WASHINGTON SERVICE QUALITY REVIEW

January 1 – December 31, 2020

Annual Report

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EXECUTIVE SUMMARY

During January 1 through December 31, 2020, Pacific Power delivered reliable service to its Washington customers. The level of performance met established baselines. Also, the Customer Guarantee program continued to deliver high quality results consistent with the prior year's performance. The Company has noted in the past that the service it delivers ranks high when compared across the industry.

The Company's service reliability can be impacted by uncontrollable interference events, such as car-hit-pole accidents, and by significant events that exceed the normal underlying level of interruptions but that do not reach the qualifying major event threshold for exclusion from the Company's underlying performance metrics. To provide a perspective on their impact during the reporting period, the significant events experienced during 2020 are listed in Section 3.2. Consideration of the root causes of these significant days is important when evaluating year-on-year performance. When the Company develops reliability improvement projects it evaluates these root causes and prepares plans that reflect the certainty of repetition of these events. The outcomes are reflective of the plans outlined in the Areas of Greatest Concern, shown in Section 3.6.

1 Service Standards Program Summary

Pacific Power has a number of Customer Service Standards and Service Quality Measures with performance reporting mechanisms currently in place. These standards and measures define Pacific Power's target performance (both personnel and network reliability performance) in delivering quality customer service. The Company developed these standards and measures using relevant industry standards for collecting and reporting performance data. In some cases, Pacific Power has expanded upon these standards. In other cases, largely where the industry has no established standards, Pacific Power has developed metrics, targets and reporting. While industry standards are not focused around threshold performance levels, the Company has developed targets or performance levels against which it evaluates its performance. These standards and measures can be used over time, both historically and prospectively, to measure the service quality delivered to our customers. In its entirety, these measures comply with WAC 480-100-393 and 398 requirements for routine reliability reporting.

In UE-042131, the Company applied for, and received approval, to extend the core program through March 31, 2008. During the MidAmerican acquisition of Pacific Power, in UE-051090, the program was extended again through 2011. While the term of this program has lapsed, the Company has continued to perform all programs as performed historically. No actions have been taken by the Company to recommend any suspension or changes to the program that was extended in UE-042131.

1.1 Pacific Power Customer Guarantees

Customer Guarantee 1: Restoring Supply After an Outage	The Company will restore supply after an outage within 24 hours of notification from the customer with certain exceptions as described in Rule 25.
Customer Guarantee 2: Appointments	The Company will keep mutually agreed upon appointments which will be scheduled within a two-hour time window.
Customer Guarantee 3: Switching on Power	The Company will switch on power within 24 hours of the customer or applicant's request, provided no construction is required, all government inspections are met and communicated to the Company and required payments are made. Disconnections for nonpayment, subterfuge or theft/diversion of service are excluded.
Customer Guarantee 4: Estimates For New Supply	The Company will provide an estimate for new supply to the applicant or customer within 15 working days after the initial meeting and all necessary information is provided to the Company.
Customer Guarantee 5: Respond To Billing Inquiries	The Company will respond to most billing inquiries at the time of the initial contact. For those that require further investigation, the Company will investigate and respond to the Customer within 10 working days.
Customer Guarantee 6: Resolving Meter Problems	The Company will investigate and respond to reported problems with a meter or conduct a meter test and report results to the customer within 10 working days.
Customer Guarantee 7: Notification of Planned Interruptions	The Company will provide the customer with at least two days' notice prior to turning off power for planned interruptions consistent will Rule 25 and relevant exemptions.

Note: See Rules for a complete description of terms and conditions for the Customer Guarantee Program.

1.2 Pacific Power Performance Standards[1]

Network Performance Standard 1: Improve System Average Interruption Duration Index (SAIDI)	The Company will maintain SAIDI commitment target.
Network Performance Standard 2: Improve System Average Interruption Frequency Index (SAIFI)	The Company will maintain SAIFI commitment target.
Network Performance Standard 3: Improve Under Performing Circuits	The Company will reduce by 20% the circuit performance indicator (CPI) for a maximum of five under-performing circuits on an annual basis within five years after selection.
Network Performance Standard 4: Supply Restoration	The Company will restore power outages due to loss of supply or damage to the distribution system within three hours to 80% of customers on average.
Customer Service Performance Standard 5: Telephone Service Level	The Company will answer 80% of telephone calls within 30 seconds. The Company will monitor customer satisfaction with the Company's Customer Service Associates and quality of response received by customers through the Company's eQuality monitoring system.
Customer Service Performance Standard 6: Commission Complaint Response/Resolution	The Company will: a) respond to at least 95% of non-disconnect Commission complaints within two working days per state administrative code[2]; b) respond to at least 95% of disconnect Commission complaints within four working hours; and c) resolve 95% of informal Commission complaints within 30 days.

Note: Performance Standards 1, 2 & 4 are for underlying performance days, excluding days classified as Major Events.

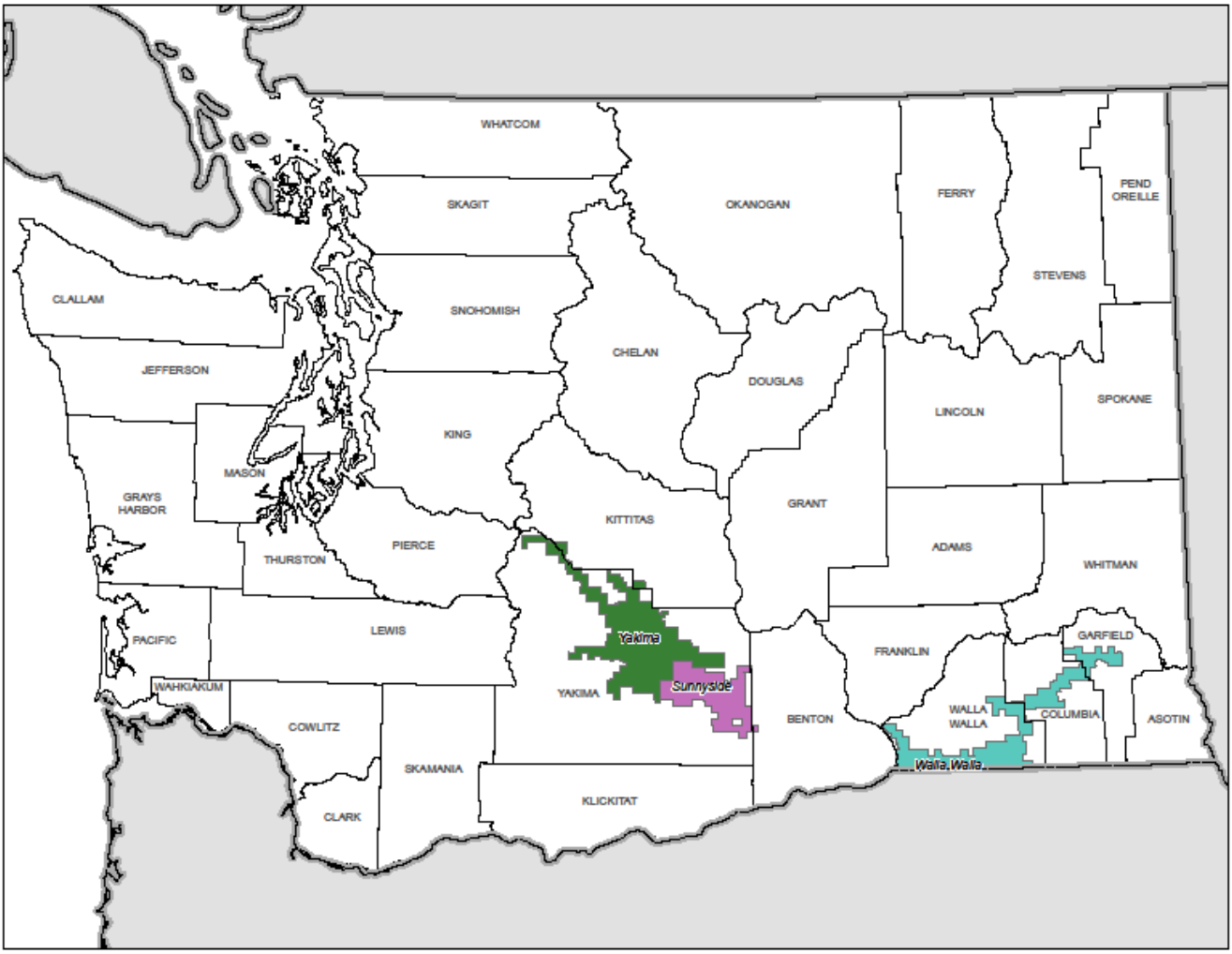
[1] The Company committed to Service Standards Programs that expired on 12/31/2011; during the program all elements committed to were delivered successfully. By terms of the commitment any changes to the program required the approval of the Commission. The Company has proposed no changes to the program, but continues at this time, to operate consistently with its historical program. State reliability reporting rules establish requirements that the Company interprets as generally encompassing the requirements of Network Performance Standards 1-3.

[2] Although the Performance Standard indicates that complaints will be responded to within 3 days, the Company acknowledges and adheres to the requirements set forth in 480-100-173(3)(a).

1.3 Service Territory

Service Territory Map

Contained below is a graphic of the Company's Washington service territory[3], colored by operating area.



[3] While Washington State doesn't recognize electric certificate areas, the graphic shows the regions in which PacifiCorp serves customers in the state.

2 CUSTOMER GUARANTEES SUMMARY

PACIFIC POWER
A DIVISION OF PACIFICORP

customer*guarantees*

January to December 2020

Washington

	Description	2020 Events	2020 Failures	2020 % Success	2020 Paid	2019 Events	2019 Failures	2019 % Success	2019 Paid
CG1	Restoring Supply	107,419	0	100.00%	$0	92,883	0	100.00%	$0
CG2	Appointments	2,269	1	99.96%	$50	2,051	3	99.85%	$150
CG3	Switching on Power	1,059	0	100.00%	$0	2,186	2	99.91%	$100
CG4	Estimates	263	3	98.86%	$150	405	8	98.02%	$400
CG5	Respond to Billing Inquiries	353	0	100.00%	$0	405	2	99.51%	$100
CG6	Respond to Meter Problems	119	0	100.00%	$0	137	0	100.00%	$0
CG7	Notification of Planned Interruptions	8,768	3	99.97%	$150	7,267	5	99.93%	$250
		120,250	**7**	**99.99%**	**$350**	**105,334**	**20**	**99.98%**	**$1,000**

(Major Events are excluded from the Customer Guarantees program.)

Overall guarantee performance remains above 99%, demonstrating Pacific Power's continued commitment to customer satisfaction.

Customer Communications: The Customer Guarantee program was highlighted throughout the year in customer communications as follows:

- performance reports are included in June's billing statements
- the program is highlighted in Voices
- the program is highlighted in the Company's newsletter
- each new customer is mailed a welcome aboard pamphlet that features the program and how to file a claim
- Pacific Power's website features the program with information for our customers

3 RELIABILITY PERFORMANCE

During the reporting period, the Company's reliability compared favorably to its baseline performance level as established in 2003. This year's "Major Events Excluded As Reported" SAIDI performance of 106 minutes was much better than the approved SAIDI baseline of 150 minutes, while the year's "Major Events Excluded As Reported" SAIFI performance of 0.794 events was also much better than the approved SAIFI baseline of 0.975 events. Over the past decade the system has consistently performed well during underlying performance periods. Various reliability metrics are shown below providing a historical perspective, including an additional 5-year rolling average metric.

3.1 Multi-Year Historical Performance

	Major Events Included[1]		SAIDI Based Major Events Excluded 2.5 beta		SAIFI Based Major Events Excluded 10% Op Area[2]		SAIDI & SAIFI-Based Major Events Excluded As Reported *(2.5 beta effective 2005)*		Normalized Historic Performance[3]		5 Year Rolling Average Performance	
Year	**SAIDI**	**SAIFI**	**SAIDI**	**SAIFI**	**SAIDI**	**SAIFI**	**SAIDI**	**SAIFI**	**SAIDI**	**SAIFI**	**SAIDI**	**SAIFI**
2003	126	1.062	91	0.933	89	0.539	98	0.954	89	0.539	97	0.761
2004	172	1.024	87	0.712	119	0.726	123	0.851	87	0.712	93	0.736
2005	128	0.851	110	0.810	121	0.761	111	0.812	110	0.761	103	0.808
2006	242	1.259	120	0.980	187	0.891	122	0.985	120	0.891	112	0.879
2007	146	1.169	122	1.116	114	0.853	122	1.115	114	0.853	115	0.943
2008	329	1.756	127	1.323	124	0.881	131	1.331	124	0.881	122	1.019
2009	182	1.128	161	1.042	162	0.857	161	1.044	161	0.857	129	1.057
2010	107	0.862	107	0.862	97	0.601	103	0.688	97	0.601	128	1.033
2011	91	0.587	80	0.549	91	0.587	80	0.550	80	0.549	119	0.946
2012	158	0.986	100	0.664	100	0.664	100	0.664	100	0.664	115	0.855
2013	198	1.048	113	0.791	192	1.017	107	0.760	107	0.791	110	0.741
2014	146	0.862	122	0.793	146	0.862	122	0.793	122	0.793	102	0.691
2015	154	1.176	100	0.845	149	1.075	95	0.744	95	0.845	101	0.702
2016	116	1.204	52	1.073	110	0.916	85	0.643	52	0.916	102	0.721
2017	253	1.228	124	0.876	243	1.113	114	0.760	114	0.876	105	0.740
2018	176	1.129	112	0.998	170	0.841	106	0.710	106	0.841	104	0.730
2019	130	1.034	106	0.933	112	0.780	88	0.679	88	0.780	98	0.707
2020	286	1.240	113	0.942	279	1.092	106	0.794	106	0.942	100	0.717

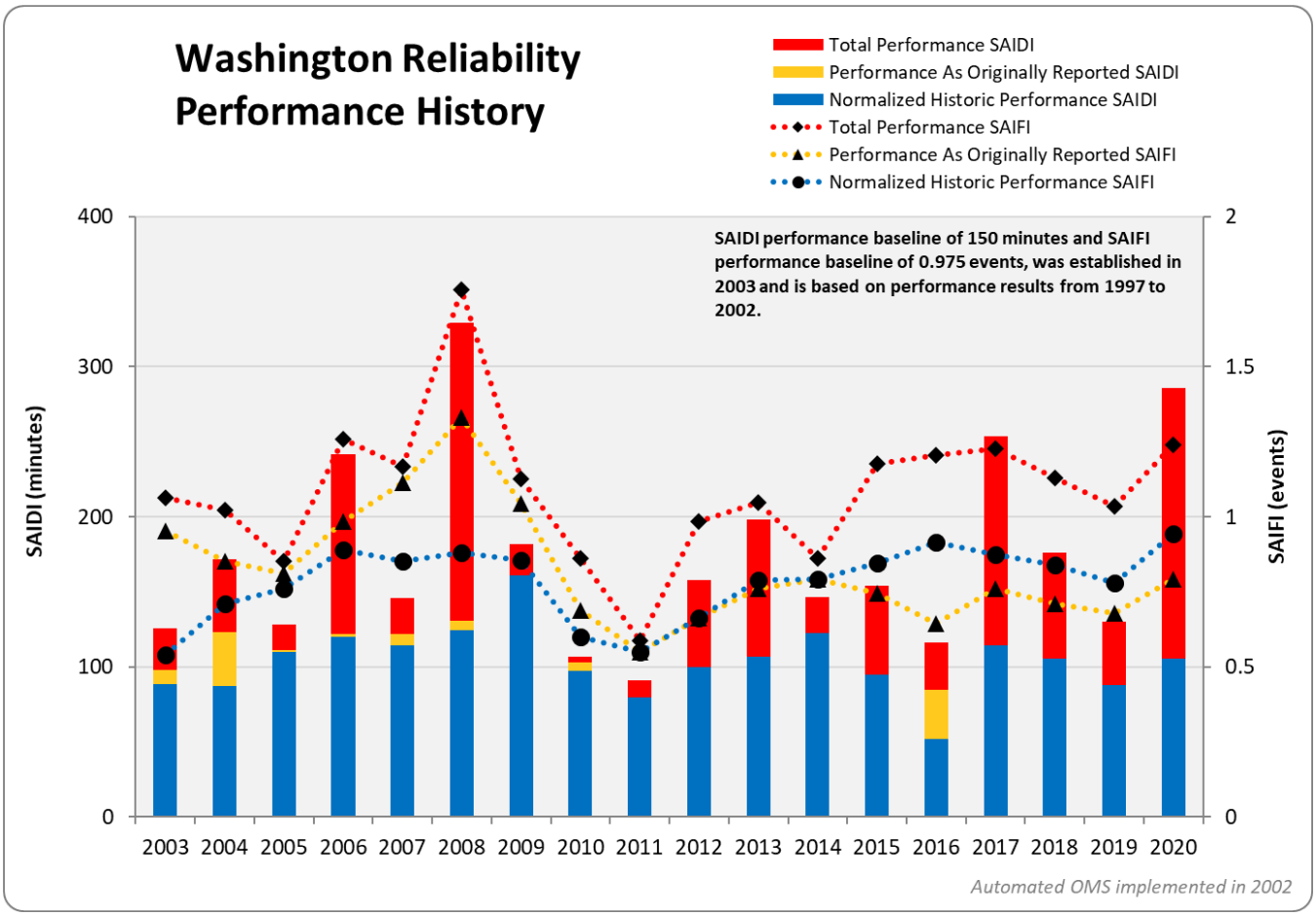
[1]Customer requested and pre-arranged outages are not reported in these metrics

[2]If a 10% op area major event also qualified as a 2 1/2 beta major event it was associated only with the 2 1/2 beta major event.

[3]Normalized performance is the result of applying both SAIDI and SAIFI-based major events to establish underlying performance

[4]Performance baselines were established in June 2003. See page 3 of Reporting Plan.

SAIDI performance baseline of 150 minutes and SAIFI performance baseline of 0.975 events.


Washington Reliability Performance History
Total Performance SAIDI
Performance As Originally Reported SAIDI
Normalized Historic Performance SAIDI
Total Performance SAIFI
Performance As Originally Reported SAIFI
Normalized Historic Performance SAIFI
SAIDI performance baseline of 150 minutes and SAIFI performance baseline of 0.975 events, was established in 2003 and is based on performance results from 1997 to 2002.
SAIDI (minutes)
SAIFI (events)
400
300
200
100
0
2
1.5
1
0.5
0
2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020
Automated OMS implemented in 2002

3.2 System Average Interruption Duration Index (SAIDI)

In 2020, the Company delivered reliability results much better than baseline for both outage duration (SAIDI) and outage frequency (SAIFI); the performance compared to baselines is identified in Section 3.1 above.

