

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

Event Date: August 20, 2020

Date Submitted: October 19, 2020

Primary Affected Locations: Walla Walla

Primary Cause: Loss of Substation

Exclude from Reporting Status: Yes

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Report Approved by: Heide Caswell / Carrie Laird / Pablo Arronte / Tim Barry

Event Outage Summary	
# Interruptions (sustained)	2
Total Customers Interrupted (sustained)	4,592
Total Customer Minutes Lost	407,669
State Event SAIDI	3.00 Minutes
CAIDI	89
Major Event Start	8/20/20 12:00 AM
Major Event End	8/21/20 12:00 AM

Event Description and Restoration Summary

At 7:35 a.m. on August 20, 2020, Walla Walla, Washington, experienced a SAIFI-based major event when 16% of its served customers experienced an outage due to a loss of substation. Crews were quickly dispatched to the location where they found a squirrel had made contact with an energized 12.5 kV bus and ground on a circuit breaker at Mill Creek substation. This resulted in a catastrophic failure of the circuit breaker causing an outage to 2,057 customers fed from circuit 5W116. In addition, the 69 kV power fuses protecting the transformer operated (believed to have been due to the transient voltage that evolved during the fault clearing), resulting in the de-energization of circuit 5W127, which serves 2,535 customers.

Crews were able to transfer circuit 5W127 to the other station transformer in the substation that was not electrically connected to the blown power fuses, restoring service to 2,535 customers within 51 minutes. In order to restore service to the remaining feeder the transformer power fuses needed to be replaced and the bus tie breaker was reconfigured to carry customer load. Personnel were able to complete this task and restore power to the remaining 2,057 customers within 2 hours 15 minutes. Figure 1 below shows the customers affected by the loss of substation event and the relative outage duration.

To date, there have been no company or commission customer complaints made regarding the major event.

