

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

Event Date: July 23, 2019

Date Submitted: September 3, 2019

Primary Affected Locations: Sunnyside

Primary Cause: Loss of Substation

Exclude from Reporting Status: Yes

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Event Outage Summary	
# Interruptions (sustained)	26
Total Customer Interrupted (sustained)	10,365
Total Customer Minutes Lost	420,633
State Event SAIDI	3.08 Minutes
CAIDI	41
Major Event Start	7/23/19 12:00 AM
Major Event End	7/24/19 12:00 AM

Event Description and Restoration Summary

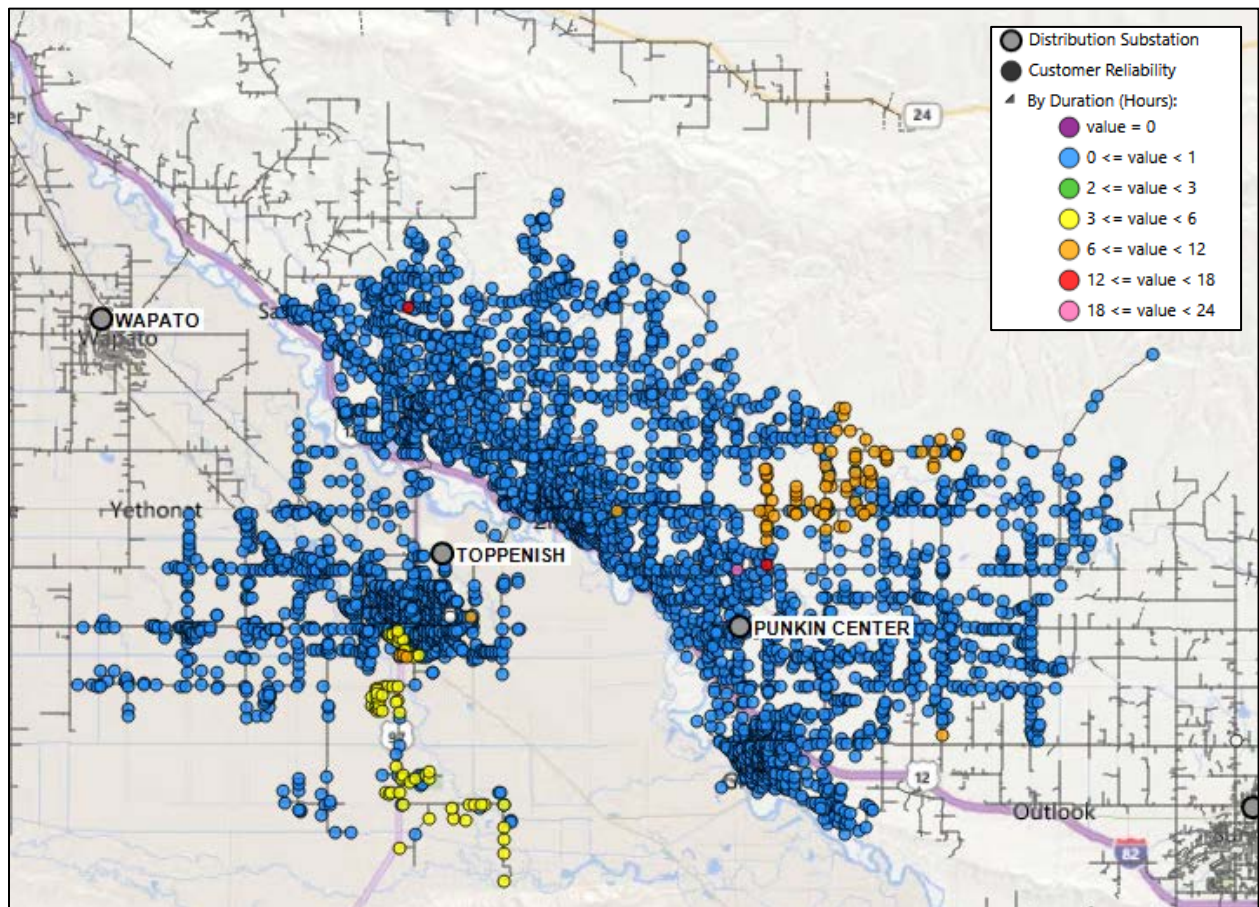
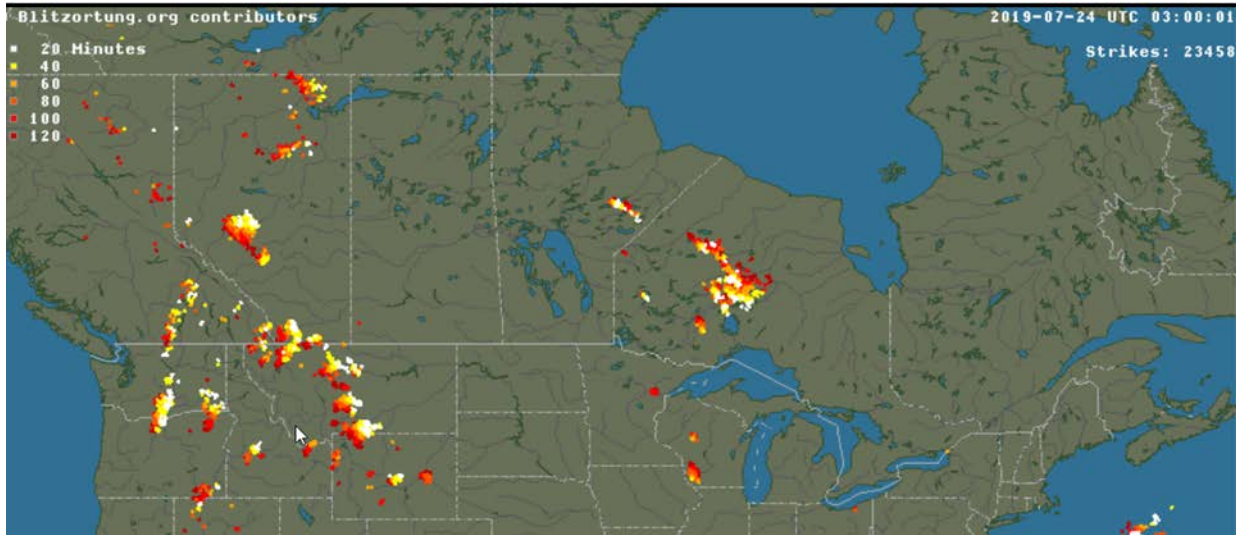
At 7:56 p.m., on July 23rd, 2019, Sunnyside, Washington, experienced a system average interruption frequency index (SAIFI)-based¹ major event when lightning from a summer storm caused a transmission line fault to occur on the Outlook to Toppenish line (the lightning history at and 2 hours before the strike event are shown in the graphic below). The outage de-energized two substations, feeding nine circuits, serving 10,119 customers, approximately 40% of Sunnyside’s total customers served. The event set off several alarms at the Outlook substation, which supplies Punkin Center and Toppenish substation. Dispatch determined that the quickest way to restore power was to energize the distribution substations through alternative sources. Power was restored to the 10,119 customers in 33 minutes.

