

# e-FILING REPORT COVER SHEET

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

REPORT NAME:	Major Event Report
COMPANY NAME:	Pacific Power
DOES REPORT CON	NTAIN CONFIDENTIAL INFORMATION? No Yes
	submit only the cover letter electronically. Submit confidential information as directed in r the terms of an applicable protective order.
If known, please selec	et designation: RE (Electric) RG (Gas) RW (Water) RO (Other)
Report is required by:	☐OAR OAR 860-023-0161 ☐Statute ☐Order ☐Other
-	ed with a specific docket/case?  No   Yes  ocket number: RE 107
List applicable Key V Major Event Report	Vords for this report to facilitate electronic search:

# 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.



February 3, 2016

# VIA ELECTRONIC FILING

Public Utility Commission of Oregon 201 High Street SE, Suite 100 Salem, OR 97301-1166

Attn: Filing Center

RE: 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 December 8-20, 2015, in the Company's Southern Oregon reliability reporting region.

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: December 8 -20, 2015

Date Submitted: February 3, 2016

Primary Affected Locations: Southern Oregon

Primary Cause: Weather

Exclude from Reporting Status: Yes

Report Prepared by: April Brewer

Report Approved by: Heide Caswell / Larry Young / Kevin

Putnam / Debbie Guerra

### **Event Description**

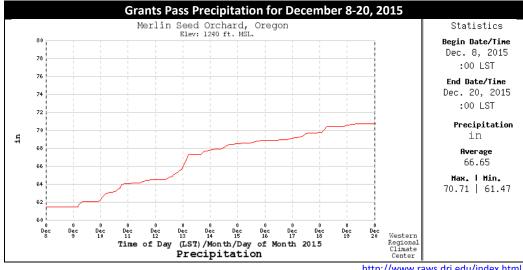
On the evening of December 8, 2015, a series of substantial Pacific storms began impacting the west coast. The storm brought high winds and rain to Oregon, California, and Washington, causing numerous tree related outages. By late morning on December 9, the first storm's strength began to wane, leaving significant damage in its wake, to which the company continued to react. As crews continued clearing trees from lines and attempting to restore the system to normal a second storm hit landfall. On the evening of December 9, winds began to increase resulting in another wave of outages, again, many of them tree-related. By the afternoon of December 10 a short period of calmer weather began, which was closely followed with another burst of weather in the evening of December 11, when a third wave of winter storm weather began making its way into Pacific Power's service area. The storm, named Winter Storm Echo, brought over a foot of snow to higher elevations. In lower elevation areas, such as in Medford at 2000 feet, reports were received of between 6 and 8 inches of snow. During the storm the Red Cross opened two warming shelters in Josephine and Douglas counties. Over the course of 12 days almost 10 inches of precipitation was recorded in Southern Oregon. The weather graphics below show the effects of the storm at just one weather station, located near Grants Pass.

As the storms continued high winds, rain-saturated soil and snow-laden trees toppled onto lines breaking utility poles and cross arms, and downing conductor. These outages accounted for more than 90% of all customer minutes lost that resulted during the storm's duration. Response crews had difficulty accessing facilities, whether those were within public rights-of-way or within remote power-line corridors, largely due to heavy snow and area flooding. The peak impact of the storm, as measured by customers without power, occurred on December 13 at 9:35 AM, with a total of 32,870 customers without power in Southern Oregon. Internal and external resources were deployed across Pacific

Power to affected areas, working round the clock to restore power to customers as rapidly as possible.

Northeast Oregon also sustained a recordable major event during this period, when a loss of feed from Idaho Power left customers without power for over 2 days. Coast Plus Oregon was also impacted by this storm, but not did meet the reporting threshold CAIDI of greater than 300 minutes<sup>2</sup>. Please see the attached charts and tables for the interruptions experienced.