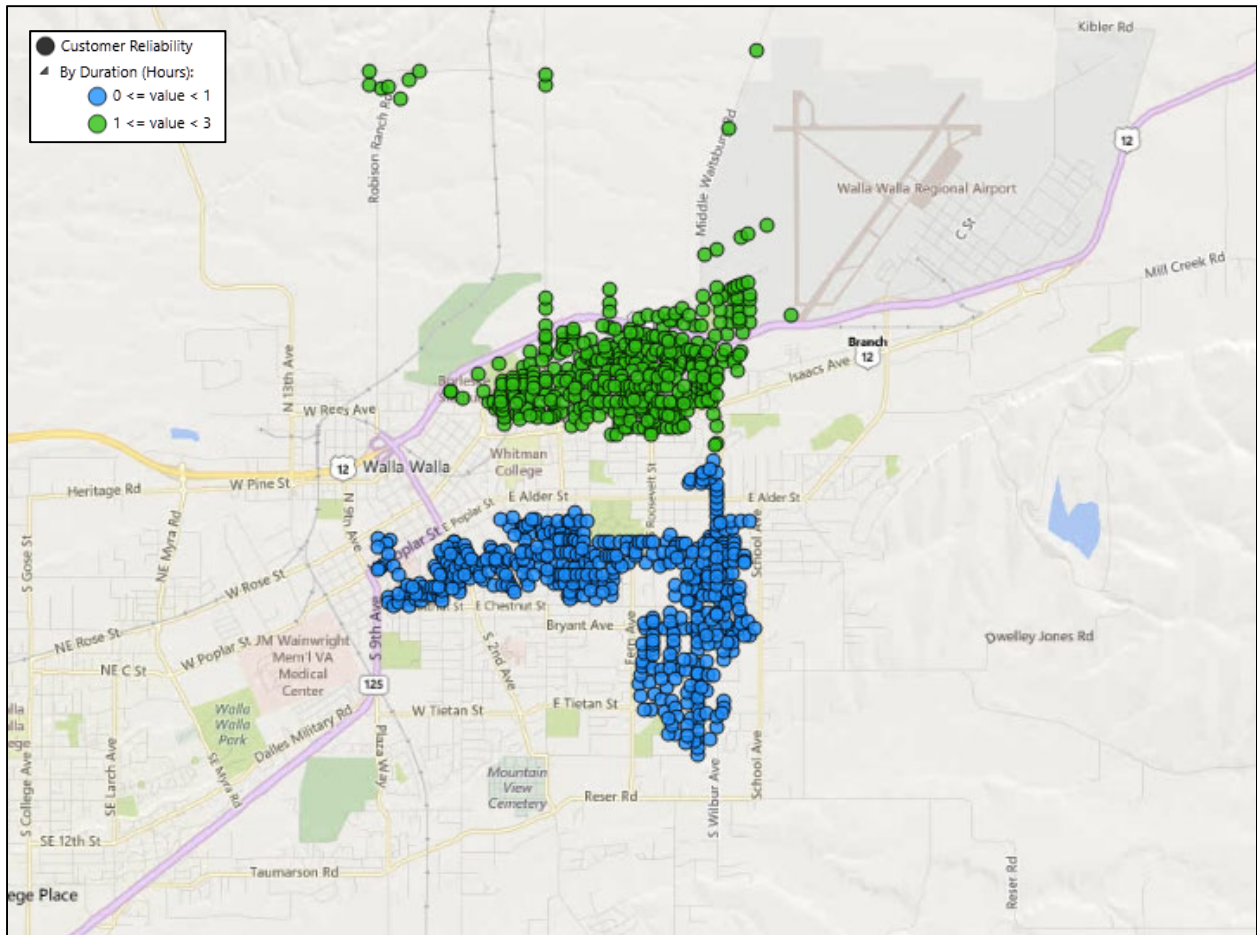


Figure 1: Loss of Substation outages experienced during the major event by duration.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.
4,592	4,592	0

Restoration Resources ¹

Personnel Resources	
Communications Tech	1
Field Journeyman	9
General Foreman	1
Relay Tech	1
Station Journeyman	3
Total	15

