2	-	-	-	72%	7.51	0.041	182
10/14/2016	11,677	2%	2,312,275	132	591,456	896	7,178	4,498	1	-	-	-	61%	3.91	0.020	198
10/15/2016	29,123	5%	4,348,904	125	591,456	13,885	22,253	6,870	-	-	-	-	76%	7.35	0.049	149

Data as of
11/10/2016

# PacifiCorp Major Event Report SSC by State Analysis

	Oregon	Event		10/13/16 through 10/15/16		Month		10/01/16 through 10/31/16		YTD		FY2017		01/01/16 through 10/31/16					
		Major Events Included		Major Event Excluded		Major Events Included		Major Events Excluded*		Major Events Included		Major Events Excluded*		Major Events Excluded*					
		SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI			
PC	PacifiCorp	7.12	0.042	169	0.94	0.005	175	18.13	0.144	126	11.05	0.097	114	184.74	1.319	140	105.29	0.949	111
Comp	Power Company	16.63	0.097	172	1.64	0.008	211	26.26	0.183	143	9.10	0.070	130	162.89	1.269	128	97.23	0.901	108
ST	State	18.77	0.110	170	-	-	-	26.00	0.170	153	7.23	0.060	121	173.37	1.289	135	99.28	0.945	105
OR	ALBANY	0.83	0.006	135	-	-	-	1.14	0.009	122	0.31	0.003	97	10.53	0.069	152	5.42	0.046	118
OR	BEND/REDMOND	0.07	0.000	150	-	-	-	0.23	0.001	161	0.16	0.001	166	6.76	0.061	111	3.01	0.021	143
OR	CLATSOP (ASTORIA)	6.16	0.032	190	-	-	-	6.39	0.034	187	0.23	0.002	131	25.34	0.192	132	7.02	0.104	68
OR	COOS BAY/COQUILLE	0.57	0.004	144	-	-	-	1.02	0.008	128	0.44	0.004	112	19.63	0.086	229	3.89	0.035	110
OR	CORVALLIS	0.59	0.008	76	-	-	-	0.70	0.009	80	0.10	0.001	123	8.32	0.054	155	3.56	0.027	130
OR	COTTAGE GROVE/J.CITY	0.04	0.001	57	-	-	-	0.06	0.001	77	0.02	0.000	159	2.41	0.028	85	2.37	0.028	86
OR	DALLAS/INDEPENDENCE	0.74	0.006	127	-	-	-	0.80	0.006	126	0.06	0.001	116	4.78	0.048	99	3.96	0.042	94
OR	ENTERPRISE	0.13	0.002	64	-	-	-	0.14	0.002	65	0.02	0.000	72	0.83	0.010	82	0.70	0.008	87
OR	GRANTS PASS	1.63	0.005	306	-	-	-	2.74	0.016	168	1.11	0.011	101	21.46	0.097	222	13.13	0.075	174
OR	HERMISTON	-	-	-	-	-	-	0.00	0.000	188	0.00	0.000	188	0.24	0.001	175	0.24	0.001	175
OR	HOOD RIVER	-	-	-	-	-	-	0.09	0.001	87	0.09	0.001	87	1.20	0.012	103	1.20	0.012	103
OR	KLAMATH FALLS	0.30	0.002	157	-	-	-	0.46	0.003	150	0.15	0.001	139	8.50	0.115	74	8.20	0.113	73
OR	LAKEVIEW	-	-	-	-	-	-	-	-	-	-	-	-	1.57	0.010	156	1.57	0.010	156
OR	LEBANON	0.92	0.005	173	-	-	-	1.06	0.007	153	0.13	0.002	85	9.23	0.129	72	8.30	0.123	67
OR	LINCOLN CITY	0.67	0.005	129	-	-	-	0.81	0.007	115	0.14	0.002	76	3.70	0.044	84	2.74	0.030	92
OR	MADRAS	0.00	0.000	354	-	-	-	0.02	0.000	172	0.01	0.000	158	1.34	0.015	92	1.33	0.014	92
OR	MEDFORD	0.43	0.002	203	-	-	-	2.77	0.024	114	2.34	0.022	106	13.69	0.106	129	12.10	0.094	129
OR	PENDLETON	1.00	0.002	534	-	-	-	1.04	0.002	499	0.04	0.000	178	3.27	0.017	195	1.80	0.011	158
OR	PORTLAND	2.50	0.018	140	-	-	-	3.31	0.022	148	0.82	0.005	176	11.52	0.059	195	6.17	0.036	173
OR	ROSEBURG/MVRTLECREEK	0.34	0.001	300	-	-	-	0.76	0.003	294	0.42	0.001	289	9.31	0.045	205	5.93	0.038	158
OR	STAYTON	1.86	0.010	183	-	-	-	2.17	0.011	189	0.30	0.001	231	9.04	0.087	104	5.92	0.072	83
OR	WALLA WALLA	-	-	-	-	-	-	0.31	0.002	189	0.31	0.002	189	0.72	0.005	137	0.72	0.005	137

\*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
11/10/2016