Event Outage Summa	ary
# Interruptions (sustained)	734
Total Customer Interrupted (sustained)	62,611
<b>Total Customer Minutes Lost</b>	45,018,573
State Event SAIDI Impact	74.11 Minutes
CAIDI	719
Major Event Start	12/8/15 11:21pm
Major Event End	12/20/15 12:23 pm

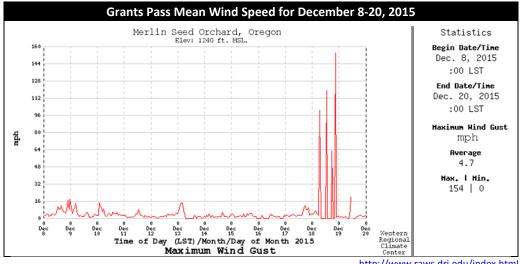


http://www.raws.dri.edu/index.html

SAIDI threshold (min.) SAIDI (min.) SAIFI (events) CAIDI (min.) **Coast Plus** 9.60 19.19 0.09 205

 $<sup>^1</sup>$  A separate major event filing has been filed for the Northeast Major event which occurred on December 13-15, 2015.

<sup>&</sup>lt;sup>2</sup> Coast Plus reliability reporting region also reached a major event threshold level, however the event CAIDI metric did not reach the 300 minute (5 hour) reporting threshold in 860-023-0161 which requires a major event filing. Metrics are listed below, and details will be provided in the company's 2015 Annual Reliability Report.



#### http://www.raws.dri.edu/index.html

### **Restoration Summary**

In the early morning hours of December 13, an early season winter storm swept through the southern Oregon area, with heavy, wet snow. Heavy, wet snow dropped to valley floors, bringing down trees and creating hazardous driving conditions. The hardest hit districts included Roseburg, Grants Pass, Klamath Falls, and Medford. In response to this event, the Pacific Power Emergency Action Center was activated as of 8:30 a.m. on Sunday morning, December 13 and internal, contract and mutual assistance resources were deployed to the region to supplement district workers. During the recovery activity more than 300 field resources (company, contract and mutual assistance) worked throughout southern Oregon to restore service. This included 100 contract- and mutualassistance line personnel (mutual assistance resources were provided by EWEB), in addition to company personnel from the impacted districts, which were supplemented by resources from Portland, Albany, Bend, Yreka, Coos Bay and Pendleton. Also involved in the restoration effort were 90 vegetation management personnel (87 contract employees, 3 company foresters).

The restoration teams were challenged by heavy and wet snow which toppled numerous trees destroying company facilities across the region. The resulting damage left access to facilities difficult for crews and also created hazardous driving conditions across the region. As a result, certain areas required crews gain access by walking to evaluate damage and complete restoration. The high impact areas included Azalea, Sunnyvale and Work Creek, where many poles were brought down, including 40-50 spans completely lost. Also impacted were Ashland, Talent, Idleyld Park, Lemolo and Diamond Lake areas (Toketee) with difficult access, multiple spans of wire and poles down and multiple reports of broken cross-arms.

# **Restoration Intervals**

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.	48-72 Hrs.	72-96 Hrs.	96+ Hrs.
62,611	17,447	38,085	4,406	1,945	216	512

# **Restoration Resources**

Personnel Resources	
General Help	32
Estimators	14
General Foreman	5
Journeyman	112
Vegetation Personnel	90
Site Agent	1
TOTAL	254

Materials	
Cutouts	171
Fuses	594
Overhead Cable	12,704 ft
Conductor	160,106 ft
Reclosers	1
Insulators	1,800
Bushings	6
Line Splices	6,330
Crossarms	247
Poles	96

# **State Estimated Major Event Costs**

Estimate \$	Labor	Materials	Contract Resources	Total
Capital	\$434,960	\$241,646	\$730,195	\$1,406,801
Expense	\$2,107,943	\$567,099	\$1,052,385	\$3,727,427
Total	\$2,542,903	\$808,745	\$1,782,580	\$5,134,228