The Company's reporting plan recognizes two types of major events; the first, a SAIDI-based major event[4] is defined using statistical methods as outlined in IEEE 1366-2003/2012 while the second, a SAIFI-based major event is defined in the company's reporting plan. During the year, three SAIDI-based and three SAIFI-based[5] major events were recorded. The events designate 180.40 minutes to be separated from underlying reporting metrics. Copies of the Company's filed major events are included in the Appendix of this report.

2020 Major Events			
Date	**Cause**	**SAIDI**	**SAIFI**
* March 14, 2020	Loss of Transmission Line	1.00	0.076
May 30-June 2, 2020	Storm, wind, trees	128.19	0.175
July 24-25, 2020	Tree	12.61	0.017
* August 20, 2020	Walla Walla - Loss of Substation	3.00	0.034
September 7-9, 2020	Wind	32.62	0.106
* September 19, 2020	Loss of Transmission Line	2.97	0.039
	SAIDI Based Major Event Total	**173.42**	**0.298**
	*** SAIFI Based Major Event Total**	**6.98**	**0.149**
	TOTAL	**180.40**	**0.447**

During the period, there were seven significant event days[6] (daily underlying SAIDI of 2.09 minutes or more). These seven days account for 21 SAIDI minutes and 0.119 SAIFI events, representing 20% of the underlying SAIDI and 15% of the underlying SAIFI.

SIGNIFICANT EVENT DAYS					
DATE	**PRIMARY CAUSE**	**SAIDI**	**SAIFI**	**% Underlying SAIDI (106 min)**	**% Underlying SAIFI (0.79 events)**
February 23, 2020	Weather (trees and pole fires)	2.8	0.011	3%	1%
March 30, 2020	Several pole fires	2.2	0.015	2%	2%
June 12, 2020	Lightning	4.6	0.030	4%	4%
July 29, 2020	Tree through line	2.2	0.017	2%	2%
July 30, 2020	Vandalism and Tree through line	2.7	0.020	3%	3%
October 12, 2020	Several pole fires	4.1	0.014	4%	2%
November 14, 2020	Several pole fires	2.3	0.011	2%	1%
	TOTAL	**21.0**	**0.119**	**20%**	**15%**

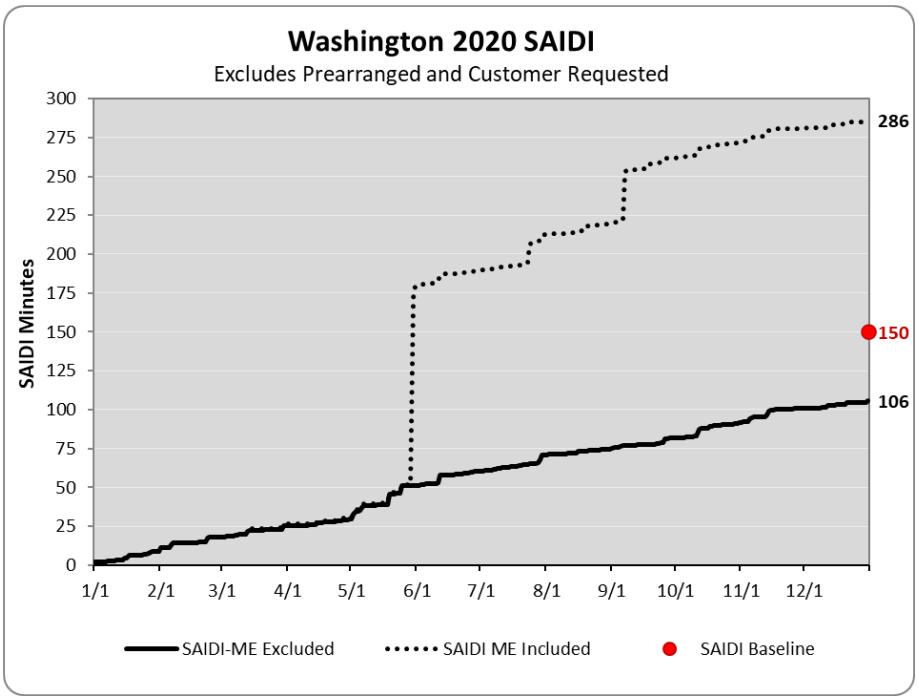
[4] During calendar 2020, the calculated threshold for a major event was 10.52 SAIDI Minutes; for 2021, it will be 10.84 SAIDI minutes.

[5] The SAIFI-based major event combines Sunnyside and Yakima operational areas since the two are operated as one response center. However, district level metrics segment these two operational areas to allow comparison against legacy reports.

[6] On a trial basis, the Company established a variable of 1.75 times the standard deviation of its natural log SAIDI results to identify significant event days; generally, they are triggered by weather, however, may also be the result of significant transmission system events.

During 2020, outage duration, or SAIDI, was better than baseline.

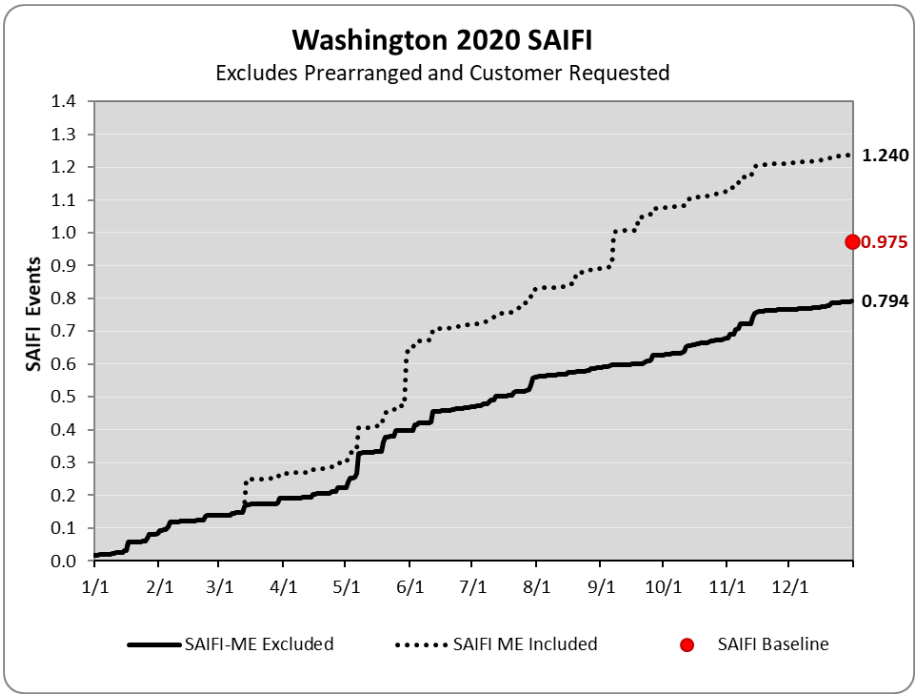
January 1 through December 31, 2020	
2020 SAIDI Internal Goal = 88	**SAIDI Actual**
Total Performance	286.0
SAIDI-based Major Events Excluded	173.4
SAIFI-based Major Events Excluded	7.0
Reported (Major Events Excluded)	**105.6**



3.3 System Average Interruption Frequency Index (SAIFI)

During 2020 outage frequency or SAIFI was better than baseline.

January 1 through December 31, 2020	
2020 SAIFI Internal Goal = 0.760	**SAIFI Actual**
Total Performance	1.240
SAIDI-based Major Events Excluded	0.298
SAIFI-based Major Events Excluded	0.149
Reported (Major Events Excluded)	**0.794**



3.4 Operating Area Metrics

Washington operating area performance metrics for the reporting period are listed in the table below.

January 1 – December 31, 2020	Sunnyside			Walla Walla[7]			Yakima		
	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
Including Major Events	256	1.307	196	196	1.265	155	324	1.192	272
Total SAIDI-based Major Events	175	0.679	258	0	0	0	206	0.302	684
Total SAIFI-based Major Events	0	0	0	102	0.627	162	0	0	0
Reported Major Events Excluded	81	0.628	129	94	0.638	148	117	0.891	132

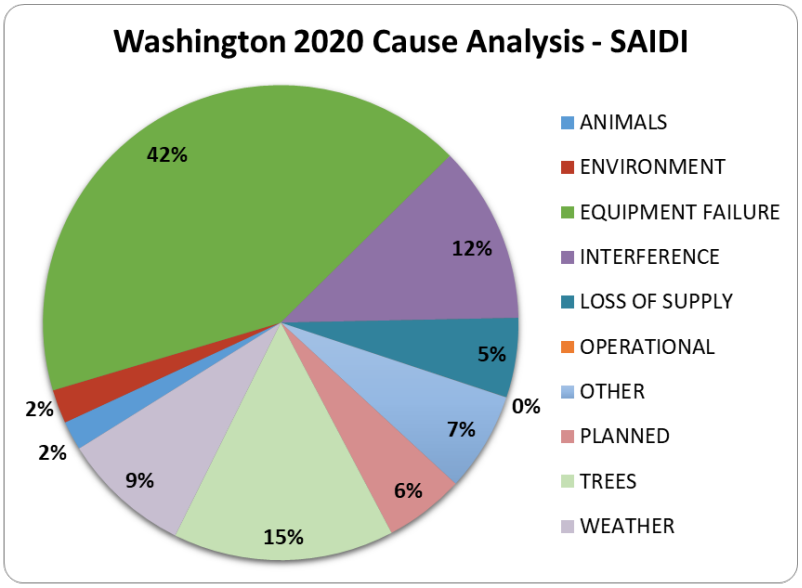
2020 Sunnyside Customer Count:	24,783
2020 Walla Walla Customer Count:	28,092
2020 Yakima Customer Count:	82,822
2020 Washington Customer Count:	135,697

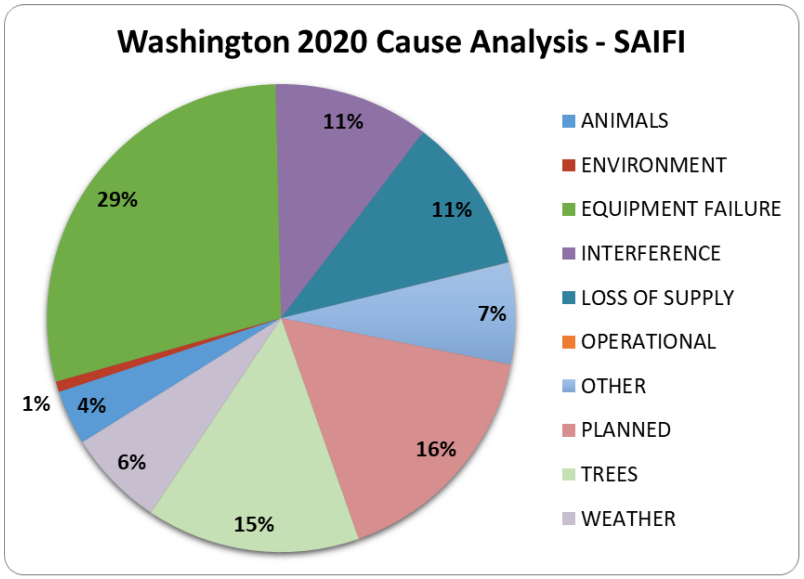
3.5 Cause Code Analysis

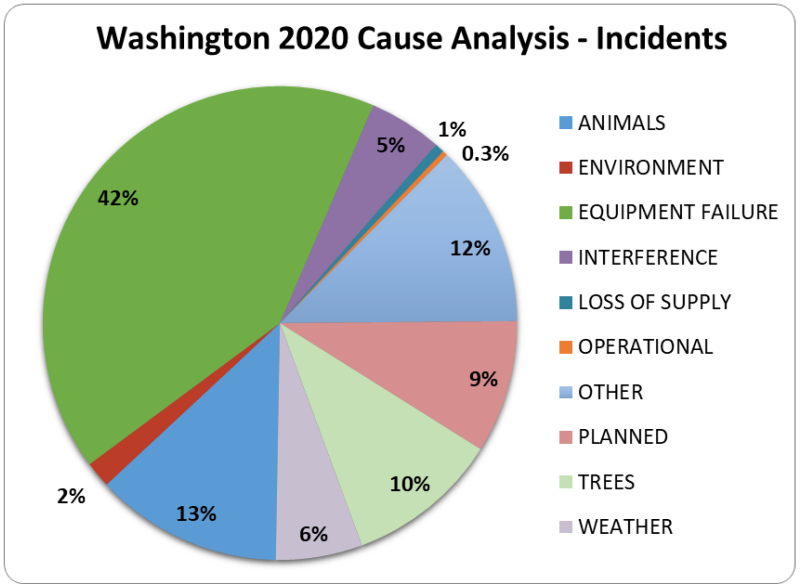
The table and charts below break out the number of outage incidents, customer minutes lost (CML), and sustained interruptions by cause code. CML is directly related to SAIDI (average outage duration); Sustained Interruptions is directly related to SAIFI (average outage frequency). Certain types of outages typically result in high duration, but are infrequent, such as Loss of Supply outages. Others tend to be more frequent but are generally shorter in duration. The pie charts depict the breakdown of performance results by percentage of each cause category. Following the pie charts, a cause category table lists the direct causes with definitions and examples. Thereafter is a historical view of cause codes, as they summarize to annual SAIDI and SAIFI performance.

[7] The district metrics for Walla Walla include a small amount of Oregon customers served from two circuits originating in Washington.

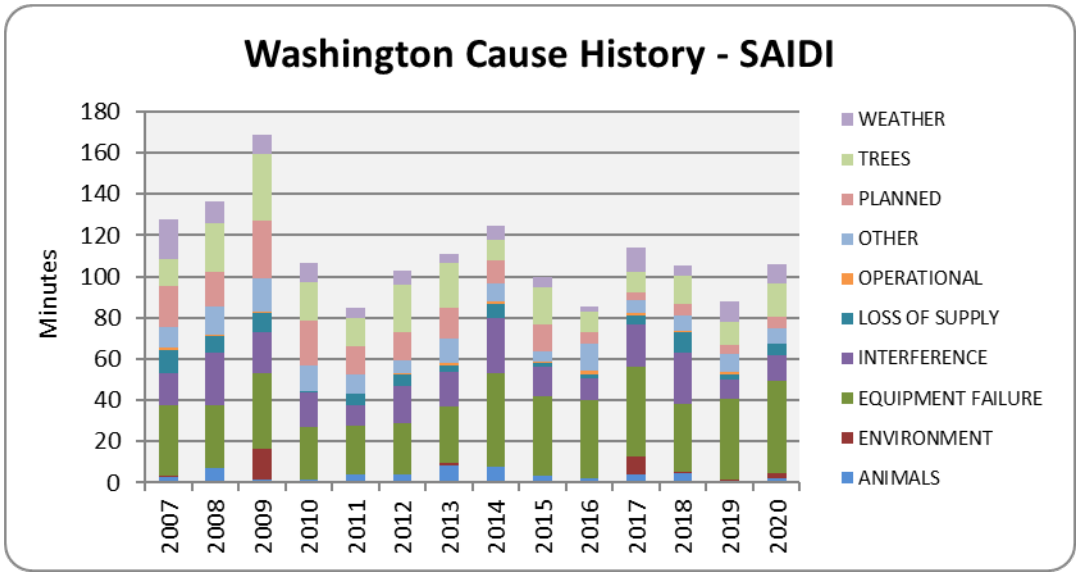
Washington Cause Analysis - Underlying 1/1/2020 - 12/31/2020					
Direct Cause	**Customer Minutes Lost for Incident**	**Customers in Incident Sustained**	**Sustained Incident Count**	**SAIDI**	**SAIFI**
ANIMALS	178,586	3,099	119	1.32	0.023
BIRD MORTALITY (NON-PROTECTED SPECIES)	38,646	473	110	0.28	0.003
BIRD MORTALITY (PROTECTED SPECIES) (BMTS)	4,747	31	3	0.03	0.000
BIRD NEST (BMTS)	6,841	21	3	0.05	0.000
BIRD SUSPECTED, NO MORTALITY	55,916	450	23	0.41	0.003
ANIMALS	**284,736**	**4,074**	**258**	**2.10**	**0.030**
CONTAMINATION	13,133	72	2	0.10	0.001
FIRE/SMOKE (NOT DUE TO FAULTS)	194,994	570	23	1.44	0.004
FLOODING	121,769	142	11	0.90	0.001
ENVIRONMENT	**329,896**	**784**	**36**	**2.43**	**0.006**
B/O EQUIPMENT	859,742	4,547	286	6.34	0.034
DETERIORATION OR ROTTING	1,387,244	5,712	423	10.22	0.042
NEARBY FAULT	16,756	58	4	0.12	0.000
OVERLOAD	22,035	172	17	0.16	0.001
POLE FIRE	3,764,230	20,750	109	27.74	0.153
EQUIPMENT FAILURE	**6,050,008**	**31,239**	**839**	**44.58**	**0.230**
DIG-IN (NON-PACIFICORP PERSONNEL)	24,721	113	11	0.18	0.001
OTHER INTERFERING OBJECT	136,561	1,652	15	1.01	0.012
OTHER UTILITY/CONTRACTOR	139,734	2,311	14	1.03	0.017
VANDALISM OR THEFT	121,840	668	3	0.90	0.005
VEHICLE ACCIDENT	1,307,732	6,830	58	9.64	0.050
INTERFERENCE	**1,730,588**	**11,574**	**101**	**12.75**	**0.085**
LOSS OF SUBSTATION	607,788	2,173	3	4.48	0.016
LOSS OF TRANSMISSION LINE	168,651	9,449	10	1.24	0.070
LOSS OF SUPPLY	**776,439**	**11,622**	**13**	**5.72**	**0.086**
FAULTY INSTALL	279	2	2	0.00	0.000
IMPROPER PROTECTIVE COORDINATION	128	1	1	0.00	0.000
INCORRECT RECORDS	436	8	3	0.00	0.000
PACIFICORP EMPLOYEE - FIELD	120	1	1	0.00	0.000
OPERATIONAL	**963**	**12**	**7**	**0.01**	**0.000**
OTHER, KNOWN CAUSE	261,527	2,224	60	1.93	0.016
UNKNOWN	706,832	5,324	191	5.21	0.039
OTHER	**968,359**	**7,548**	**251**	**7.14**	**0.056**
CONSTRUCTION	89,571	1,382	27	0.66	0.010
CUSTOMER NOTICE GIVEN	908,346	8,769	549	6.69	0.065
CUSTOMER REQUESTED	143,810	298	17	1.06	0.002
EMERGENCY DAMAGE REPAIR	524,418	12,359	130	3.86	0.091
INTENTIONAL TO CLEAR TROUBLE	164,110	3,967	26	1.21	0.029
PLANNED NOTICE EXEMPT	8,662	342	2	0.06	0.003
PLANNED	**1,838,917**	**27,117**	**751**	**13.55**	**0.200**
TREE - NON-PREVENTABLE	2,113,443	15,659	181	15.57	0.115
TREE - TRIMMABLE	42,528	238	30	0.31	0.002
TREES	**2,155,970**	**15,897**	**211**	**15.89**	**0.117**
FREEZING FOG & FROST	3,453	6	1	0.03	0.000
LIGHTNING	765,314	3,336	38	5.64	0.025
SNOW, SLEET AND BLIZZARD	2,121	20	5	0.02	0.000
WIND	488,799	3,875	75	3.60	0.029
WEATHER	**1,259,686**	**7,237**	**119**	**9.28**	**0.053**
Washington Including Prearranged	**15,395,561**	**117,104**	**2586**	**113.46**	**0.863**
Washington Excluding Prearranged	**14,334,743**	**107,695**	**2018**	**105.64**	**0.794**

