

## Report to the Washington Utilities and Transportation Commission

### Electric Service Reliability - Major Event Report

Event Date: October 21-22, 2017  
Date Submitted: November 30, 2017  
Primary Affected Locations: Yakima  
Primary Cause: Weather  
Exclude from Reporting Status: Yes  
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Report Approved by: Heide Caswell / Kevin Putnam / David O'Neil

#### Event Description

On the morning of October 21, 2017, service areas across Washington began experiencing storm-related outages. The combination of the first rain of the season and the build-up of dust and particulate matter caused pole fires. During the two day event pole fires significantly impacted the system, accounting for almost half of all sustained outage events, 87% of all customer minutes lost, and 88% of all customer outages. On October 21, at 9:41 AM the total customers without power peaked at 8,649. In total, the event caused over 15,000 customer outages with durations ranging from 10 minutes to 40 hours and 28 minutes, with an average event outage duration of 2 hours and 34 minutes.

Event Outage Summary	
# Interruptions (sustained)	52
Total Customer Interrupted (sustained)	15,078
Total Customer Minutes Lost	2,321,643
Event SAIDI	17.3 Minutes
CAIDI	154
Major Event Start	10/21/17 7:19 AM
Major Event End	10/23/17 12:00 AM

#### Restoration Summary

On October 21, 2017, areas across the state began experiencing outages as rainfall, which coincided with pollution-laden hardware from the summer months, caused numerous pole fires and damage to equipment.

During the two day event concurrent outages were up six-fold, and given the quantity of simultaneous outages crews from Oregon (internal) and four crews from Washington (external) were brought in to assist with restoration activities. Portland dispatch managed the outages

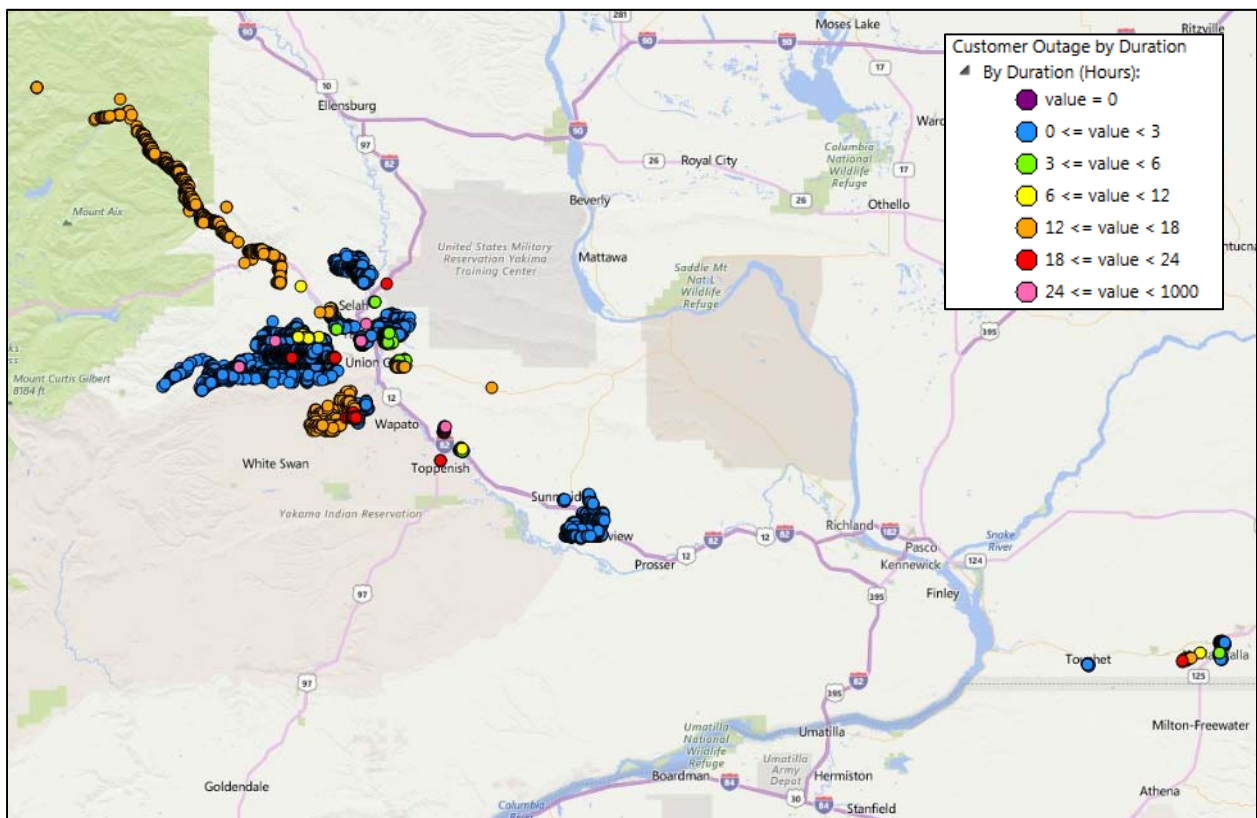
with the local operations center supporting, including several engineers, estimators, and logistics personnel.

The extensive amount of pole fires and damaged equipment limited the amount of switching operations that could be accomplished, extending the duration of outages. Additionally, pole fires were first extinguished to make safe, followed by repair and restoration. In addition, crews worked closely with local fire departments, who assisted with fire suppression when needed.

During the event, six outage events, affecting a total of 47 customers, lasted more than 24 hours. All but one event was attributed to a pole fire which required pole top extensions or a replacement of the pole before power could be restored. On the evening of October 22<sup>nd</sup> restorations efforts had stabilized.