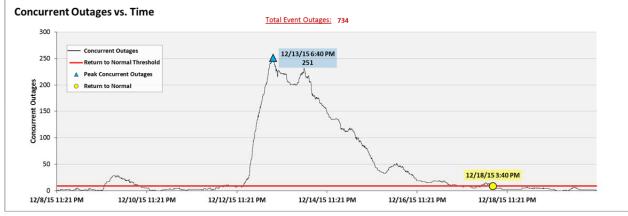
# **Major Event Declaration**

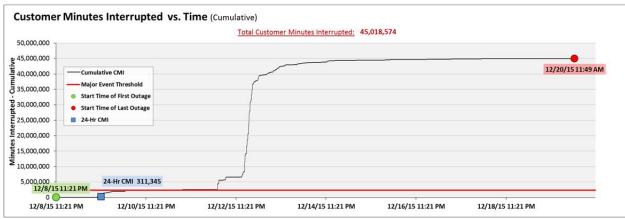
PacifiCorp designates these events and the consequences thereof a major event in accordance with OAR 860-023-0161. This is a major event because it exceeded the design or operating limits of the system, and the Major Event Threshold for the reliability reporting region as calculated annually by the company according to IEEE 1366-2003/2012 methodology (commonly referred to as the 2.5 beta method). This company's 2015 Southern Oregon reliability reporting region threshold is 2,306,700 customer minutes lost (10.13 Southern Oregon SAIDI minutes) in a 24-hour period.

#### **Event Details**

#### Southern Oregon

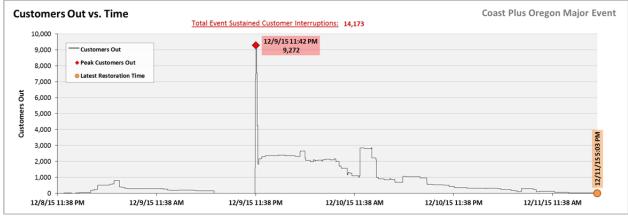




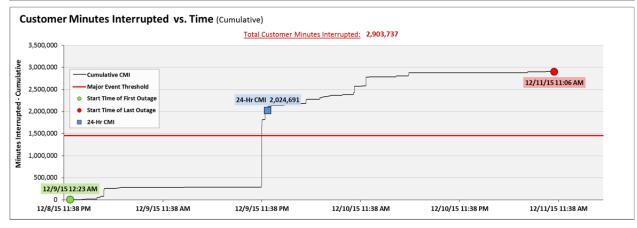


# **Coast Plus Oregon**

For reference only (company resources and expenses for the event are not included in the above).







# SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

# PacifiCorp Major Event Report Customer Analysis

	Oregon		12/8/2015	Customer Analysis through	rsis 12/20/2015				Custo	mers Res	Customers Restored by Intervals	ntervals			Maj metric by	Major Event Omy - metric by operating area customer counts	ny - customer
	PacifiCorp Major Events Report Customer Analysis*		Sustained % Sustained Customers Customers Off Off	CML	Number of Sustained Interruptions	Customer Count	< 5 min	5 min - 3 hrs	3 hrs - 24 hrs	24 hrs - 4	24 hrs - 48 hrs - 72 hrs - 48 hrs 72 hrs 96 hrs	72 hrs - 96 hrs   96 + hrs	6 + hrs	% Sustained Customers Restored in 3 Hours PS4	SAIDI	SAIFI	CAIDI
P.C	PACIFICORP	62.611	3%	45.018.573	002	1,887,237	26,075	17,447	38,085	4,406	1,945	216	512	78%	23.85	0.033	719
1 1	1 1	62 611	%8	45 018 573	002	793.118	26.075	17.447		4.406	1.945	216	512	28%	56.76	0.079	719
1 1	1	62 611	10%		00Z	607.450	26.075	17.447	38.085	4.406	1.945	216	512	28%		0.103	719
7 1		18.567	35%		218	52,490	2,481	3,347	13,358	1,311	549	2	-	18%	2	0.354	693
S,	KLAMATH FALLS	5,819		3,629,721	51	39,334	6,300	3,300	2,142	41	206	,	130	57%	92.28	0.148	624
8		17,653	70%	8,782,307	262	90,122	8,579	4,971	11,408	1,128	146	1	-	28%	97.45	0.196	497
ő		20,572	48%	19,739,635	169	43,233	8,715	5,829	11,177	1,926	1,044	214	382	28%	456.59	0.476	960