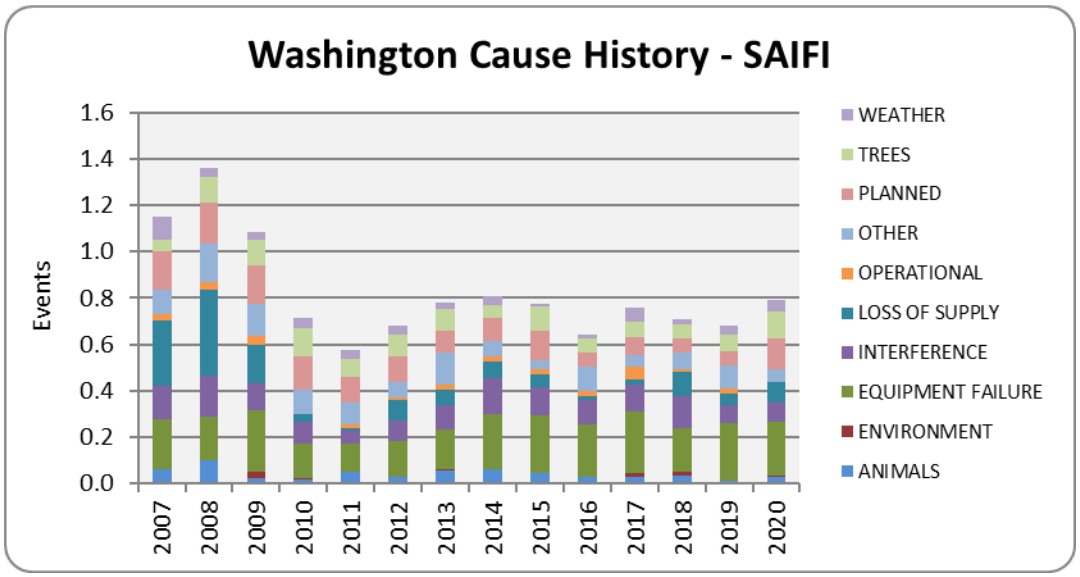

Washington 2020 Cause Analysis - SAIDI
42%
12%
5%
0%
7%
6%
15%
9%
2%
2%
ANIMALS
ENVIRONMENT
EQUIPMENT FAILURE
INTERFERENCE
LOSS OF SUPPLY
OPERATIONAL
OTHER
PLANNED
TREES
WEATHER


Washington 2020 Cause Analysis - SAIFI
11%
11%
29%
7%
1%
4%
16%
6%
15%
ANIMALS
ENVIRONMENT
EQUIPMENT FAILURE
INTERFERENCE
LOSS OF SUPPLY
OPERATIONAL
OTHER
PLANNED
TREES
WEATHER


Washington 2020 Cause Analysis - Incidents
1%
5%
0.3%
42%
12%
9%
2%
13%
6%
10%
ANIMALS
ENVIRONMENT
EQUIPMENT FAILURE
INTERFERENCE
LOSS OF SUPPLY
OPERATIONAL
OTHER
PLANNED
TREES
WEATHER

Direct Cause Category	Category Definition & Example/Direct Cause	
Animals	Any problem nest that requires removal, relocation, trimming, etc.; any birds, squirrels or other animals, whether or not remains found.	
	• Animal (Animals) • Bird Mortality (Non-protected species) • Bird Mortality (Protected species)(BMTS)	• Bird Nest • Bird or Nest • Bird Suspected, No Mortality
Environment	Contamination or Airborne Deposit (i.e. salt, trona ash, other chemical dust, sawdust, etc.); corrosive environment; flooding due to rivers, broken water main, etc.; fire/smoke related to forest, brush or building fires (not including fires due to faults or lightning).	
	• Condensation/Moisture • Contamination • Fire/Smoke (not due to faults) • Flooding	• Major Storm or Disaster • Nearby Fault • Pole Fire
Equipment Failure	Structural deterioration due to age (incl. pole rot); electrical load above limits; failure for no apparent reason; conditions resulting in a pole/cross arm fire due to reduced insulation qualities; equipment affected by fault on nearby equipment (e.g., broken conductor hits another line).	
	• B/O Equipment • Overload	• Deterioration or Rotting • Substation, Relays
Interference	Willful damage, interference or theft; such as gun shots, rock throwing, etc.; customer, contractor or other utility dig-in; contact by outside utility, contractor or other third-party individual; vehicle accident, including car, truck, tractor, aircraft, manned balloon; other interfering object such as straw, shoes, string, balloon.	
	• Dig-in (Non-PacifiCorp Personnel) • Other Interfering Object • Vandalism or Theft	• Other Utility/Contractor • Vehicle Accident
Loss of Supply	Failure of supply from Generator or Transmission system; failure of distribution substation equipment.	
	• Failure on other line or station • Loss of Feed from Supplier • Loss of Generator	• Loss of Substation • Loss of Transmission Line • System Protection
Operational	Accidental Contact by PacifiCorp or PacifiCorp's Contractors (including live-line work); switching error; testing or commissioning error; relay setting error, including wrong fuse size, equipment by-passed; incorrect circuit records or identification; faulty installation or construction; operational or safety restriction.	
	• Contact by PacifiCorp • Faulty Install • Improper Protective Coordination • Incorrect Records • Internal Contractor	• Internal Tree Contractor • Switching Error • Testing/Startup Error • Unsafe Situation
Other	Cause Unknown; use comments field if there are some possible reasons.	
	• Invalid Code • Other, Known Cause	• Unknown
Planned	Transmission requested, affects distribution sub and distribution circuits; Company outage taken to make repairs after storm damage, car hit pole, etc.; construction work, regardless if notice is given; rolling blackouts.	
	• Construction • Customer Notice Given • Energy Emergency Interruption • Intentional to Clear Trouble	• Emergency Damage Repair • Customer Requested • Planned Notice Exempt • Transmission Requested
Tree	Growing or falling trees	
	• Tree-Non-preventable • Tree-Trimmable	• Tree-Tree felled by Logger
Weather	Wind (excluding windborne material); snow, sleet or blizzard, ice, freezing fog, frost, lightning.	
	• Extreme Cold/Heat • Freezing Fog & Frost • Wind	• Lightning • Rain • Snow, Sleet, Ice and Blizzard


Washington Cause History - SAIDI
Minutes
180
160
140
120
100
80
60
40
20
0
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
WEATHER
TREES
PLANNED
OTHER
OPERATIONAL
LOSS OF SUPPLY
INTERFERENCE
EQUIPMENT FAILURE
ENVIRONMENT
ANIMALS


Washington Cause History - SAIFI
Events
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
WEATHER
TREES
PLANNED
OTHER
OPERATIONAL
LOSS OF SUPPLY
INTERFERENCE
EQUIPMENT FAILURE
ENVIRONMENT
ANIMALS

3.6 Areas of Greatest Concern

As in past reports, the Company has continued to focus on improved system hardening and protection. Through targeted reliability projects protective coordination has been improved by replacing hydraulic reclosers, installing new line reclosers, enhancing the existence of fuses that are able to reduce line and the amount of customers exposed to those fault events and replacing substation relays. This new equipment has allowed for smaller and more coordinated protective operations to clear fault events. Additionally, the Company has continued reliability-centered hardening activities on circuits whose equipment may be performing in a way indicating a lack of resilience to fault events. Using the Company's proprietary analytical tools, portions of circuits are identified that warrant additional hardening activity, often comprised of crossarm or cut-out replacement. Along with circuit hardening and protection efforts, the Company reviews to obtain better segmentation of circuits, as well as increasing feeder ties and replacing damaged cable. The Company continues to pilot installation of new technologies which augment its reliability-centered toolset. Three new additions to the toolset include 1) fusesavers, which is a device that is able to operate with a single instantaneous trip to clear a fault prior to faulting permanently; 2) spacer cable, an insulated conductor installed in spacers employing a weak-link design philosophy, such that contact and strikes are not fault creating and 3) manual and remote faulted circuit indicators, which help diagnose the location of circuit's fault events for faster restoration after an event.

Further, the company continues to grow its ability to use reliability data strategically with the development and implementation of reliability-centered tools. It uses a web-based notification tool that alerts when interrupting devices (such as substation breakers, line reclosers or fuses) have exceeded specific performance thresholds. It then promptly investigates these situations, many of which result in localized improvements, such as can occur when a cable section is replaced or when a slack span is re-sagged. This new capability has delivered substantial improvements to customers. Enhancements to the datasets that drive the web notification enable association between inspection conditions and zones of protection for circuits, which allow for prioritization of specific conditions within protective zones close to the substation breaker. Further it has overhauled its geospatial reliability analysis tool, augmenting its functionality to better distinguish circuit details in light of reliability events, particularly in the area of underground cable fault and replacement history. The use of these tools results in maximum improvement for the efforts expended, improving reliability to customers at the best possible costs. Most recently the Company has focused on expanding its information with relation to transmission system fault records by developing an inventory of historic fault locations, geographically located, to further diagnose areas of the system which made warrant more detailed inspection. In the past the company had recognized the impact of pole fires on reliability and began establishing an approach to address this risk. As a result, it has operationalized a process by which a pattern of pole fire risks exists, after which it inspects the equipment within the risk area, identifies deficient locations and creates work orders for correcting them. The Company has continued that work and positioned additional circuits for the upcoming time period. Further, also reported previously, the company has improved its notification process to ensure that customers impacted by large, lengthy improvement efforts are given upfront notifications to better recognize the inconveniences they may experience now will result in better performance in the long term.

The table below lists reliability projects identified and currently underway for Washington's Areas of Greatest Concern; these circuits will be subsequently reported as Program Year 22 circuits in Section 3.7.

Substation	Circuit Name	Circuit	2021 Assessment	Baseline CPI99
NORTH PARK	FREEWAY	5Y356	As part of the 2021 FIOLI adding fusing on two unfused taps, updated fusing at four fused taps for coordination update. All cutouts touched replaced with new poly cutouts.	22
UNION GAP	MALL	5Y466	As part of the 2021 FIOLI adding fusing on 13 unfused taps and replacement of one set of 3 phase solid blades with 65T fusing. All cutouts replaced with new poly cutouts. Three poles with PTE estimated for full replacement.	31
SUNNYSIDE	SHELLER	5Y314	Circuit hardening (related to pole fire mitigation). As part of the 2021 FIOLI using will be added to 22 unfused locations, in addition to five updated fusing locations. Replacement cutouts for an additional 22 locations outside of the FIOLI locations. 21 cross arms replacement of all cutouts on recloser pole and updates to 300 amp disconnect.	43
TOUCHET	TOUCHET	5W124	Distribution reliability improvement project consisting of completing a fuse coordination resulting in installing fuses at tap locations to shorten zone 1 and zone 2 exposure and making settings changes on three field reclosers for better protection coordination. Also included is the reconductoring 2,400' of #6 CU conductor with 4/0 AAC conductor in Touchet (limiting arc energy risk potentially damaging smaller diameter conductor), replacing an aged gang operated switch to aid in restoration switching, and installing visibility strips on the poles along Hwy 12.	73
NOB HILL	TWELFTH AVE.	5Y197	As part of the 2021 FIOLI adding fusing to four locations and updated fusing at six fused taps for coordination update.	13

3.7 Reduce CPI for Worst Performing Circuits by 20%

On a routine basis, the company reviews circuits for performance. One of the measures that it uses is called circuit performance indicator (CPI), which is a blended weighting of key reliability metrics covering a three-year time frame. The higher the number, the poorer the blended performance the circuit is delivering. As part of the company's Performance Standards Program, it annually selects a set of Worst Performing Circuits for target improvement. The improvements are to be completed within two years of selection. Within five years of selection, the average performance is to be improved by at least 20% (as measured by comparing current performance against baseline performance). Program years 1-15 have previously met improvement targets so are no longer shown in the performance update below.

WASHINGTON WORST PERFORMING CIRCUITS	BASELINE	Performance 12/31/2020
PROGRAM YEAR 21		
Donald 5Y330	117	95
Nikola 5Y435	65	58
Pippin 5Y860	78	88
Stone Creek 5W19	63	35
Waneta 5Y316	67	61
TARGET SCORE = 63	78	67
PROGRAM YEAR 20		
Bonneview 5Y302	44	24
Cannery 5W323	50	72
Gibson Rd 5Y601	126	75
Peach 5Y498	34	53
Satus 5Y205	80	112
TARGET SCORE = 53	**69**	**67**
PROGRAM YEAR 19		
GRANGER 5Y357	114	51
HAY 5Y131	191	141
MABTON EXPR 5Y174	113	56
WESLEY 5Y218	135	63
ZILLAH 5Y245	280	18
GOAL MET! TARGET SCORE = 133	**167**	**66**
PROGRAM YEAR 18		
Dazet 5Y434	30	8
Green Park 5W116	53	48
Harrah 5Y202	113	67
Orion 5Y577	89	34
Reser Road 5W16	50	54
GOAL MET! TARGET SCORE = 57	**67**	**42**
PROGRAM YEAR 17		
GURLEY 5Y358 (circuit split into 5Y850 and 5Y854)	119	67
BOYER 5W118	48	31
FERNDALE 5W106	88	66
NILE 4Y1	301	295
4TH St. 5Y468	91	24
GOAL MET! TARGET SCORE = 104	**129**	**81**
PROGRAM YEAR 16		
DRAPER 5Y156	162	39
PINE STREET (BOWMAN) 5W150	26	48
RUSSEL CREEK 5W121	23	23
TAUMARSON FEEDER 5W50	29	29
VAN BELLE 5Y312	149	149
GOAL MET! TARGET SCORE = 62	**78**	**62**

3.8 Restore Service to 80% of Customers within 3 Hours

The Company targets restoring power to 80% of its customers within 3 hours.

WASHINGTON RESTORATIONS WITHIN 3 HOURS					
January – December 2020 = 83**%**					
January	February	March	April	May	June
91%	93%	89%	79%	84%	63%
July	August	September	October	November	December
89%	92%	93%	85%	88%	89%

3.9 Telephone Service and Response to Commission Complaints

COMMITMENT	GOAL	PERFORMANCE
PS5-Answer calls within 30 seconds	80%	85%
PS6a) Respond to commission complaints within 3 days[8]	95%	100%
PS6b) Respond to commission complaints regarding service disconnects within 4 hours	95%	100%
PS6c) Resolve commission complaints within 30 days	95%	100%

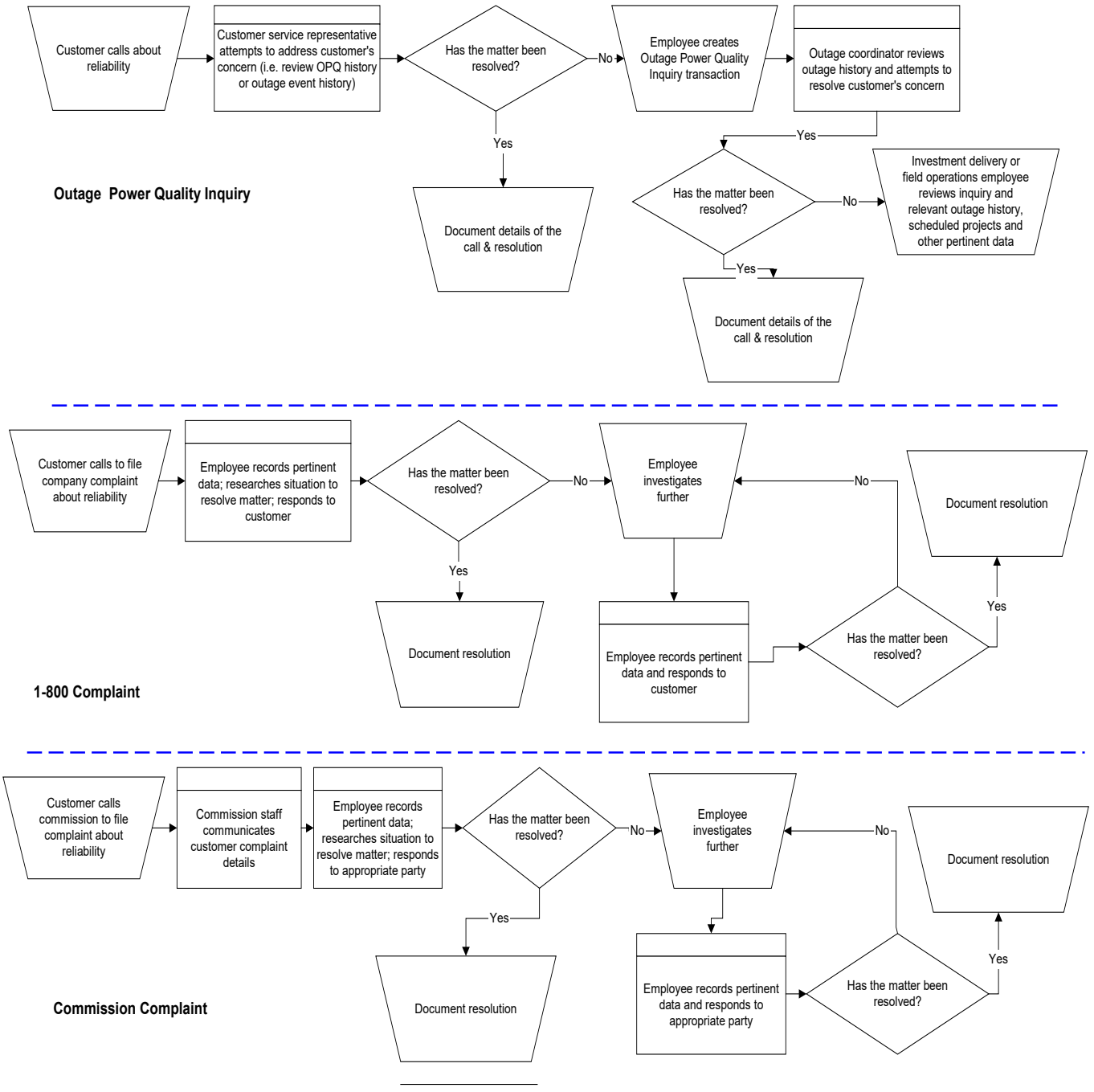
[8] Although the Performance Standard indicates that complaints will be responded to within 3 days, the Company acknowledges and adheres to the requirements set forth in WAC 480-100-173(3)(a).