Figure 1 below displays customer outages during the event by their duration. In total over 41 employees took part in the restoration efforts, replacing approximately 630 feet of conductor, 207 insulators, 8 poles, 16 pole extensions, 23 cross arms, and replacing more than 73 cutouts.

**Figure 1 Customer outages by duration**



## Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
<b>15,078</b>	12,581	2,450	47

## Restoration Resources <sup>1</sup>

Personnel Resources	
District Serviceman	1
Journeyman Estimator	2
Journeyman Lineman	1
Line Foreman	6
Lineman Representative	4
Lineman/Journeyman	11
Logistics Worker	1
Mechanic	3
Meter/Relay Tech Journeyman	1
Serviceman/ Journeyman	2
Stat Wireman Journeyman	1
Wireman Working Journeyman	1
Dispatcher	7
Materials	
Distribution Poles	7
Transmission Poles	1
Approximate Conductor Line (feet)	630
Transformers	7
Crossarms	23
Insulators	207
Cutouts	45
Line Fuses	20
Line Splices	28
Extension Pole Tops	16

## State Estimated Major Event Costs <sup>1</sup>

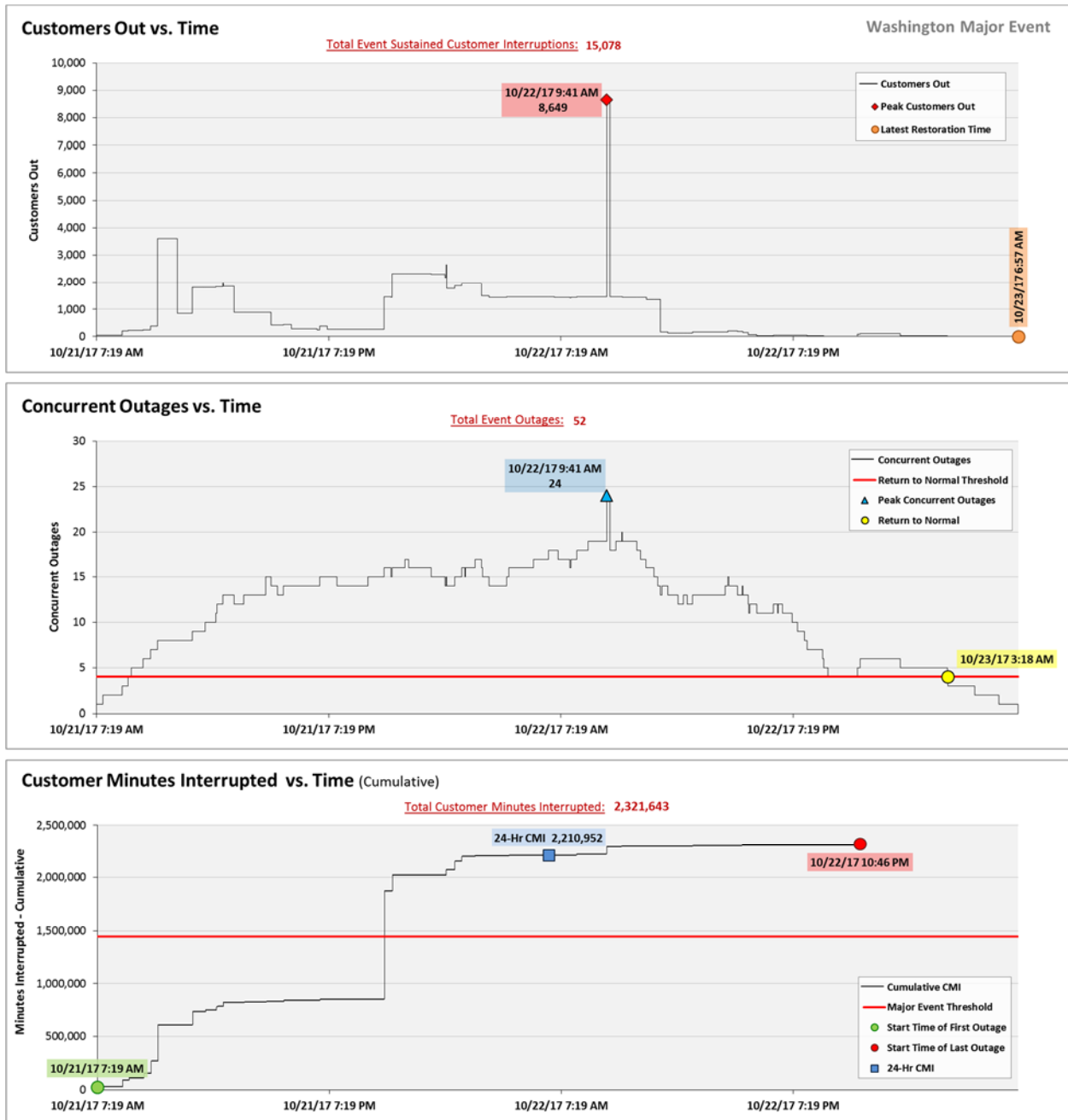
Estimate \$	Labor	Contracts	Materials	Overheads	Total
<b>Capital Expense</b>	\$36,665	\$11,967	\$19,503	\$14,186	<b>\$82,320</b>
	\$52,577	\$14,855	\$21,238	\$5,882	<b>\$94,553</b>
<b>Total</b>	<b>\$89,242</b>	<b>\$26,822</b>	<b>\$40,741</b>	<b>\$20,068</b>	<b>\$176,873</b>

<sup>1</sup> Data provided represents specific system records for personnel, resources, and costs. 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.

## 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 2017 Washington threshold of 1,444,820 customer minutes lost (10.77 state SAIDI minutes) in a 24-hour period.

## Event Detail



## SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.