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

		Custor 12/8/2015	Customer Interrupted by Date 2015 through 12/20	d by Date 12/20/2015				Cust	omers Re	Customers Restored by Intervals	Intervals			Maj metric by	Major Event Only - metric by state customer counts	ıly - ır 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	24 hrs - 48 hrs - 72 hrs - 48 hrs 72 hrs 96 hrs		96 + hrs	% Sustained Customers Restored in 3 Hours PS4	SAIDI	SAIFI	CAIDI
12/8/2015	650	%0	47,028	T	607,450	-	650		-	,	•	-	100%	0.08	0.001	72
12/9/2015	069	%0	391,809	19	607,450	3,011	169	521	1	,	1	-	24%	0.65	0.001	268
12/10/2015	5,040	1%	1,778,494	52	607,450	2,067	2,631	2,340	69		I	-	52%	2.93	0.008	353
12/11/2015	1,037	%0	321,606	11	607,450	1	614	423	,	-	-		29%	0.53	0.007	310
12/12/2015	2,513	%0	4,037,013	28	607,450	463	1,433	556	,	210	П	313	57%	6.65	0.004	1,606
12/13/2015	46,342	%8	35,942,749	327	607,450	16,222	8,350	31,920	4,082	1,576	215	199	18%	59.17	0.076	776
12/14/2015	1,630	%0	1,670,096	97	607,450	1,871	93	1,154	224	159			%9	2.75	0.003	1,025
12/15/2015	867	%0	297,086	58	607,450	35	356	205	6	ı	,	•	41%	0.49	0.001	343
12/16/2015	488	%0	211,218	45	607,450	1	222	244	22		,	-	45%	0.35	0.001	433
12/17/2015	538	%0	143,493	19	607,450	334	204	334	ı	1			38%	0.24	0.001	267
12/18/2015	2,382	%0	100,015	21	607,450	2,072	2,374	∞	,	ł		1	100%	0.16	0.004	42
12/19/2015	182	%0	29,694	12	607,450	,	147	35	1	F	-	1	81%	0.05	0.000	163
12/20/2015	252	%0	48,275	10	607,450	-	204	48		ı	•	I	81%	0.08	0.000	192

Data as of	NOOCESCO PORTE DO DO DE LOS COMENTOS CONTRACTOS DE LOS CONTRACTOS DE LOS CONTRACTOS DE LOS CONTRACTOS DE LOS C	1/14/2016

# PacifiCorp Major Event Report SSC by State Analysis

	-	Event		12/08/15	12/08/15 through 12/20/15	12/20/15		Month		12/01/15	through	12/31/15		<b>OTY</b>	FY2016	01/01/15	through 12/31/15	2/31/15	
	Oregon	Major	Major Events Included	papnı	Majo	Major Event Excluded	papi	Major	Major Events Included	papi	Major	Major Events Excluded*	*pəp	Major	Major Events Included	papr	Majort	Major Events Excluded*	"pa
Г	PacifiCorp														100				
	Major Events Report																	-	į
T	SSC by State	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	SAIDI	Iganos	SAIFI	CAID	SAIDI	SAIF	CAID	SAIDI	SAIFI	ON O
PC	Pacificorp	35.53	0.110	322	5.32	0.043	124	45.81	0.185	248	14.77	0.113	131	226.72	1.418	160	145.41	1.151	126
du	Comp Power Company	66:69	0.158	444	99'9	0.052	129	84.02	0.248	338	18.75	0.132	142	262.15	1.415	185	125.39	1.005	125
	State	84.43	0.156	542	4.04	0.028	144	98.34	0.245	401	15.40	0.104	148	265.47	1.348	197	119.72	0.943	127
S.	GRANTS PASS	0.13	0.001	127	0.02	0.000	80	21.39	0.032	029	0.20	0.001	152	38.01	0.105	364	14.90	0.070	214
	KLAMATH FALLS	4.29	0.022	194	0.23	0.002	141	7.13	0.015	473	1.15	0.005	210	22.13	0.114	194	11.05	0.095	116
	LAKEVIEW	0.44	0.001	330	0.111	0.001	153	0.17	0.000	385	0.17	0.000	385	0.22	0.001	280	0.22	0.001	280
	MEDFORD	0.91	0.008	109	0.72	0.007	96	14.93	0.031	478	0.47	0.002	214	36.92	0.145	254	12.84	0.093	138
OR.	ROSEBURG/MYRTLECREEK	0.15	0.001	162	0.05	0.000	223	34.05	0.043	797	1.56	0.009	175	48.62	0.115	423	10.75	0.053	204