4 CUSTOMER RELIABILITY COMMUNICATIONS

4.1 Reliability Complaint Process Overview

The Company's process for managing customers' concerns about reliability are to provide opportunities to hear customer concerns, respond to those concerns, and where necessary, provide customers an opportunity to elevate those concerns.

Customer Reliability Communications



4.2 Customer Complaint Tracking

Listed below are the various avenues available to a customer to resolve concerns about reliability performance.

- **Customer Reliability Inquiry**
  The company records customer inquiries about reliability as Outage Power Quality transactions in its customer service system, referred to as "OPQ" transactions.

- **Customer Complaint**
  If a customer's reliability concerns are not met through the process associated with the OPQ transaction, a customer can register a 1-800 complaint with the company which is addressed by the customer advocacy team. This is recorded in a complaint repository from which regular reports are prepared and circulated for resolution.

- **Commission Complaint**
  If a customer's reliability concerns are not met through the process associated with a 1-800 complaint, a customer can register a complaint with the Commission. This is recorded by the Commission staff and also by the company in a complaint repository. Regular reports are prepared and circulated for resolution of these items.

4.3 Customer Complaints Recorded During the Period

Listed below, by the recording source, are reliability-related customer complaints received during the reporting period. If the reliability concern is related to a major event such information is included in the summary.

- **1-800 (Internally Elevated) Complaints**
  There was one Informal Complaints received by the company in the reporting period.

Received	Complaint Type	Site Address	Site ID	Sub-Complaint type	Summary	
7/9/2020	Reliability and Restoration	140 Lakes Ln, Selah, WA	007030075	Outage Information	Power quality issues	Customer disputed the damage claim denial for the electrical and windstorm from May 1 to June 1, 2020.

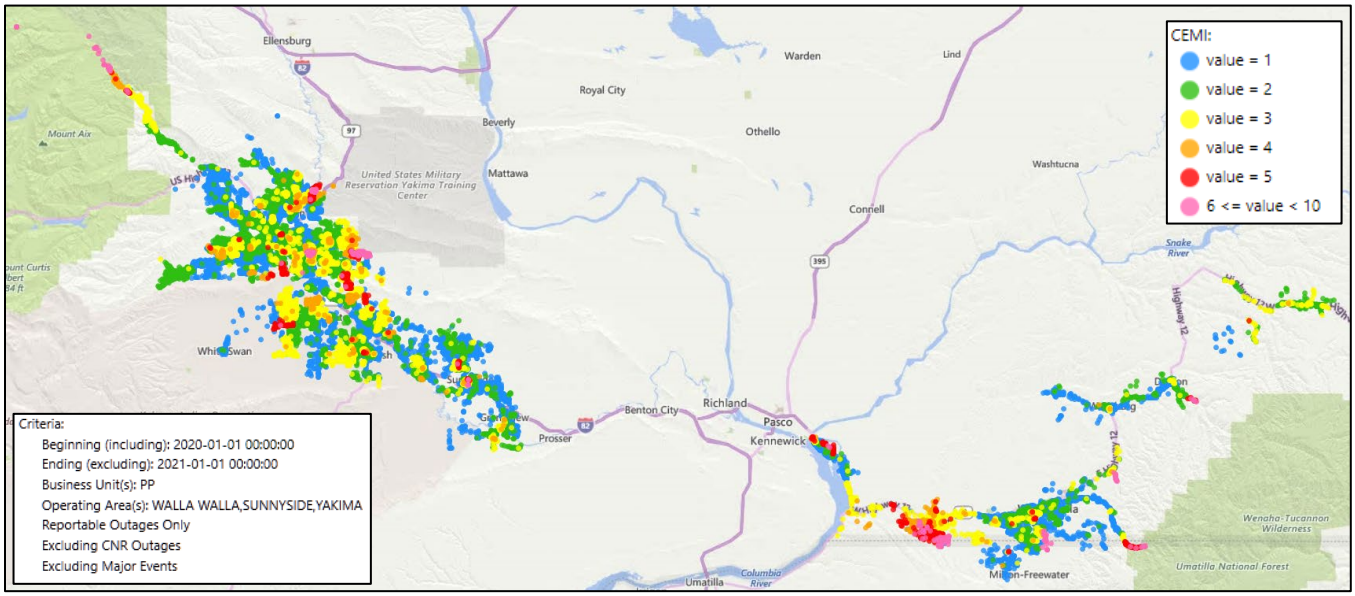
- **Commission Complaints**

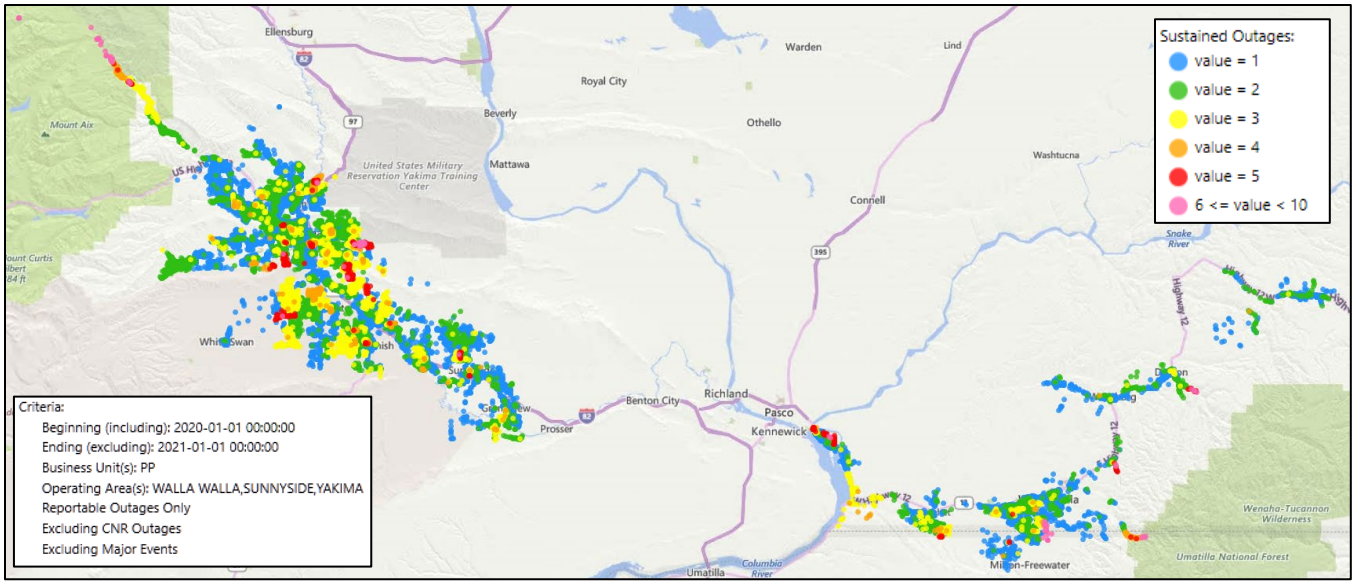
  There were no reliability or restoration Commission Complaints in 2020.

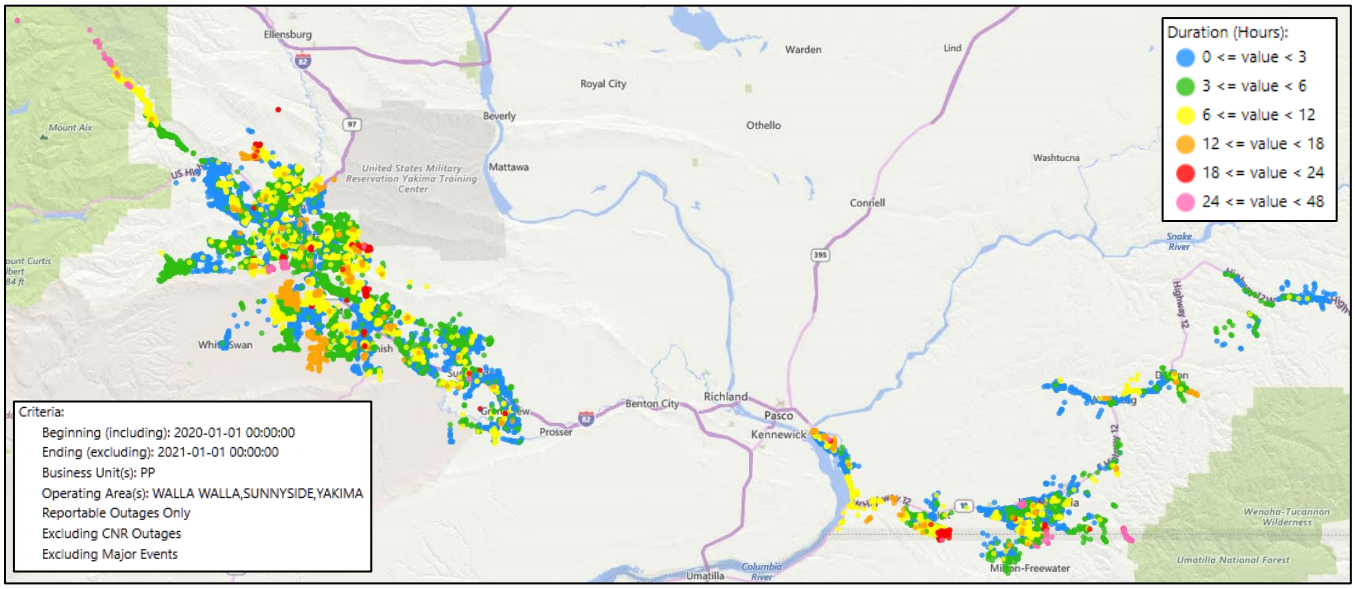
5 WASHINGTON RELIABILITY RESULTS DURING 2020

To geospatially display reliability results the Company has developed its GREATER tool which blends circuit topology with outage history and uses a variety of industry metrics (differentiated by color) to indicate areas where reliability analysis should be targeted. In the subsequent plots, two important reliability indicators are depicted. In each plot thumbnails are used to orient the graphic. First, plots with customers experiencing multiple interruptions (CEMI) are shown. This measure shows how many sustained and momentary outages a given service transformer has experienced. The greater the color intensity, with red as the most severe, the more interruptions the transformer has had. Note that this depiction exceeds the requirements of the reporting rule but is helpful to the Company in selecting areas of reliability concern. Second sustained interruptions are shown. This measure shows how many sustained outages a service transformer has experienced, which is aligned with the requirements of the reporting rules. Third, service transformer-level SAIDI is shown. While technically SAIDI is a "system-level" metric, the local application of this metric can be revealing in determining service transformers that have had long cumulative durations of outages during the period. As explained previously, the greater the color intensity, the longer the outage duration during the period. (Major events, customer requested and prearranged outages are excluded from underlying results.)

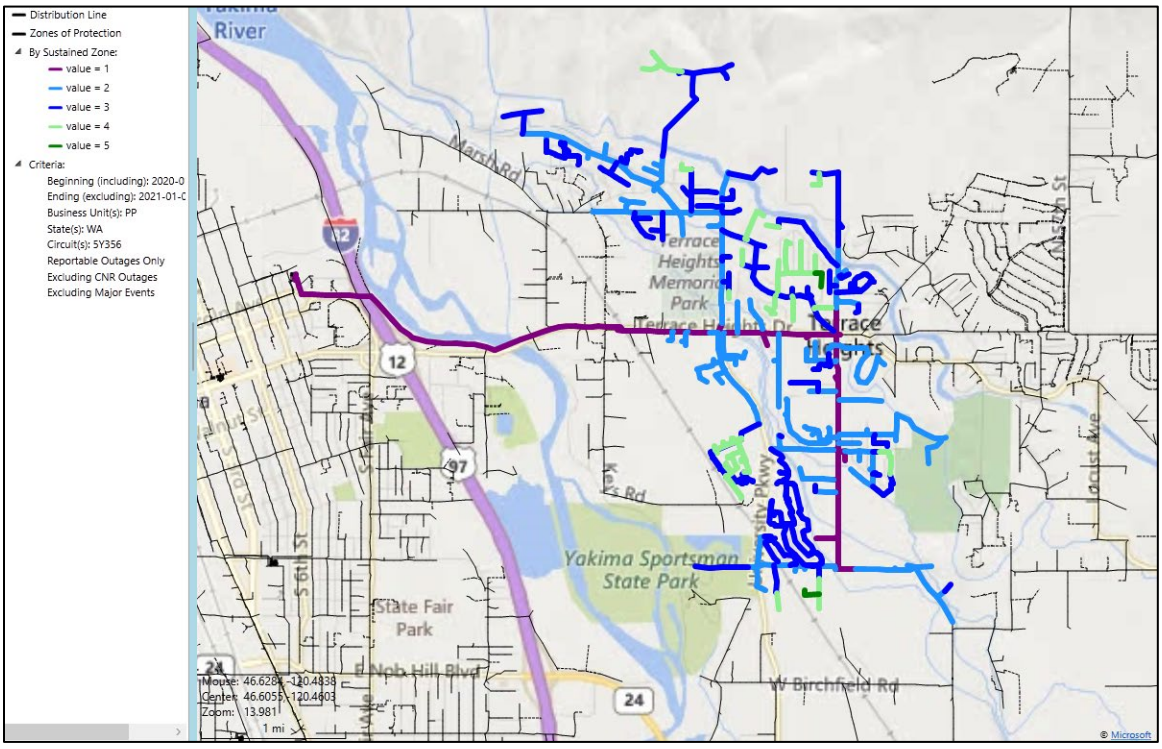
5.1 State Reliability

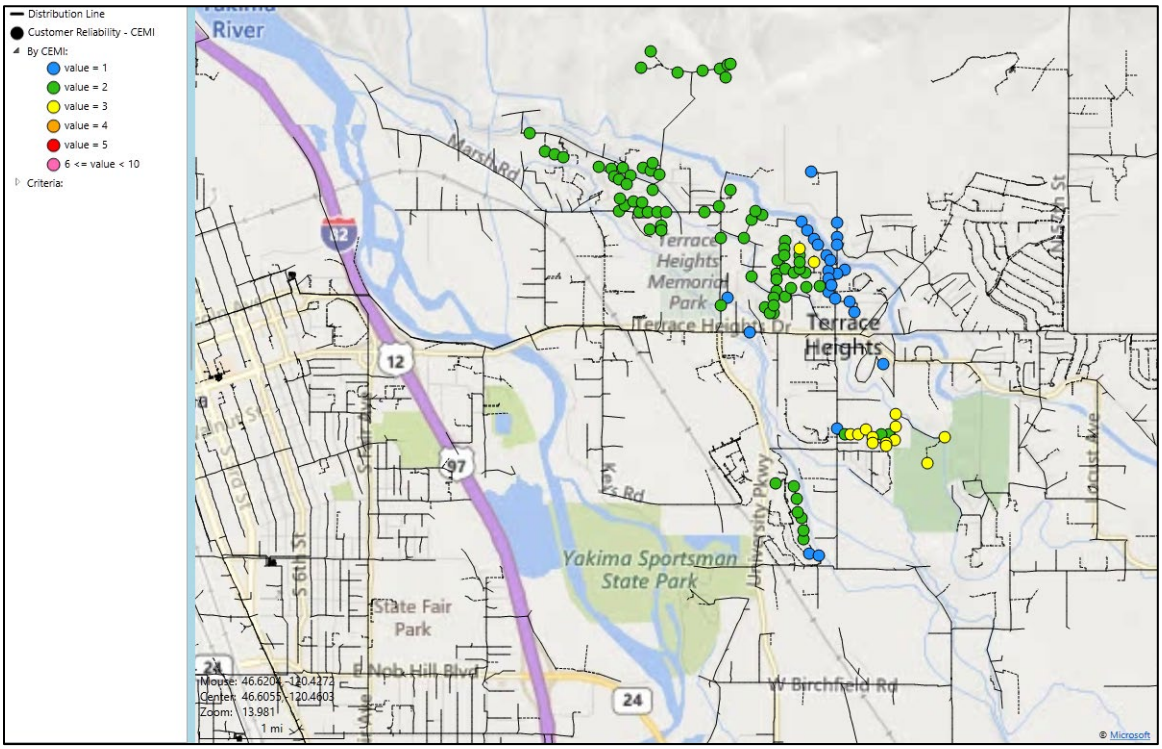


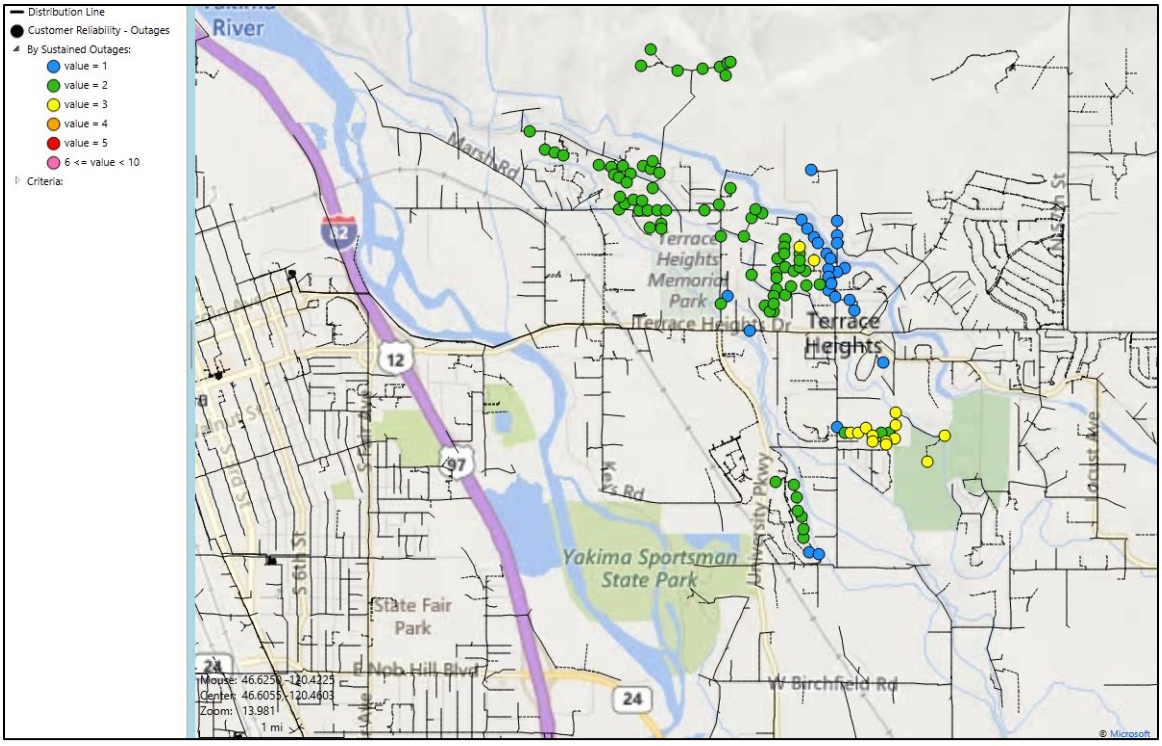

Sustained Outages:
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 10
Criteria:
Beginning (including): 2020-01-01 00:00:00
Ending (excluding): 2021-01-01 00:00:00
Business Unit(s): PP
Operating Area(s): WALLA WALLA,SUNNYSIDE,YAKIMA
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Ellensburg
Warden
Lind
Royal City
Beverly
Othello
Mattawa
Washtucna
Connell
Benton City
Richland
Pasco
Kennewick
Prosser
Umatilla
Columbia River
Wenaha-Tucannon Wilderness
Umatilla National Forest

