

**Report to the Washington Utilities and Transportation Commission**  
**Electric Service Reliability - Major Event Report**

Event Date:	December 12-13, 2015
Date Submitted:	February 8, 2016
Primary Affected Locations:	Sunnyside, Walla Walla, and Yakima
Primary Cause:	Weather
Exclude from Reporting Status:	Yes
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Report Approved by:	Heide Caswell / David O'Neil / Chad Ooten / Michael Gavin / Ron Duren / Kevin Putnam

**Event Description**

During the month of December, several severe wind and rain storms impacted areas across the Northwest, impacting electric reliability. On December 12, 2015, several large outages occurred due to the weather across Pacific Power's Washington service area. Rain and wind resulted in significant outages. Of them, pole fire-related outages<sup>1</sup> accounted for approximately 83 percent of all customer outages, affecting more than 5,200 customers, with a total of over 1,300,000 customer minutes lost.

During the storm there were two significant outages causing the majority of customer interruptions. Equipment was damaged due to a pole fire-caused outage in Sunnyside that affected 2,645 customers fed from the Sulphur Creek Substation. Interruptions lasted between 2 hours and 16 minutes and 7 hours 12 minutes, and totaled 754,800 customer minutes lost. In Walla Walla, circuit 5W323, feed from the Dayton Substation, experienced isolated three pole fire-caused outages, affecting 1,046 customers; all customers were restored within 11 hours. Numerous other small outages were also experienced that resulted in extensive restoration activities across the state.

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<sup>1</sup> Pole fires may result from a number of different causes. They can occur when atmospheric conditions exist with light misting rain that bonds with contaminants resulting in a breakdown of insulation, which leads to leakage current. A pole fire may also result from leakage current caused by an equipment failure such as a failed dead-end insulator, or a broken cutout. If the leakage current passes through a dry wood pocket on its path to ground, it can ignite the crossarm or pole.

<b>Event Outage Summary</b>	
<b># Interruptions (sustained)</b>	18
<b>Total Customer Interrupted (sustained)</b>	6,424
<b>Total Customer Minutes Lost</b>	1,391,154
<b>State Event SAIDI Impact</b>	10.13 Minutes
<b>CAIDI</b>	217
<b>Major Event Start</b>	12/12/15 3:15pm
<b>Major Event End</b>	12/13/15 3:15pm

### **Restoration Summary**

During the event all available employees were dispatched. While additional resources would have been helpful, across Washington and into northern Oregon storm activities had all available personnel engaged in outage response. A large number of the repairs required modifications to electrical structures, generally adding pole top extensions and new cutouts. Power was restored to all customers by 6:42 am on December 13, 2015.

There were no company or commission customer complaints made regarding the major event.

### **Restoration Intervals**

<b>Total Customers Sustained</b>	<b>&lt; 3 Hrs.</b>	<b>3 - 24 Hrs.</b>	<b>24+ Hrs.</b>
<b>6,424</b>	<b>3,053</b>	<b>3,371</b>	<b>0</b>

### **Restoration Resources**

<b>Resources</b>	
<b>Journeyman</b>	28

<b>Materials</b>	
<b>Cutouts</b>	10
<b>Insulators</b>	12
<b>Crossarms</b>	11
<b>Transformers</b>	2
<b>Pole top extension</b>	7
<b>Conductor</b>	600ft