Crews were quickly dispatched to the Outlook Substation, and upon initial inspection personnel determined that the fault, due to lightning, could have significantly impacted the transmission transformer at the substation, and as a result apparatus support personnel were called in to

¹ A SAIFI-based major event threshold (as identified in PacifiCorp’s reporting plan, pursuant to Washington Administrative Code (WAC) 480-100-393 & 398 Electric Reliability Annual Monitoring and Reporting Plan) is defined as an event in which more than 10% of an operating area’s customers are simultaneously without service as a result of a sustained interruption. Sunnyside operating area’s Calendar 2019 Frozen Customer Count is 25,081 customers.

test and inspect the transformer. After comprehensive testing it was determined the transformer would need to be replaced. An inspection was also performed on the transmission line which experienced the fault and no damaged was found. The company is currently procuring a replacement transformer for the Outlook substation.

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



Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
10,365	10,147	218	0

Restoration Resources ²

Personnel Resources	
Substation Crew members	7
Engineers	4
Field Services Specialist	2
General Foreman	1
Line Foreman	4
Line Patrolman	1
Lineman Representative	1
Lineman Journeyman	8
Local and Project Managers	3
Senior Design Specialist	1
Senior Project Controls Specialist	1
Equipment	
# Distribution Poles	8
# Transmission Poles	3
Conductor (ft.)	2,625
Transformers	23
Crossams	4
Insulators	43
Cutouts	38
Line Fuses	10
Line Splices	2
Guy Wire	5,000