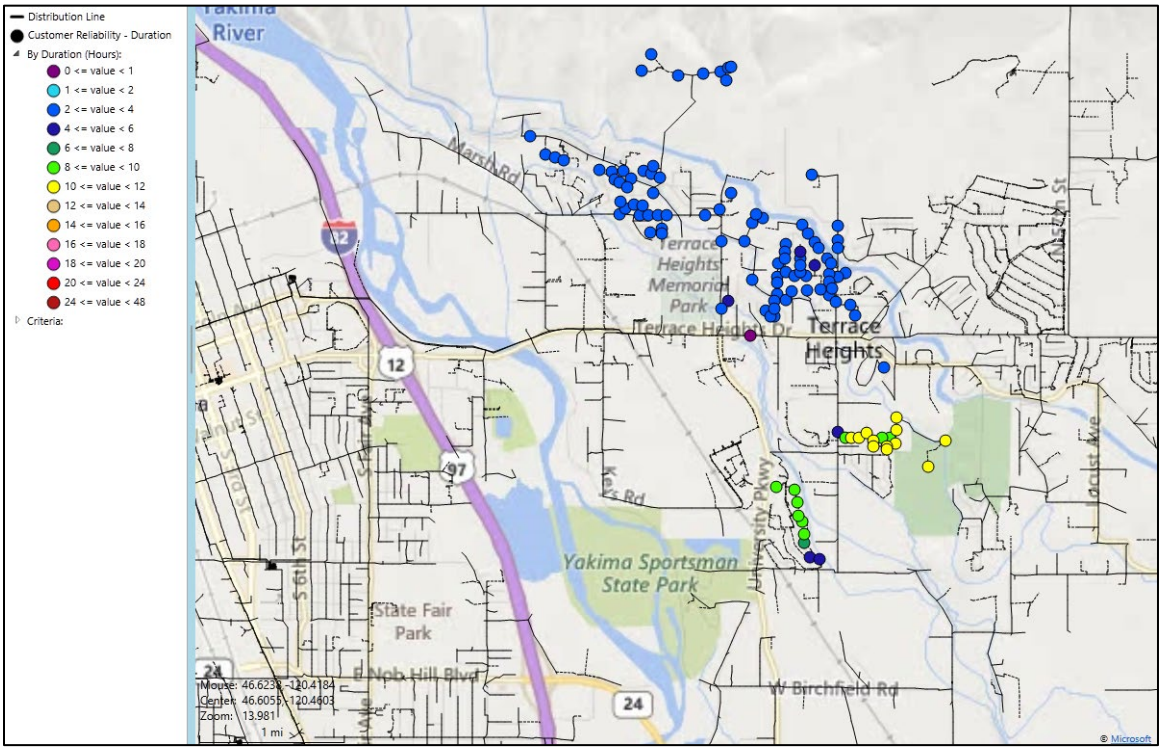

Duration (Hours):
0 <= value < 3
3 <= value < 6
6 <= value < 12
12 <= value < 18
18 <= value < 24
24 <= value < 48
Criteria:
Beginning (including): 2020-01-01 00:00:00
Ending (excluding): 2021-01-01 00:00:00
Business Unit(s): PP
Operating Area(s): WALLA WALLA,SUNNYSIDE,YAKIMA
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Ellensburg
Warden
Lind
Royal City
Beverly
Othello
Mattawa
Washtucna
Connell
Benton City
Richland
Pasco
Kennewick
Prosser
Umatilla
Columbia River
Wenaha-Tucannon Wilderness
Umatilla National Forest

5.2 5Y356: Freeway

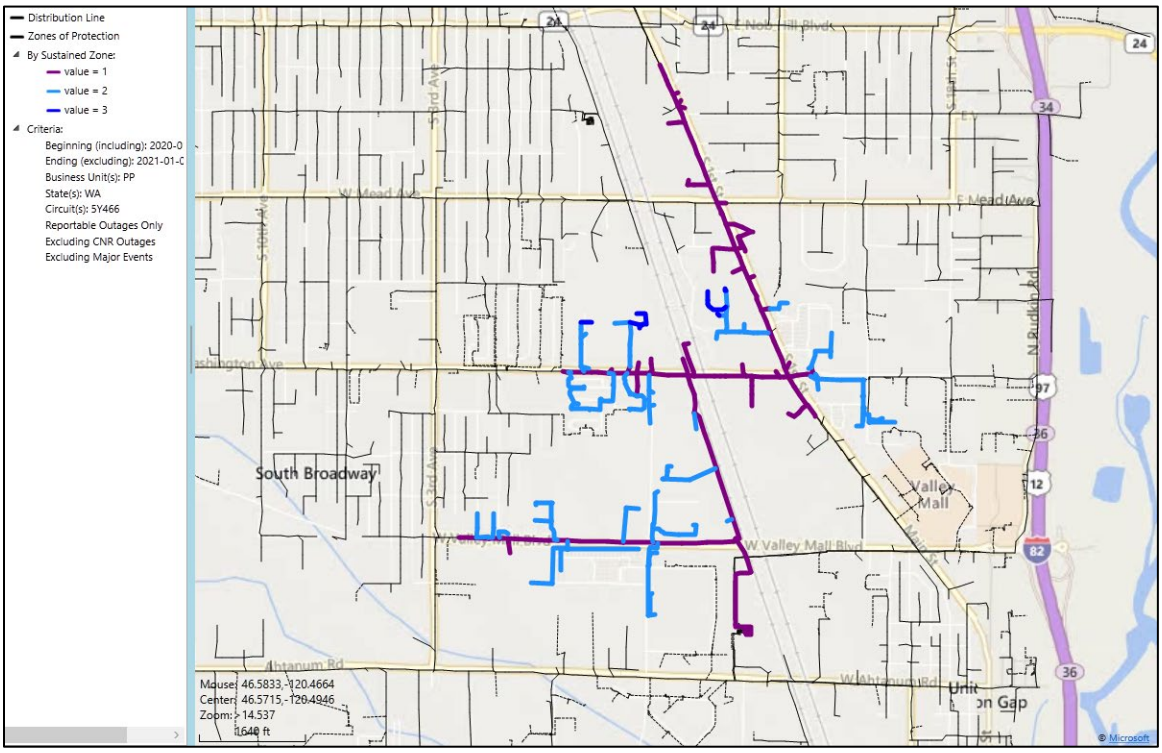


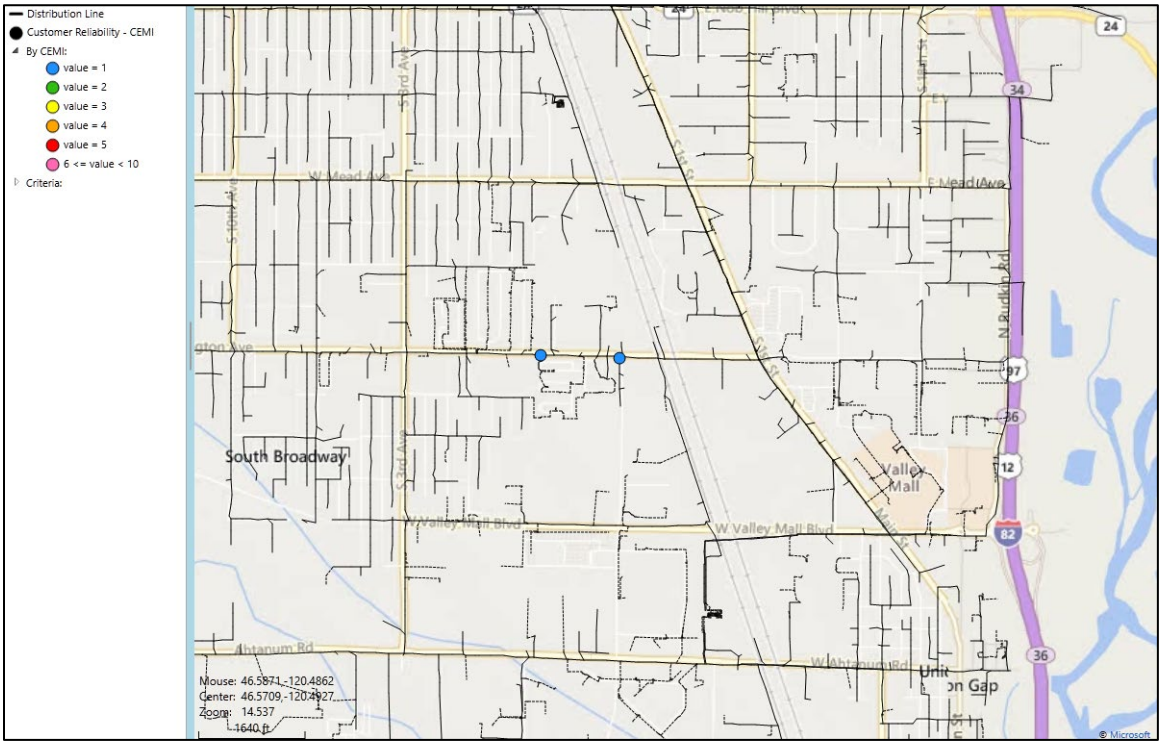


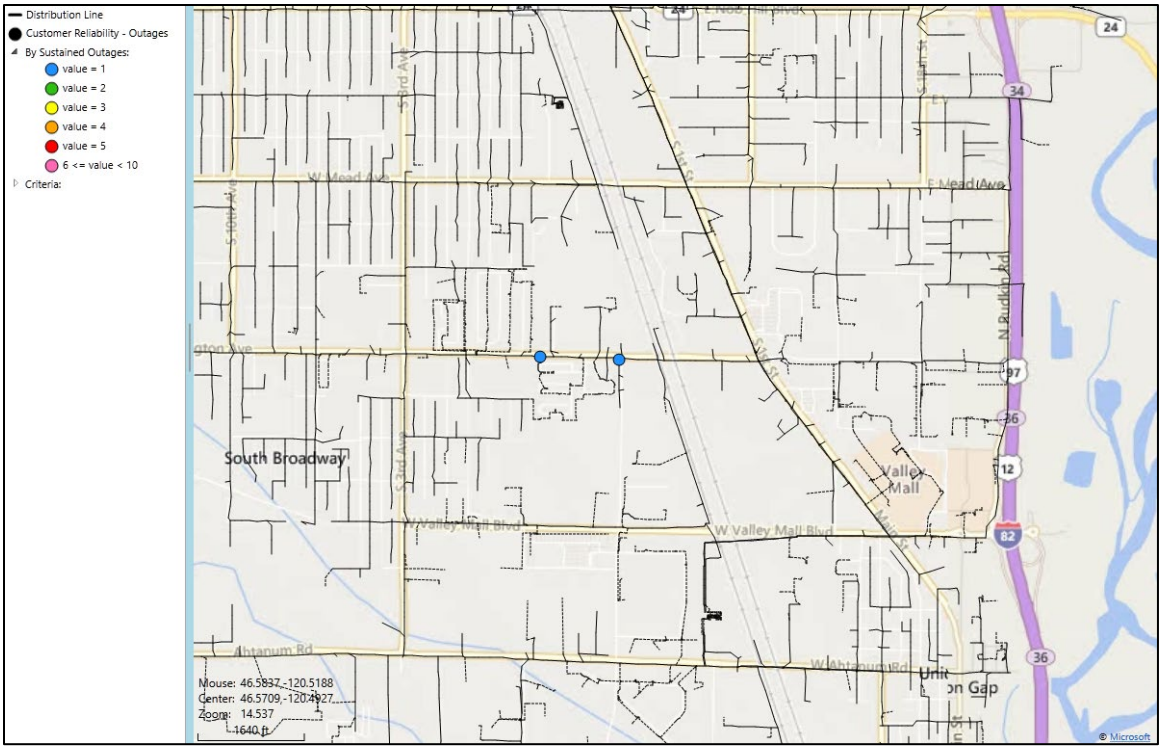

Distribution Line
Customer Reliability - Outages
By Sustained Outages:
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 10
Criteria:
Yakima River
Marsh Rd
Terrace Heights Memorial Park
Terrace Height Dr
Terrace Heights
12
97
Keys Rd
University Pkwy
Locust Ave
S 6th St
Yakima Sportsman State Park
State Fair Park
E Nob Hill Blvd
24
W Birchfield Rd
Mouse: 46.6258, -120.4225
Center: 46.6055, -120.4603
Zoom: 13.981
1 mi
© Microsoft

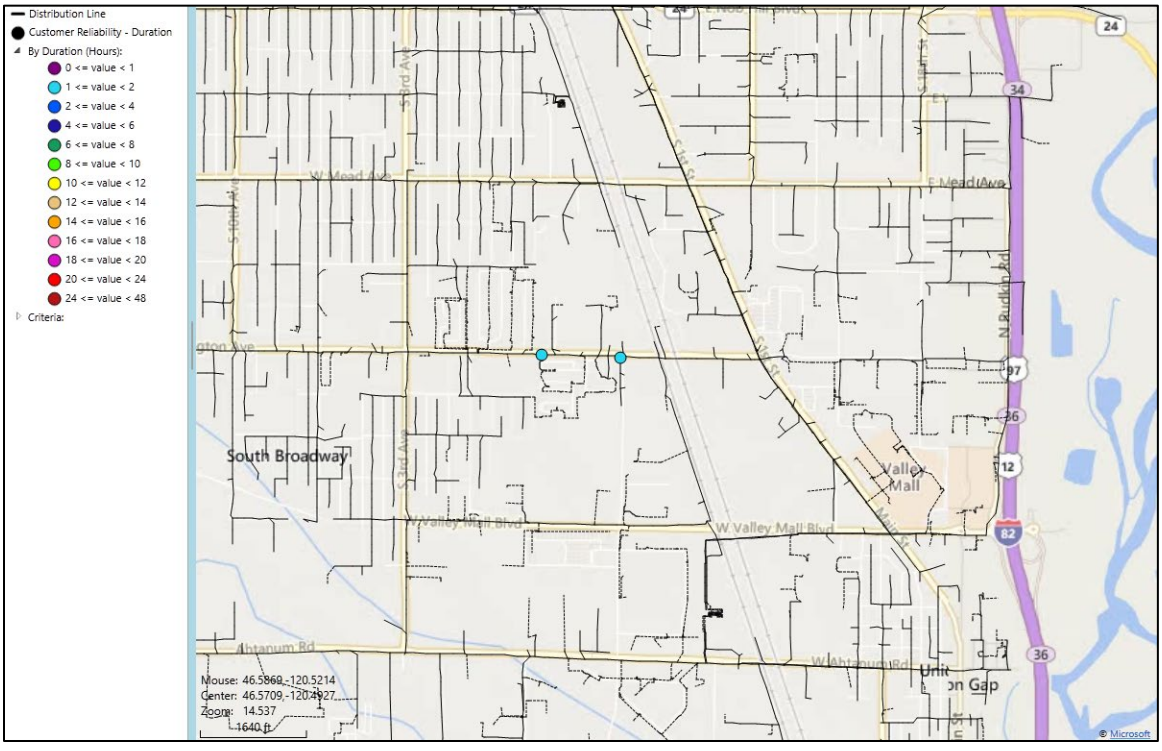

Distribution Line
Customer Reliability - Duration
By Duration (Hours):
0 <= value < 1
1 <= value < 2
2 <= value < 4
4 <= value < 6
6 <= value < 8
8 <= value < 10
10 <= value < 12
12 <= value < 14
14 <= value < 16
16 <= value < 18
18 <= value < 20
20 <= value < 24
24 <= value < 48
Criteria:
Yakima River
Marsh Rd
Terrace Heights Memorial Park
Terrace Height Dr
Terrace Heights
12
97
Keys Rd
University Pkwy
Locust Ave
S 6th St
Yakima Sportsman State Park
State Fair Park
E Nob Hill Blvd
24
W Birchfield Rd
Mouse: 46.6238, -120.4184
Center: 46.6055, -120.4603
Zoom: 13.981
1 mi
© Microsoft