Equipment	
15kV Post Insulators	5
Shield Guards	12
Circuit Breaker	1

State Estimated Major Event Costs ¹

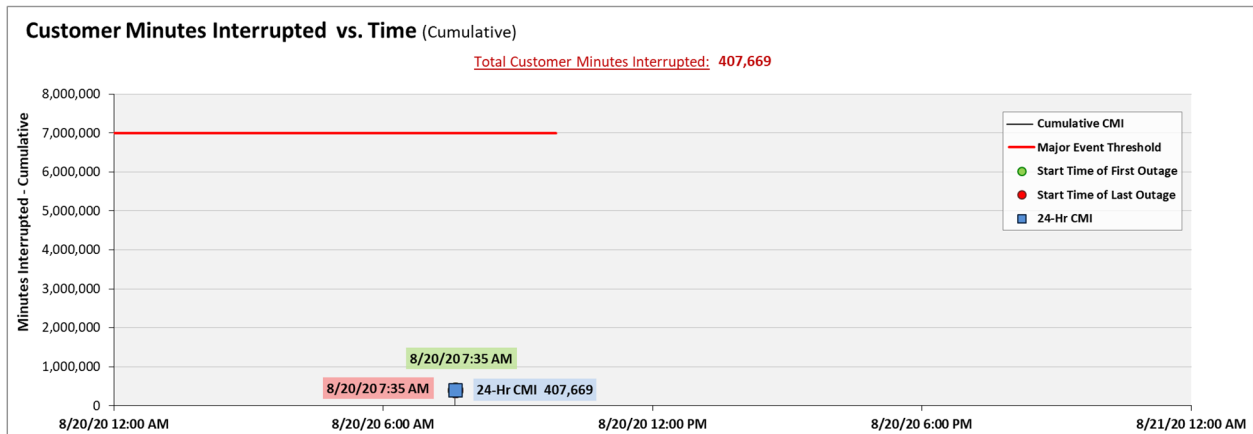
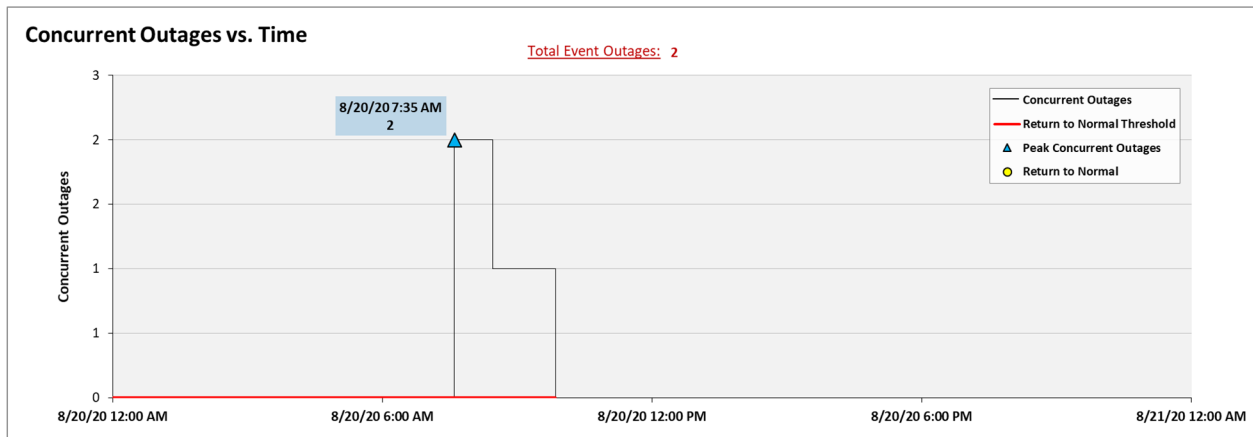
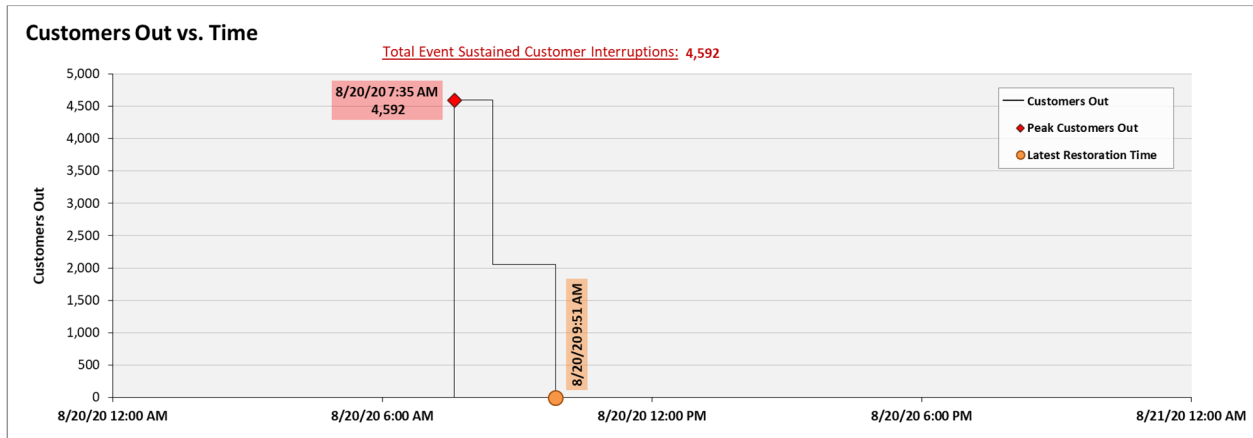
Estimate \$	Labor	Material	Overheads	Total
Capital	\$26,690	\$37	\$1,188	\$27,915
Expense	\$0	\$0	\$0	\$0
Total	\$26,690	\$37	\$1,188	\$27,915

Major Event Declaration

Pacific Power is requesting designation of this event and its consequences to be classified as a “Major Event” for exclusion from underlying network performance reporting. This major event exceeded the company’s current Washington system average interruption frequency index-driven (SAIFI) threshold of 10% total operating area customers served sustained interruptions (4,592 customers were interrupted out of 28,092 Walla Walla operating area customers, or 16% of the operating area customers) simultaneously in a 24-hour period.

¹ Data provided represents specific system records for personnel, resources, and costs; and is specific to the event, not inclusive of state delineation. 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. The current values do not reflect the current procurement of a replacement transformer nor the future personnel work billed to the project when installed. Crews were able to use a spare circuit breaker for this project. The replacement circuit breaker will be purchased in 2021 and billed to this event. The cost will be approximately \$15,000-\$17,000.

Event Detail



SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.