

<b>Report to the Washington Utilities and Transportation Commission</b> <b>Electric Service Reliability - Major Event Report</b>
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Event Date: May 15-16, 2019

Date Submitted: June 27, 2019

Primary Affected Locations: Yakima

Primary Cause: Tree and Substation Loss of Supply

Exclude from Reporting Status: Yes

Report Prepared by: April Brewer

Report Approved by: Heide Caswell / Carrie Laird

**Event Description and Restoration Summary**

Event Outage Summary	
# Interruptions (sustained)	13
Total Customer Interrupted (sustained)	8,441
Total Customer Minutes Lost	1,612,598
State Event SAIDI	11.79 Minutes
CAIDI	191
Major Event Start	5/15/19 11:17 p.m.
Major Event End	5/16/19 11:16 p.m.

At 12:03 p.m. on May 16, 2019, Pacific Power experienced a major event in its Washington service territory when a downed tree faulted impacting the Naches Substation. Additionally the relay on the tripped line momentarily failed, causing the substation transformer to trip de-energizing the other 3 three circuits served by the Naches substation. The initial event affected 5,314 customers, fed from the four distribution circuits served by the Naches substation in Yakima.

Upon arrival at the substation crews inspected equipment and determined the fault had occurred on Naches feeder 5Y133. From 1:21 p.m. to 1:28 p.m., crews began step restorations to the three affected circuits serviced out of the substation, restoring power to 2,050 customers. Meanwhile, crews patrolled line 5Y133 several times and were unable to locate the fault’s cause. Substation operations, engineers, and dispatch attempted to restore portions of the system, but the system was unable to remain energized.

Crews took alternative measures to sectionalize to determine the fault location, after which it was determined that the issue was occurring outside the substation, and particularly crews had located a damaged field switch (*figure 1*), which was believed to be the cause of the outage. The switch was cleared however the line was still unable to hold. Crews continued to sectionalize the

line, restoring downstream sections of the line via feed from the Tieton substation, until they were able to sectionalize the outage down to nine customers where crews found a tree located in a river bed had fallen into the line (*figure 2*). The tree was located in a river bed which was difficult to access. Once the cause for the line fault was discovered crews were able to fully restore service to customers through alternative feeds and repairs to damaged equipment. By 1:59 a.m. on May 17<sup>th</sup> power was restored to all affected customers.

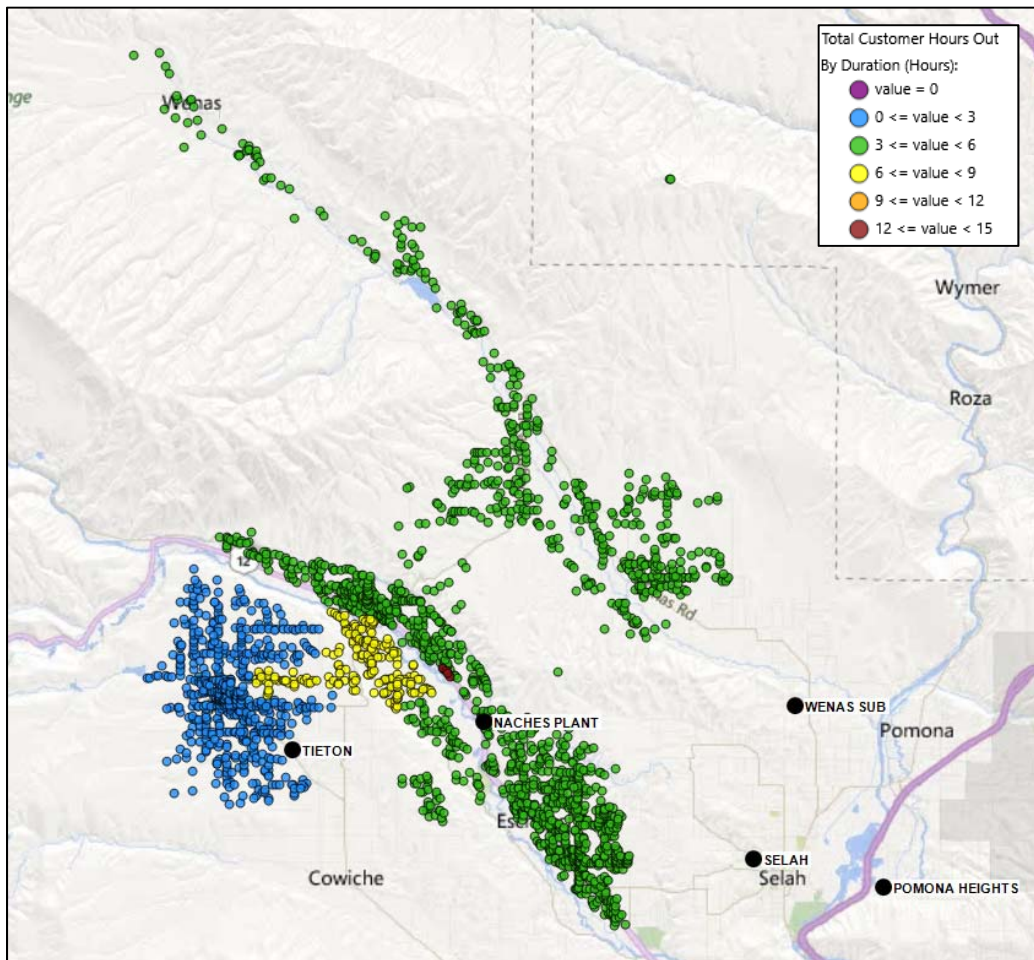
In total, 6,524 customers experienced outages ranging in duration from 1 hour 17 minutes to 13 hours 31 minutes.