5.3 5Y466: Mall

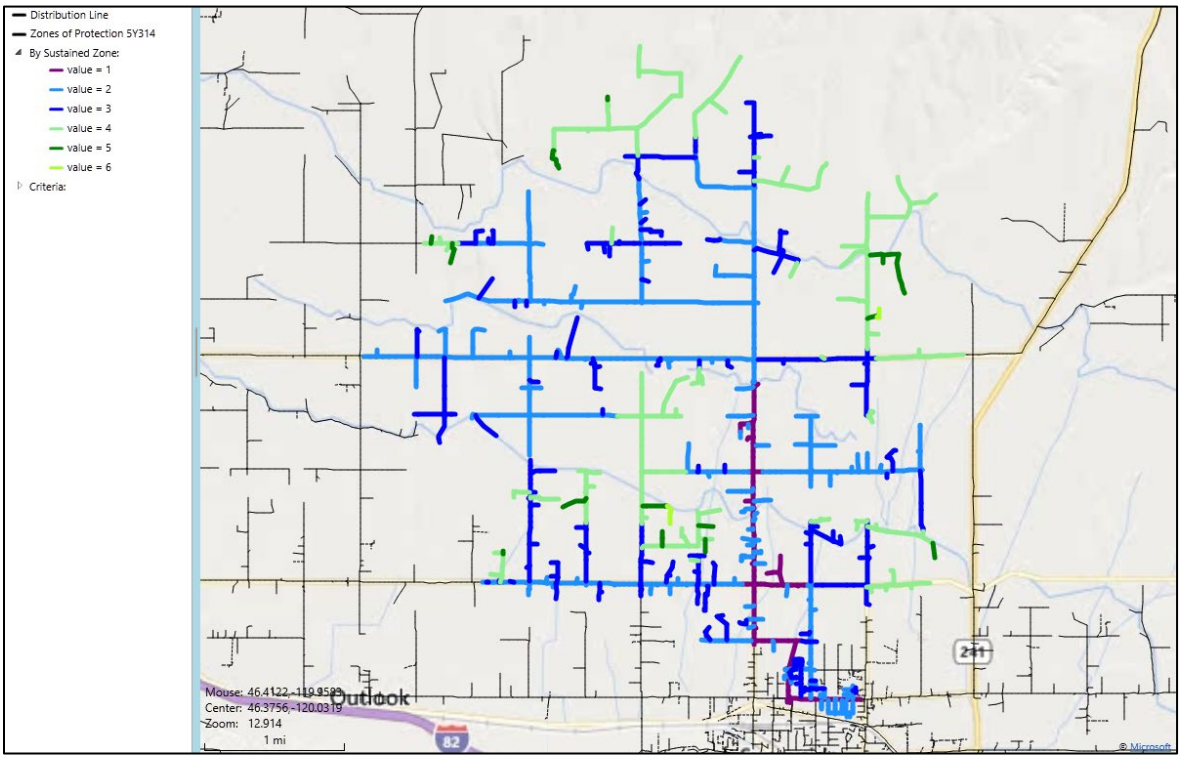


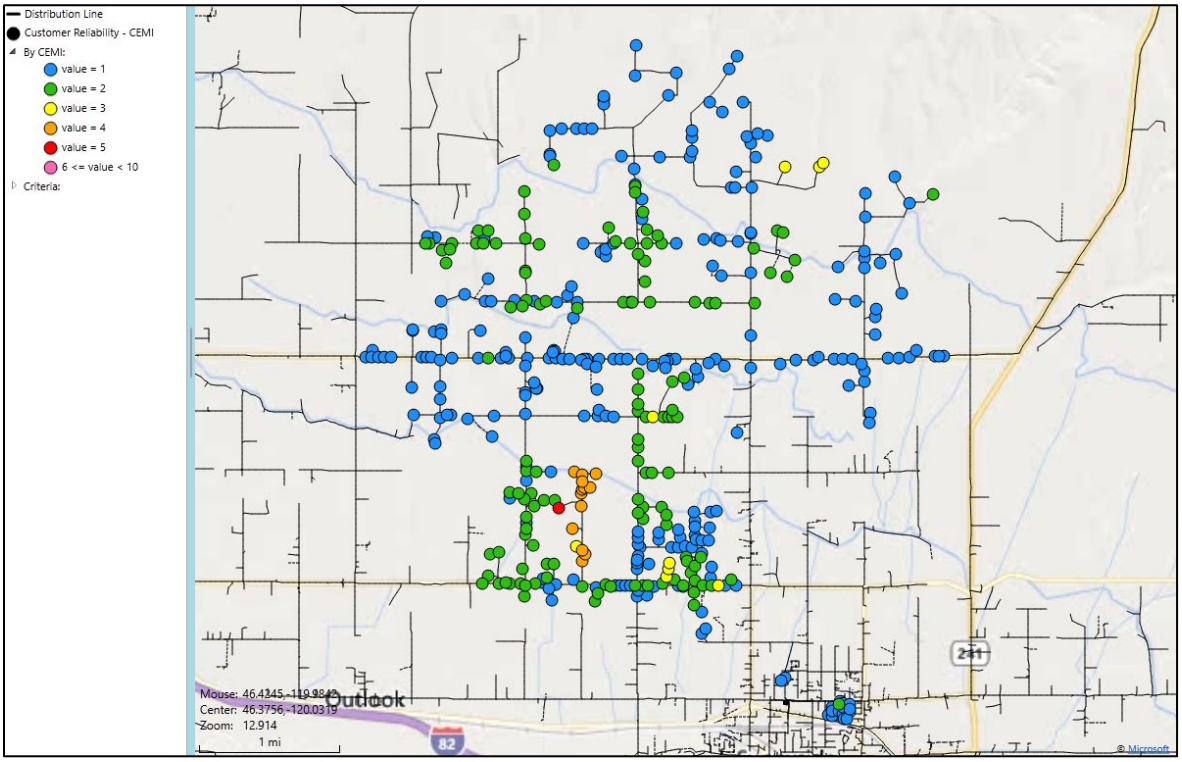


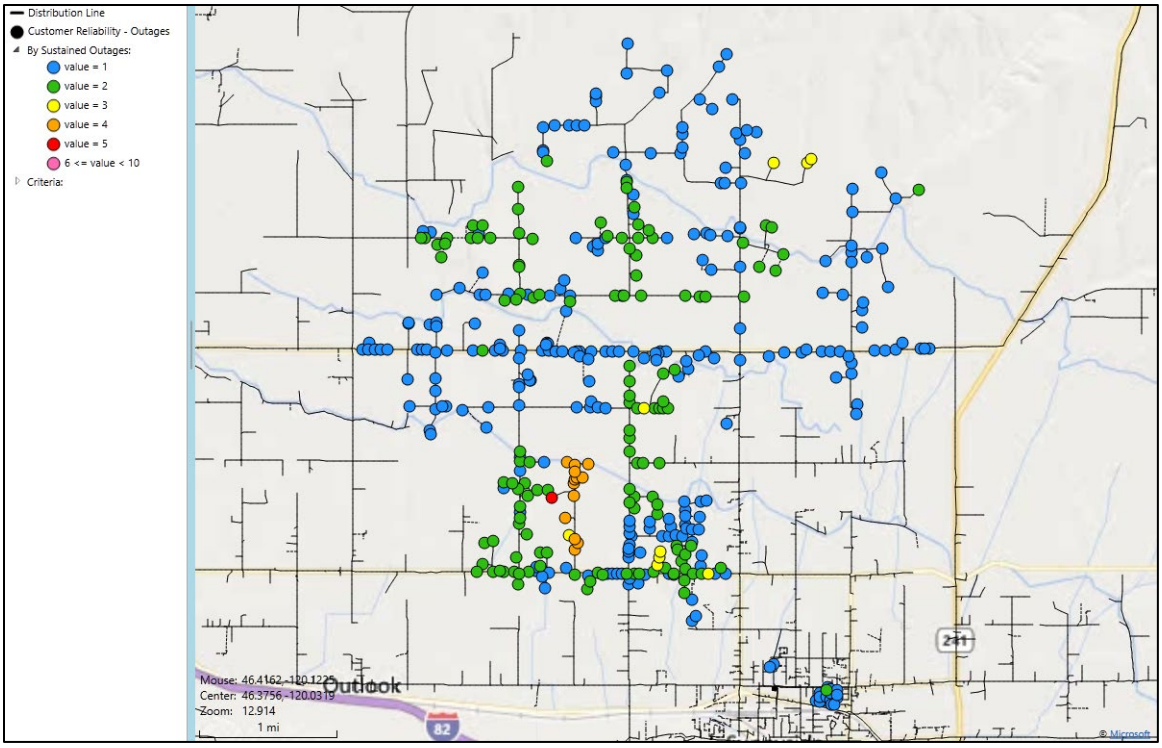

Distribution Line
Customer Reliability - Outages
By Sustained Outages:
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 10
Criteria:
South Broadway
W Valley Mall Blvd
Valley Mall
Mouse: 46.5837, -120.5188
Center: 46.5709, -120.4927
Zoom: 14.537
1640 ft
© Microsoft


Distribution Line
Customer Reliability - Duration
By Duration (Hours):
0 <= value < 1
1 <= value < 2
2 <= value < 4
4 <= value < 6
6 <= value < 8
8 <= value < 10
10 <= value < 12
12 <= value < 14
14 <= value < 16
16 <= value < 18
18 <= value < 20
20 <= value < 24
24 <= value < 48
Criteria:
South Broadway
W Valley Mall Blvd
Valley Mall
Mouse: 46.5860, -120.5214
Center: 46.5709, -120.4927
Zoom: 14.537
1640 ft
© Microsoft

5.4 5Y314: Sheller






Distribution Line
Customer Reliability - Outages
By Sustained Outages:
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value = 2
value = 3
value = 4
value = 5
6 <= value < 10
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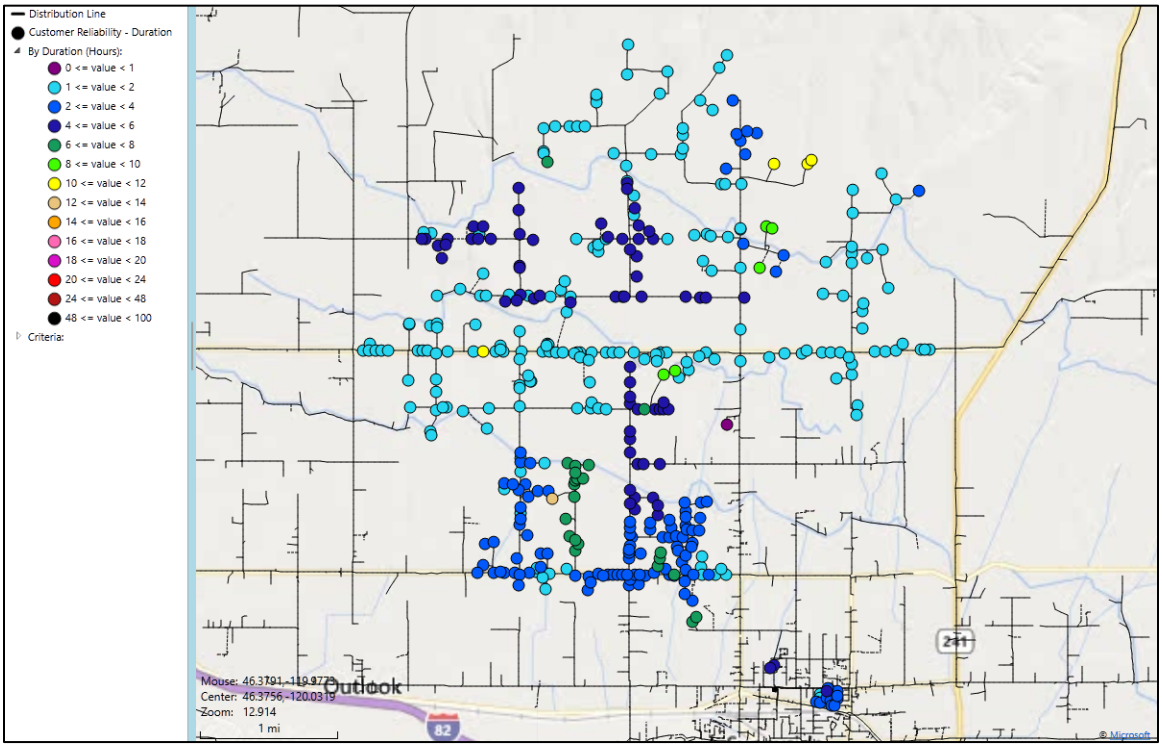
Center: 46.3756 -120.0319
Zoom: 12.914
1 mi
241
82
© Microsoft


Distribution Line
Customer Reliability - Duration
By Duration (Hours):
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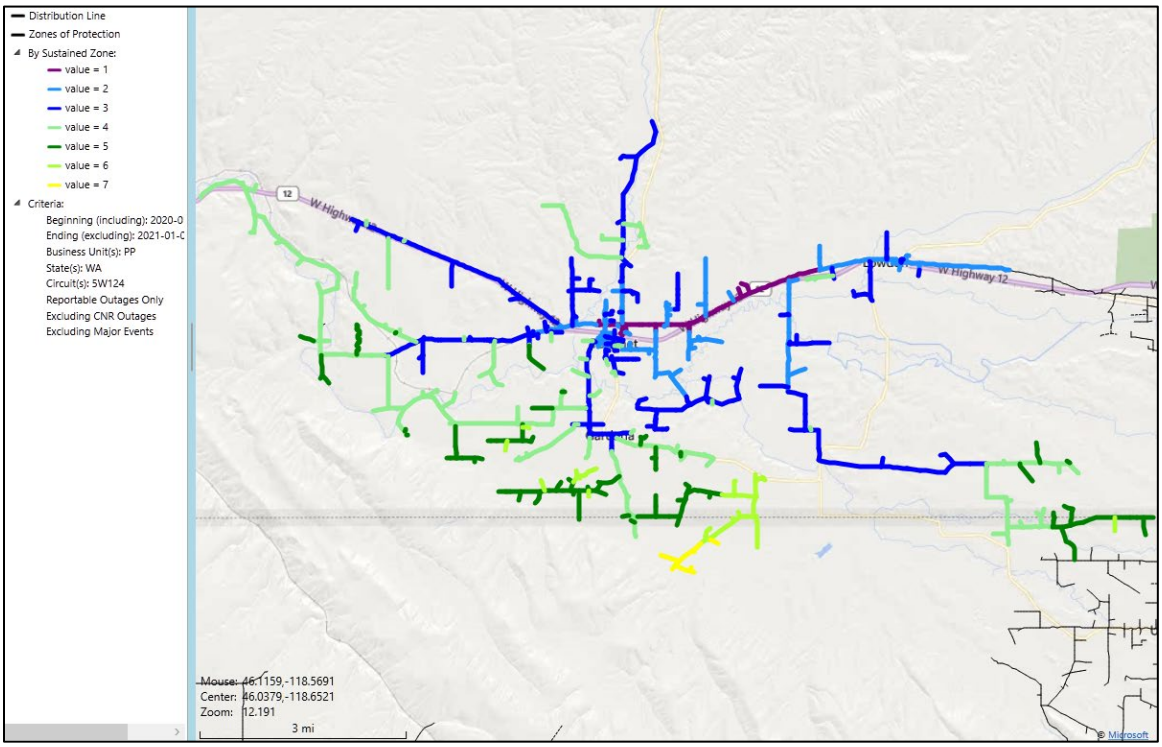
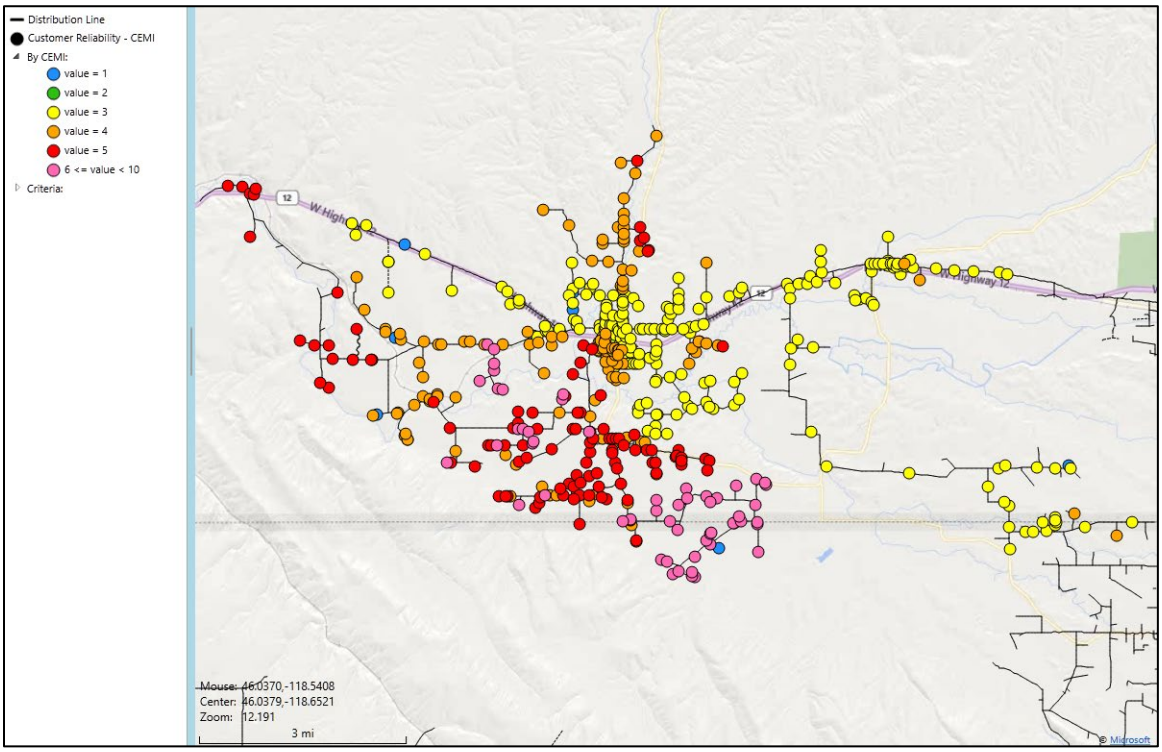
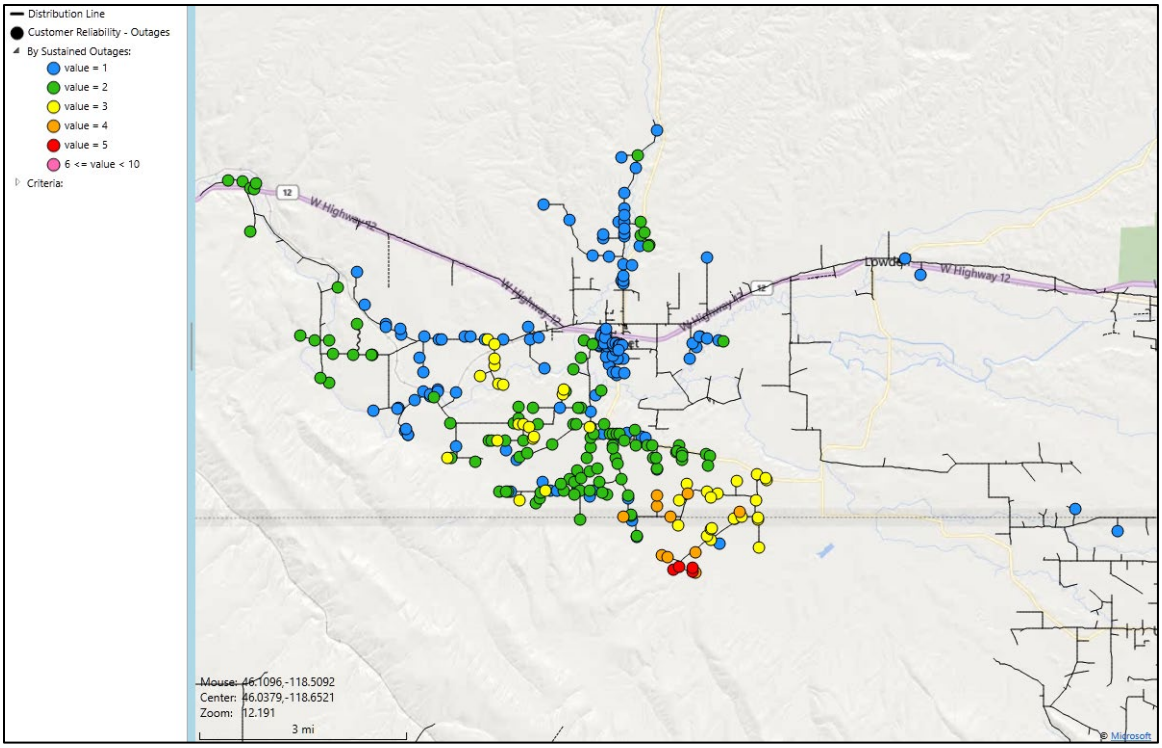
1 <= value < 2
2 <= value < 4
4 <= value < 6
6 <= value < 8
8 <= value < 10
10 <= value < 12
12 <= value < 14
14 <= value < 16
16 <= value < 18
18 <= value < 20
20 <= value < 24
24 <= value < 48
48 <= value < 100
Criteria:
Mouse: 46.3791 -119.9775
Center: 46.3756 -120.0319
Zoom: 12.914
1 mi
241
82
© Microsoft