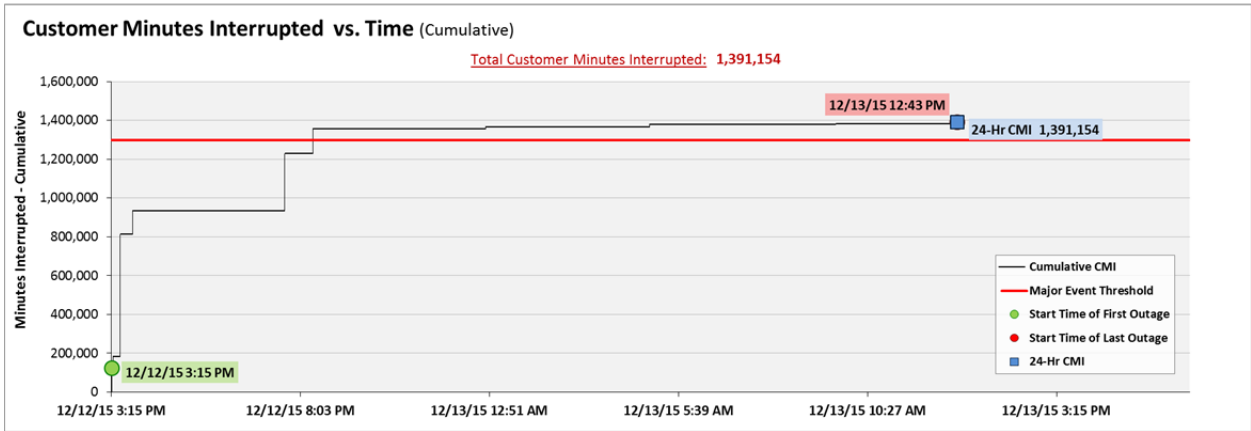
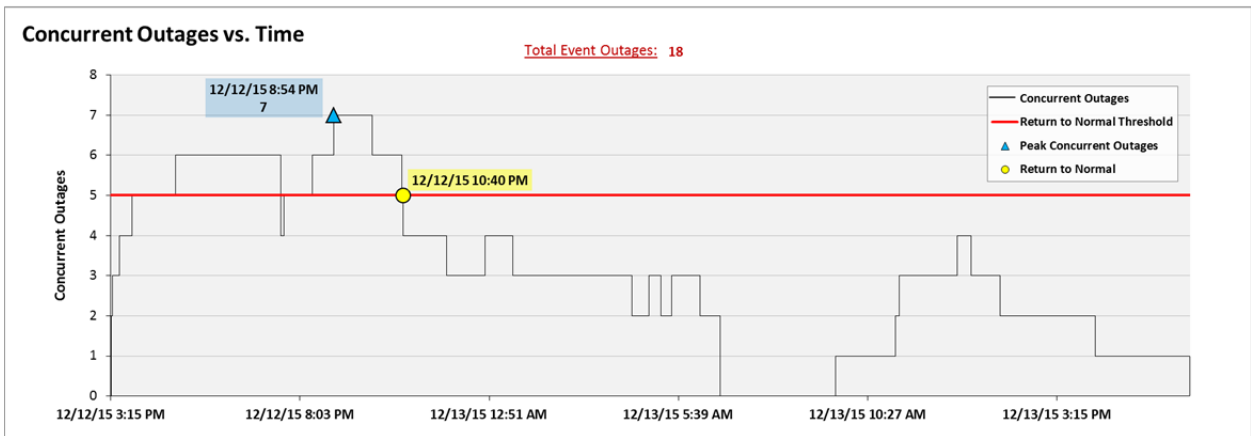
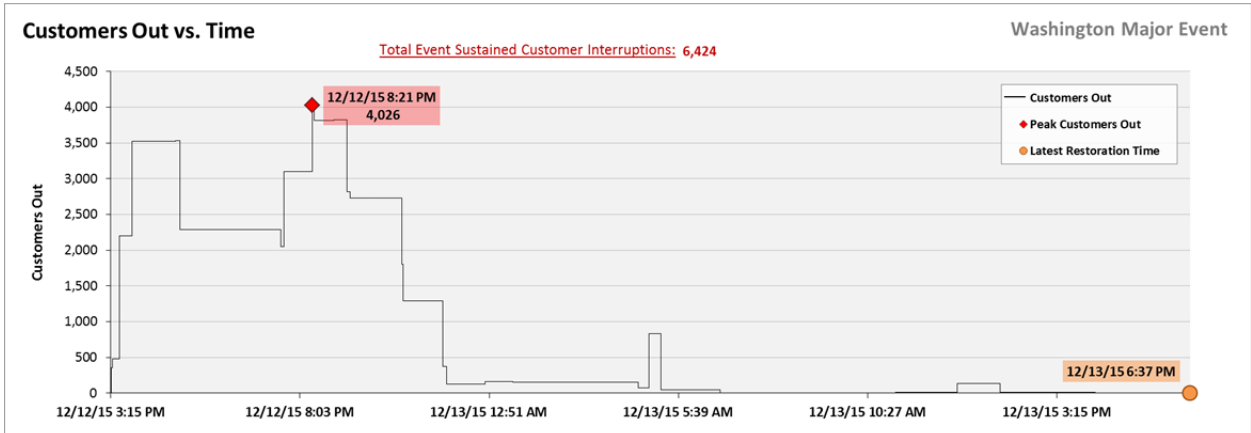
## State Estimated Major Event Costs