*Figure 1. Damaged line switch*



*Figure 2. Tree down fault*



### Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
<b>8,441</b>	4,435	3,290	0

### Restoration Resources

Personnel Resources	
General Foreman	2
Line Foreman	3
Line Patrolman	1
Lineman Journeyman	6
Lineman Representative	1
Relay Tech	3
Serviceman Journeyman	1
Substation Wireman	3
Tree crewmen	4
<b>TOTAL</b>	<b>24</b>

Materials	
Approx. Conductor line	20 feet
Insulators	10
Line splices	7

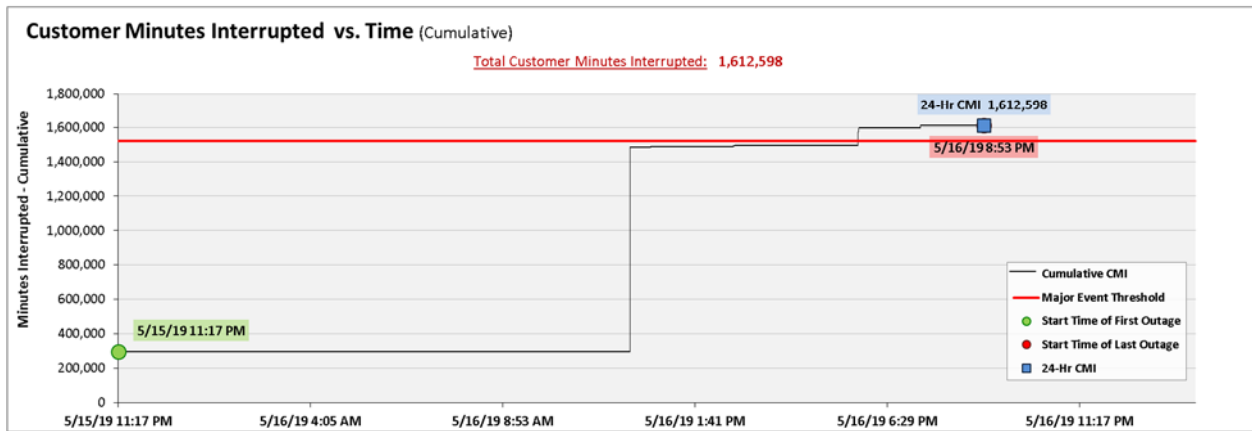
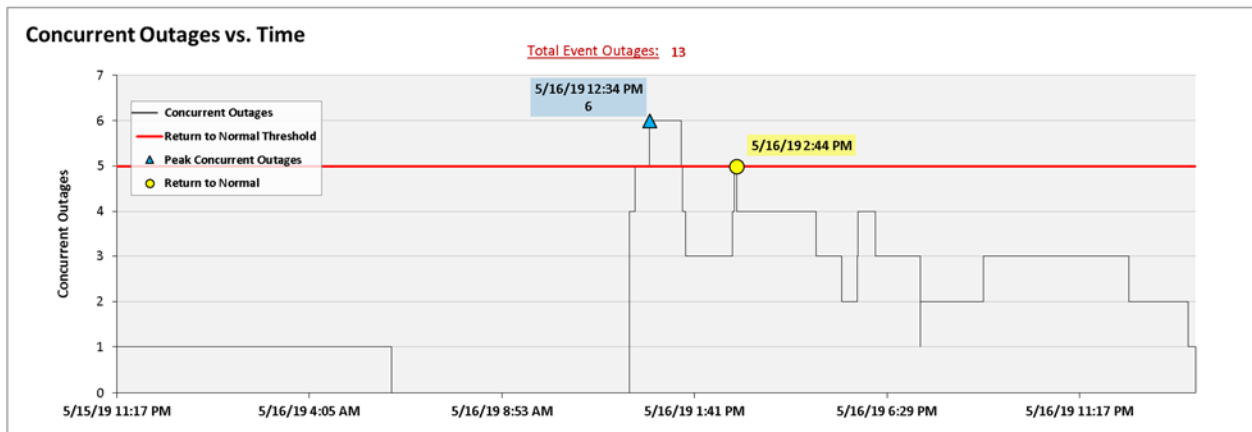