5.5 5W123: Touchet






Distribution Line
Customer Reliability - Outages
By Sustained Outages:
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 10
Criteria:
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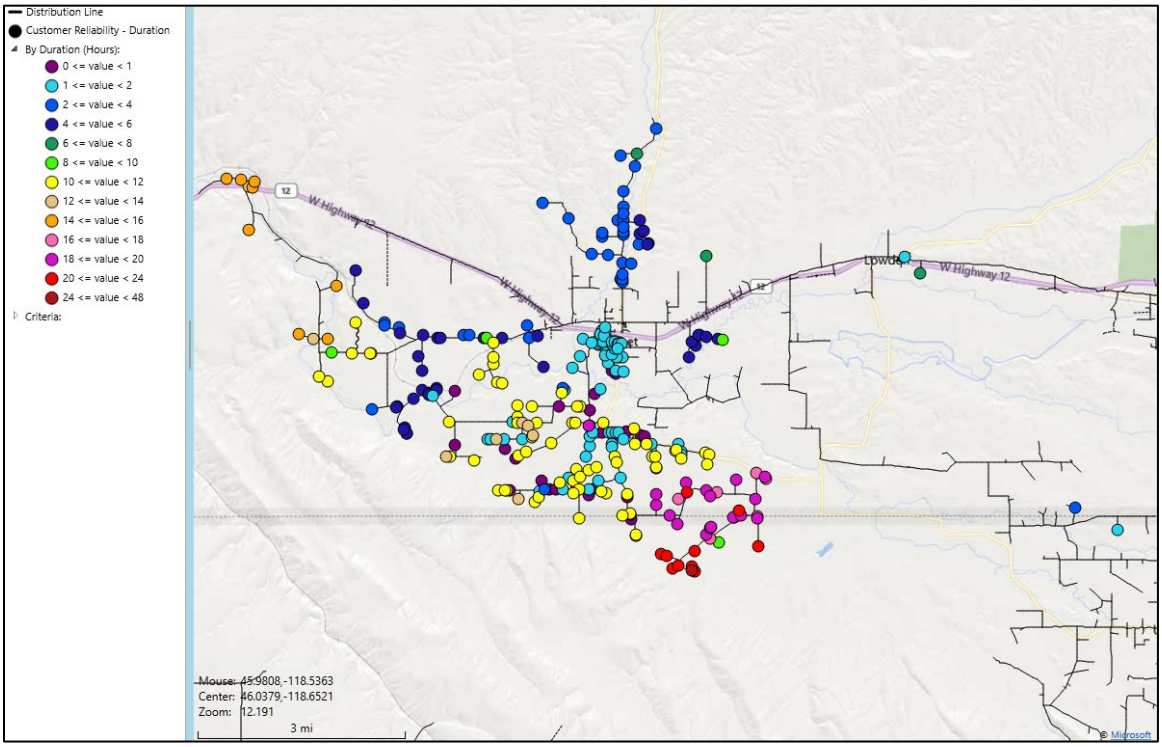
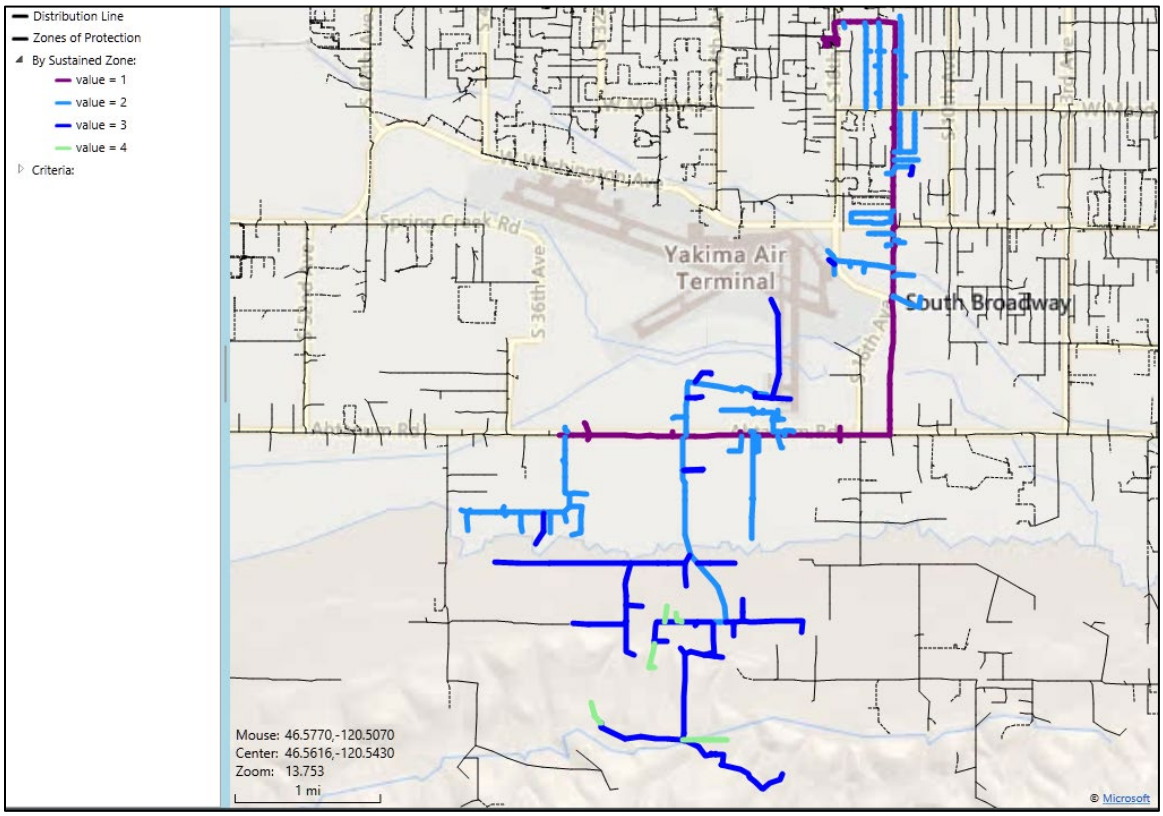
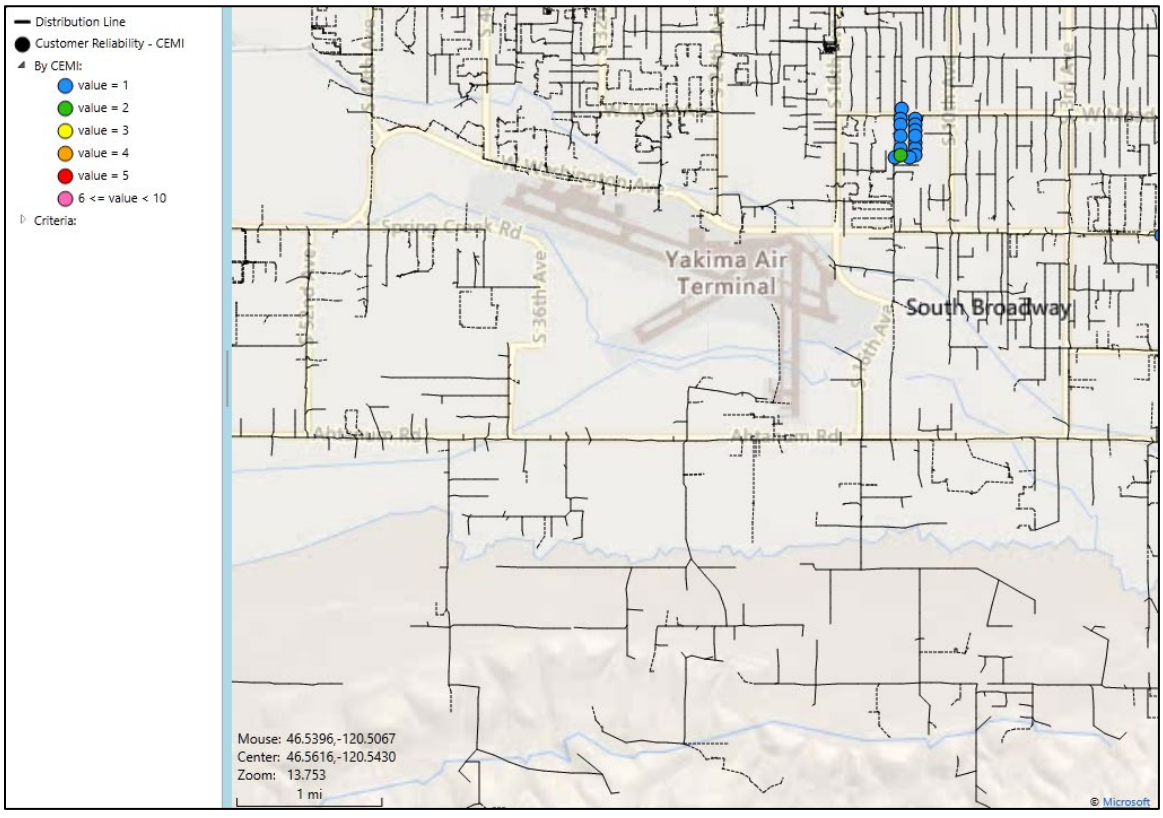
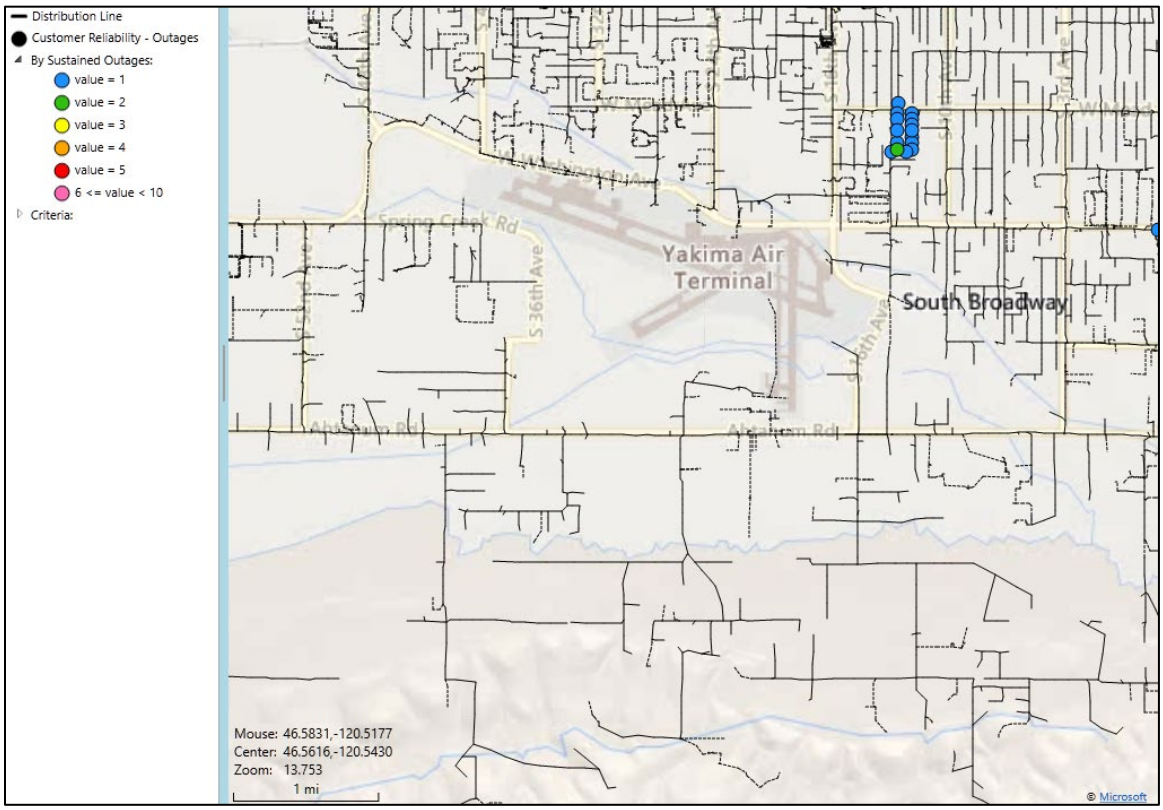
Lowden
Mouse: 46.1096,-118.5092
Center: 46.0379,-118.6521
Zoom: 12.191
3 mi
© Microsoft

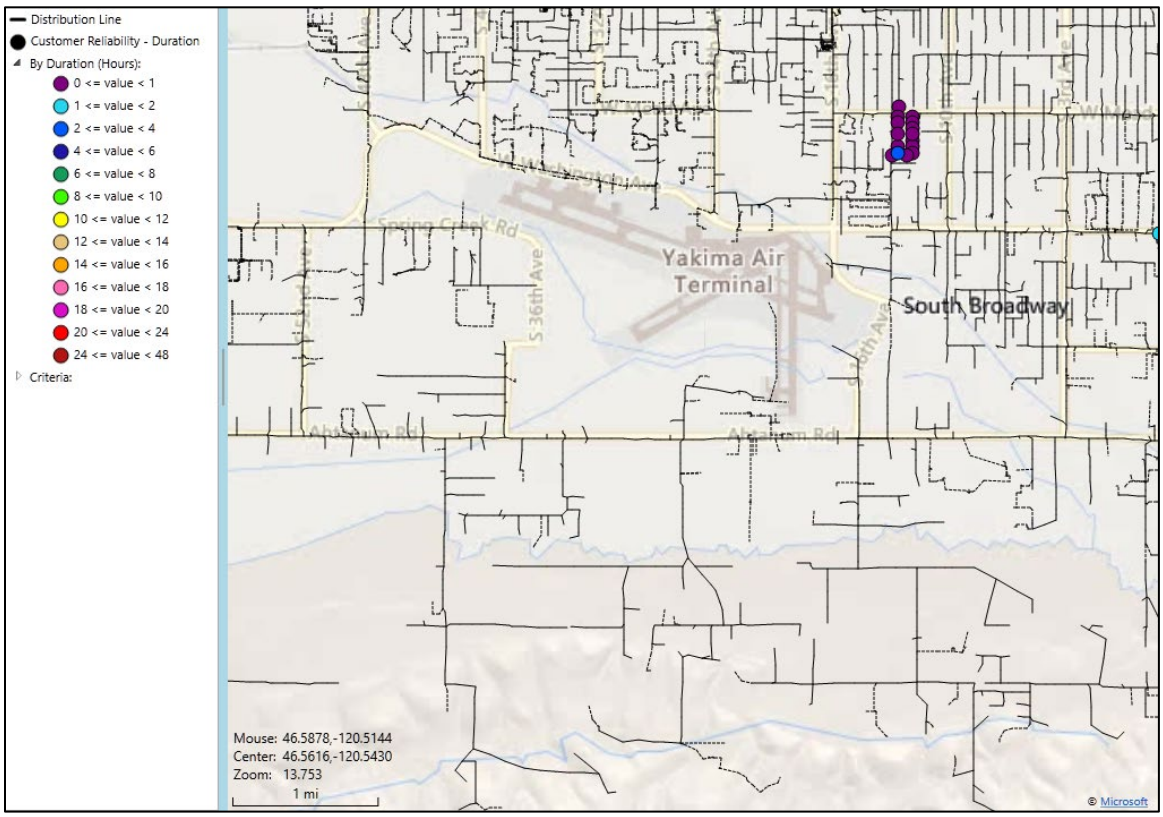

Distribution Line
Customer Reliability - Duration
By Duration (Hours):
0 <= value < 1
1 <= value < 2
2 <= value < 4
4 <= value < 6
6 <= value < 8
8 <= value < 10
10 <= value < 12
12 <= value < 14
14 <= value < 16
16 <= value < 18
18 <= value < 20
20 <= value < 24
24 <= value < 48
Criteria:
W Highway 12
Lowden
Mouse: 45.9808,-118.5363
Center: 46.0379,-118.6521
Zoom: 12.191
3 mi
© Microsoft

5.6 5Y197: Twelfth Ave.






Distribution Line
Customer Reliability - Outages
By Sustained Outages:
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 10
Criteria:
Yakima Air Terminal
South Broadway
Spring Creek Rd
S 36th Ave
Mouse: 46.5831,-120.5177
Center: 46.5616,-120.5430
Zoom: 13.753
1 mi
© Microsoft


Distribution Line
Customer Reliability - Duration
By Duration (Hours):
0 <= value < 1
1 <= value < 2
2 <= value < 4
4 <= value < 6
6 <= value < 8
8 <= value < 10
10 <= value < 12
12 <= value < 14
14 <= value < 16
16 <= value < 18
18 <= value < 20
20 <= value < 24
24 <= value < 48
Criteria:
Yakima Air Terminal
South Broadway
Spring Creek Rd
S 36th Ave
Mouse: 46.5878,-120.5144
Center: 46.5616,-120.5430
Zoom: 13.753
1 mi
© Microsoft

APPENDIX A: Reliability Definitions

This section will define the various terms[9] used when referring to interruption types, performance metrics and the internal measures developed to meet performance plans. A map of Pacific Power's service territory is included.

Interruption Types

Sustained Outage
A sustained outage is defined as an outage of equal to or greater than 5 minutes in duration.

Momentary Outage
A momentary outage event is defined as an outage equal to or less than 5 minutes in duration, and comprises all operations of the device during the momentary duration; if a breaker goes to lockout (it is unable to clear the faulted condition after the equipment's prescribed number of operations) the momentary operations are part of the ensuing sustained interruption. This sequence of events typically occurs when the system is trying to re-establish energy flow after a faulted condition, and is associated with circuit breakers or other automatic reclosing devices. Pacific Power uses the locations where SCADA (Supervisory Control and Data Acquisition) exists and calculates consistent with IEEE 1366-2003/2012. Where no substation breaker SCADA exists fault counts at substation breakers are to be used.

Reliability Indices

SAIDI
SAIDI (system average interruption duration index) is an industry-defined term to define the average duration summed for all sustained outages a customer experiences in a given period. It is calculated by summing all customer minutes lost for sustained outages (those exceeding 5 minutes) and dividing by all customers served within the study area. When not explicitly stated otherwise, this value can be assumed to be for a one-year period.