State Estimated Major Event Costs ²

Estimate \$	Labor	Contracts	Material	Overheads	Total
Capital	\$71,671	\$3,341	\$29,001	\$9,430	\$113,443
Expense	\$62,076	\$1,346	\$27,941	\$3,293	\$94,656
Total	\$133,747	\$4,687	\$56,942	\$12,723	\$208,099

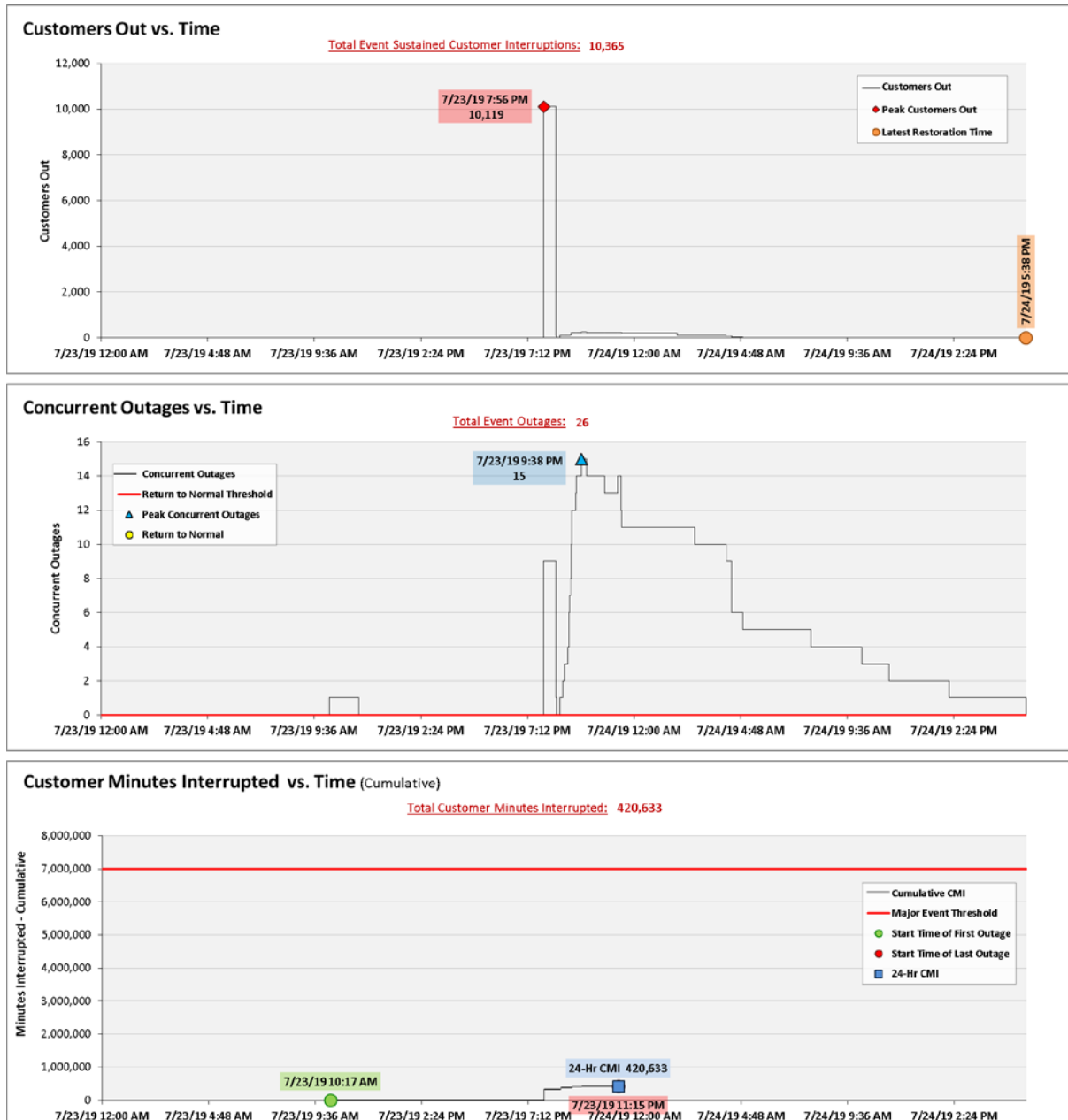
Future Estimated Cost	
Transformer Upgrade	\$3.7 million

² 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.

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 (10,119 customers were interrupted out of 25,081 Sunnyside operating area customers, or 41% of the operating area customers) simultaneously in a 24-hour period.

Event Detail



SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.