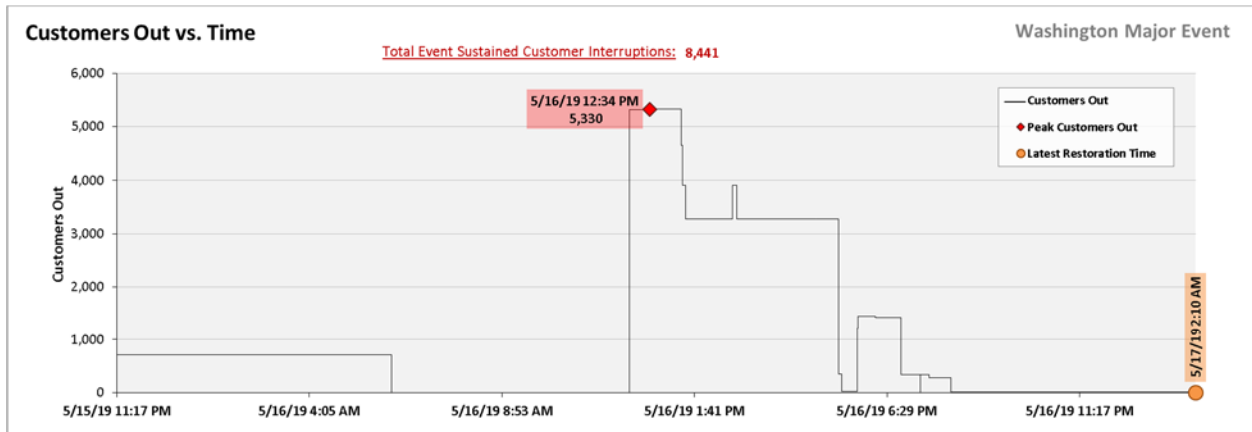
## State Estimated Major Event Costs

Estimate \$	Labor	Contracts	Material	Overheads	Total
Capital	\$30,362	\$3,977	\$8,640	\$4,865	\$47,844
Expense	\$8,180	\$0	\$490	\$654	\$9,324
<b>Total</b>	<b>\$38,542</b>	<b>\$3,977</b>	<b>\$9,130</b>	<b>\$5,519</b>	<b>\$57,168</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 2019 Washington threshold of 1,512,795 customer minutes lost (11.23 state SAIDI minutes) in a 24-hour period.

# Event Detail



## SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.