Estimate \$	Labor	Materials	Total
<b>Capital</b>	\$4,600	\$5,025	\$9,625
<b>Expense</b>	\$30,647	\$10,315	\$40,962
<b>Total</b>	<b>\$35,247</b>	<b>\$15,340</b>	<b>\$50,587</b>

## Major Event Declaration

Pacific Power is requesting designation of this event and its consequences to be classified as a “Major Event” for exclusion from network performance reporting with the IEEE 1366-2003/2012. This major event exceeded the company’s current Washington threshold of 1,299,474 customer minutes lost (9.46 state SAIDI minutes) in a 24-hour period.

# Event Detail



## SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

# PacifiCorp Major Event Report

## Customer Analysis

Washington		Customer Analysis 12/12/2015 through 12/13/2015					Customers Restored by Intervals								Major Event Only - metric by operating area customer counts		
<i>PacifiCorp Major Events Report Customer Analysis*</i>		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	6,424	0%	1,391,154	17	1,887,237	926	3,053	3,371	-	-	-	-	48%	0.74	0.003	217
PP	Pacific Power	6,424	1%	1,391,154	17	793,118	926	3,053	3,371	-	-	-	-	48%	1.75	0.008	217
WA	Washington	6,424	5%	1,391,154	17	137,313	926	3,053	3,371	-	-	-	-	48%	10.13	0.003	217
WA	SUNNYSIDE	2,651	11%	757,171	3	25,181	926	926	1,725	-	-	-	-	35%	30.07	0.105	286
WA	WALLA WALLA	1,834	6%	317,182	4	28,719	-	760	1,074	-	-	-	-	41%	11.04	0.064	173
WA	YAKIMA	1,939	2%	316,801	10	83,410	-	1,367	572	-	-	-	-	71%	3.80	0.023	163

\*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.

		Customer Interrupted by Date 12/12/2015 through 12/13/2015					Customers Restored by Intervals								Major Event Only - metric by state customer counts		
Date*		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
12/12/2015		5,501	4%	1,355,544	10	137,313	926	2,166	3,335	-	-	-	-	39%	9.87	0.040	246
12/13/2015		923	1%	35,610	7	137,313	-	887	36	-	-	-	-	96%	0.26	0.007	39

Data as of
1/6/2016

**PacifiCorp Major Event Report**  
SSC by State Analysis

	Washington	Event 12/12/15 through 12/13/15						Month 12/01/15 through 12/31/15						YTD FY2016 01/01/15 through 12/31/15					
		Major Events Included			Major Event Excluded			Major Events Included			Major Events Excluded*			Major Events Included			Major Events Excluded*		
		SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
	<b>PacifiCorp Major Events Report SSC by State</b>																		
PC	PacifiCorp	23.33	0.041	566	22.11	0.037	591	45.78	0.185	248	40.96	0.158	259	226.70	1.418	160	171.60	1.196	143
PP	Pacific Power	55.32	0.090	617	52.42	0.081	651	83.99	0.248	338	81.09	0.239	339	262.12	1.415	185	187.73	1.112	169
WA	Washington	10.19	0.047	216	0.060	-	127	25.37	0.144	176	15.24	0.098	156	153.89	1.176	131	95.30	0.744	128
WA	SUNNYSIDE	5.52	0.019	285	0.0020	0.00003	67	7.70	0.038	200	2.19	0.019	114	28.07	0.206	136	21.87	0.185	118
WA	WALLA WALLA	2.32	0.013	173	0.0068	0.00004	156	5.65	0.034	167	3.34	0.020	163	23.82	0.145	164	18.04	0.116	155
WA	YAKIMA	2.36	0.015	162	0.05	0.000	128	12.01	0.072	167	9.71	0.058	167	102.00	0.825	124	55.38	0.443	125

\*may include other regional major event exclusions during the same period.

Data as/of
<b>1/6/2016</b>