Daily SAIDI
In order to evaluate trends during a year and to establish Major Event Thresholds, a daily SAIDI value is often used as a measure. This concept was introduced in IEEE Standard P1366-2003/2012. This is the day's total customer minutes out of service divided by the static customer count for the year. It is the total average outage duration customers experienced for that given day. When these daily values are accumulated through the year, it yields the year's SAIDI results.

SAIFI
SAIFI (system average interruption frequency index) is an industry-defined term that attempts to identify the frequency of all sustained outages that the average customer experiences during a given period. It is calculated by summing all customer interruptions for sustained outages (those exceeding 5 minutes in duration) and dividing by all customers served within the study area.

CAIDI
CAIDI (customer average interruption duration index) is an industry-defined term that is the result of dividing the duration of the average customer's sustained outages by the frequency of outages for that average customer. While the Company did not originally specify this metric under the umbrella of the

[9] IEEE1366-2003/2012 was first adopted by the IEEE Commissioners on December 23, 2003. The definitions and methodology detailed therein are now industry standards, which have since been affirmed in recent balloting activities.

Performance Standards Program within the context of the Service Standards Commitments, it has since been determined to be valuable for reporting purposes. It is derived by dividing SAIDI by SAIFI.

CEMI

CEMI is an acronym for Customers Experiencing Multiple (Sustained and Momentary) Interruptions. This index depicts repetition of outages across the period being reported and can be an indicator of recent portions of the system that have experienced reliability challenges. This metric is used to evaluate customer-specific reliability in Section 4 Customer Reliability Communications.

$MAIFI_E$

MAIFIE (momentary average interruption event frequency index) is an industry standard index that quantifies the frequency of all momentary interruption events that the average customer experiences during a given time-frame. It is calculated by counting all momentary interruptions which occur within a 5 minute time period, as long as the interruption event did not result in a device experiencing a sustained interruption.

CPI99

CPI99 is an acronym for Circuit Performance Indicator, which uses key reliability metrics of the circuit to identify underperforming circuits. It excludes Major Event and Loss of Supply or Transmission outages. The variables and equation for calculating CPI are:

CPI = Index * ((SAIDI * WF * NF) + (SAIFI * WF * NF) + (MAIFI * WF * NF) + (Lockouts * WF * NF))
Index: 10.645
SAIDI: Weighting Factor 0.30, Normalizing Factor 0.029
SAIFI: Weighting Factor 0.30, Normalizing Factor 2.439
MAIFI: Weighting Factor 0.20, Normalizing Factor 0.70
Lockouts: Weighting Factor 0.20, Normalizing Factor 2.00

Therefore, 10.645 * ((3-year SAIDI * 0.30 * 0.029) + (3-year SAIFI * 0.30 * 2.439) + (3-year MAIFI * 0.20 * 0.70) + (3-year breaker lockouts * 0.20 * 2.00)) = CPI Score

CPI05

CPI05 is an acronym for Circuit Performance Indicator, which uses key reliability metrics of the circuit to identify underperforming circuits. Unlike CPI99 it includes Major Event and Loss of Supply or Transmission outages. The calculation of CPI05 uses the same weighting and normalizing factors as CPI99.

Performance Types & Commitments

Pacific Power recognizes two categories of performance: underlying performance and major events. Major events represent the atypical, with extraordinary numbers and durations for outages beyond the usual. Ordinary outages are incorporated within underlying performance. These types of events are further defined below.

Major Events

Pursuant to WAC 480-100-393 Electric Reliability Annual Monitoring and Reporting Plan, modified February 2011, the company recognizes two types of major events in Washington:

- A SAIDI-based Major Event is defined as a 24-hour period where SAIDI exceeds a statistically derived threshold value, as detailed in IEEE Distribution Reliability Standard 1366-2003/2012.
- A SAIFI-Based Major Event 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.

Underlying Events

Within the industry, there has been a great need to develop methodologies to evaluate year-on-year performance. This has led to the development of methods for segregating outlier days. Those days which fall below the statistically derived threshold represent "underlying" performance and are valid (with some minor considerations for changes in reporting practices) for establishing and evaluating meaningful performance trends over time. If any changes have occurred in outage reporting processes, those impacts need to be considered when making comparisons. Underlying events include all sustained interruptions, whether of a controllable or non-controllable cause, exclusive of major events, prearranged (which can include short notice emergency prearranged outages), customer requested interruptions and forced outages mandated by public authority typically regarding safety in an emergency situation.

Performance Targets

The Company and Commission, in the MidAmerican transaction docket, UE05-01590, agreed to extend Service Standards through 12/31/2011. Within Washington, because performance delivered by the Company falls within industry second quartile performance levels, the Company committed that it would achieve performance by 12/31/2011 that maintains performance targets set in prior Merger Commitment Periods. Additionally, in WAC 480-100-393 the Company is required to set baseline metrics and when performance deviates from those baselines, explain the reasons for that deviation and any action plans which may result from that level of performance.

APPENDIX B: 2020 Major Event Filings

Report to the Washington Utilities and Transportation Commission

Electric Service Reliability - Major Event Report

Event Date:	March 14, 2020
Date Submitted:	April 24, 2020
Primary Affected Locations:	Sunnyside
Primary Cause:	Loss of Transmission line
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / Carrie Laird / Pablo Arronte / Mark Vanwinkle

Event Outage Summary	
# Interruptions (sustained)	13
Total Customer Interrupted (sustained)	10,342
Total Customer Minutes Lost	136,348
State Event SAIDI	1.00 Minutes
CAIDI	13
Major Event Start	3/14/20 12:00 AM
Major Event End	3/15/20 12:00 AM

Event Description and Restoration Summary

At 5:37 a.m. on March 14, 2020 Sunnyside, Washington, experienced a SAIFI-based major event when 42% of its served customers experienced an outage lasting 6 minutes. In the early morning of March 14th, during high wind, snow/sleet/rain and cold temperatures, a transformer low oil alarm precipitated immediate correction by local substation crews. While they were performing this corrective maintenance the substation circuit switcher and circuit breakers operated, de-energizing feeds to the Toppenish and Punkin Center Substations. These two distribution substations feed a total of nine circuits, serving approximately 10,300 customers. The crew quickly remediated the situation and at 5:43 a.m. power was restored back to the two distribution substations, re-energizing power to the customers.

Additionally during the day, the weather, which was a combination of rain/snow/sleet and cool temperatures caused many pole fires and wind related outages that day. To date, there have been no company or commission customer complaints made regarding the major event.

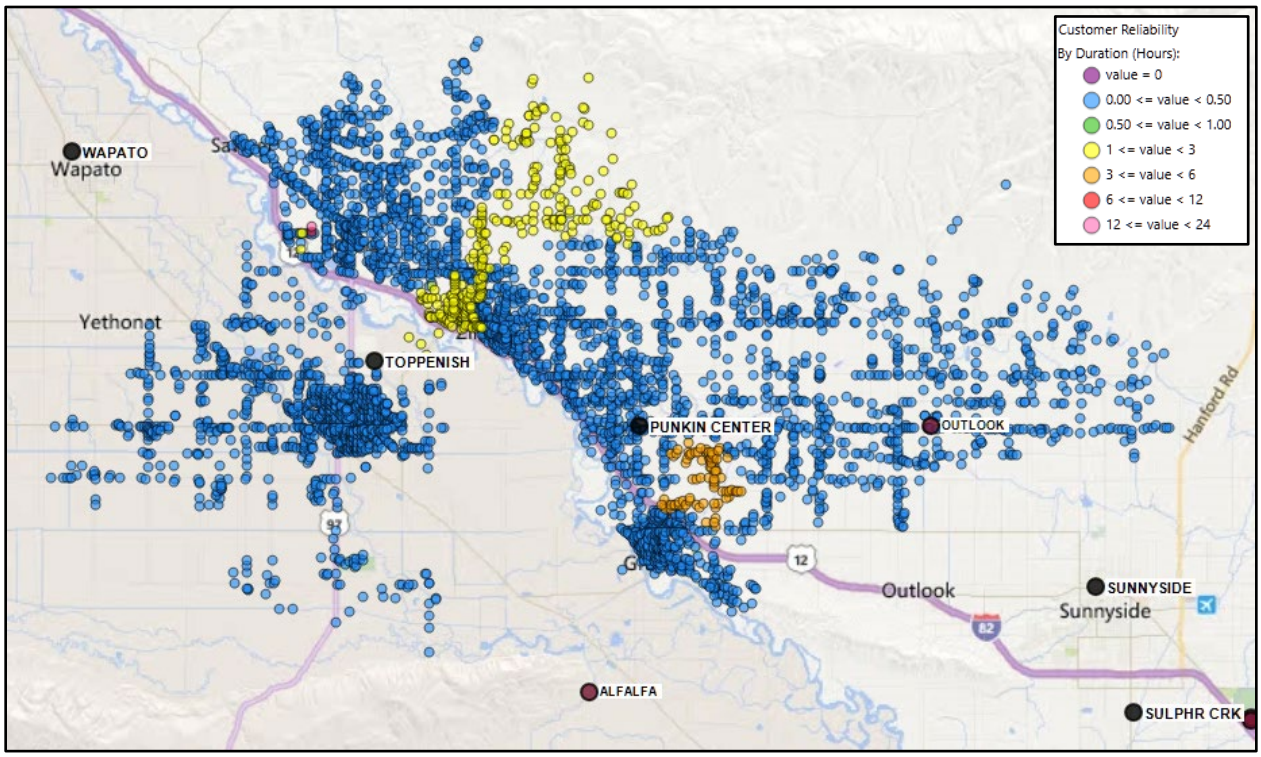


Figure 1: Outages experienced during the major event by duration.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-27 Hrs.
10,342	10,181	161	0

Restoration Resources [10]

Personnel Resources	
Estimator	1
Field Services Specialist	2
General Foreman	1
Line Foreman	2
Line Patrolman	1
Lineman Representative	2
Lineman	5
Logistics Worker	4
Substation Relay Tech	1
Service Coordinator	2
Serviceman	1
Substation Wireman	1
Substation Wireman Foreman	2
Contractor	4
Total	29

Equipment	
# Crossarms	3
Insulators	27
Cutouts	13
Line splices	14

State Estimated Major Event Costs [1]

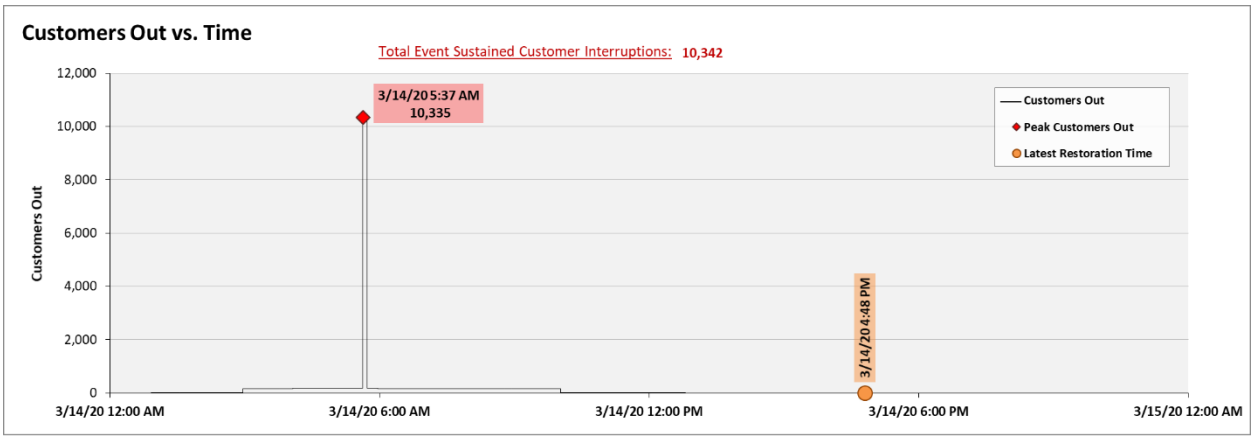
Estimate $	Labor	Contracts	Material	Overheads	Total
Capital	$0	$0	$0	**$0**	**$0**
Expense	$32,295	$12,295	$4,294	**$3,180**	**$52,714**
Total	**$32,295**	**$12,295**	**$4,294**	**$3,180**	**$52,714**

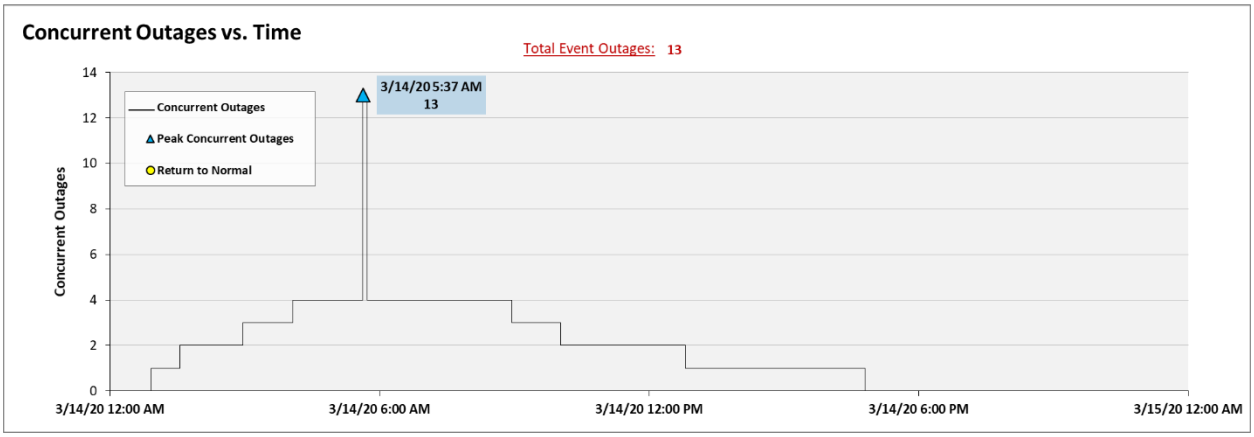
Major Event Declaration

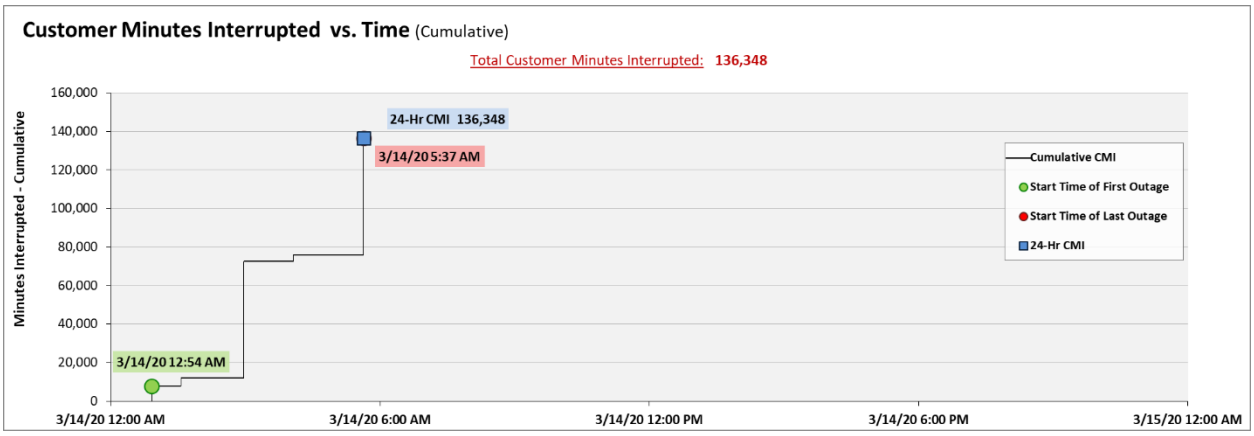
Pacific Power is requesting designation of this event and its consequences to be classified as a "Major Event" for exclusion from underlying network performance reporting. This major event exceeded the company's current Washington system average interruption frequency index-driven (SAIFI) threshold of 10% total operating area customers served sustained interruptions (10,335 customers were interrupted out of 24,783 Sunnyside operating area customers, or 42% of the operating area customers) simultaneously in a 24-hour period.

[10] 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.

Event Detail







Report to the Washington Utilities and Transportation Commission

Electric Service Reliability - Major Event Report

Event Date:	May 30 - June 2, 2020
Date Submitted:	July 14, 2020
Primary Affected Locations:	Statewide
Primary Cause:	Spring Storm
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / Carrie Laird / Chad Ooten

Event Description and Restoration Summary

Event Outage Summary	
# Interruptions (sustained)	299
Total Customer Interrupted (sustained)	23,750
Total Customer Minutes Lost	17,395,242
State Event SAIDI	128 Minutes
CAIDI	732
Major Event Start	5/30/2020 12:00 a.m.
Major Event End	6/2/2020 10:16 p.m.

From May 30, 2020, to June 2, 2020, customers in Washington experienced numerous outages when a spring storm severely impacted reliability across Pacific Powers service territory. On the morning of May 30th the storm began developing along the southeast portion of state, with high winds and lightning causing outages in the Walla Walla service territory. Throughout the day the storm continued to develop and by the evening outages in the Sunnyside and Yakima service territories began to occur. Strong winds from the northeast grew, with recorded wind gust measurements as high as 49 MPH, as shown in Figures 1 and 2 below[11]. In addition to the high winds around 4 p.m., heavy rain began to fall, dropping approximately 0.35 inches of water within two hours (figure 3). The rapid growth and development of the storm caused over 185 outages events in first 24 hours (May 30th) of the event, another 66 outages in the second day (May 31st), and 35 outages on the third day (June 1st). At 7:23 p.m. on May 30th the total customers without power peaked at 17,655.

[11] Remote Automatic Weather Station (RAWS). https://raws.dri.edu/

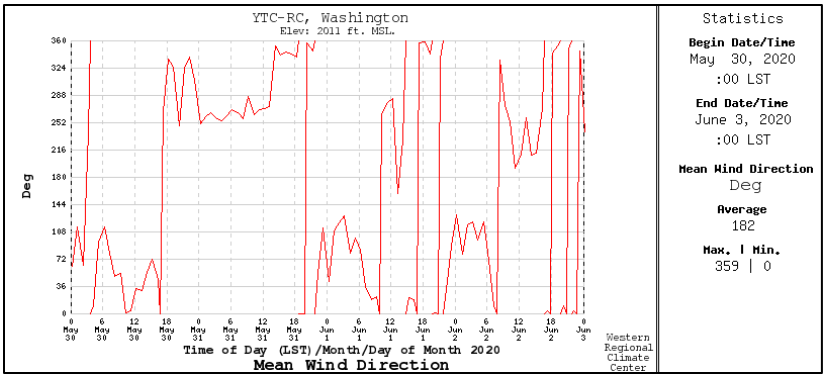


Figure 1. Yakima YTC-RC Washington mean wind direction during the major event.

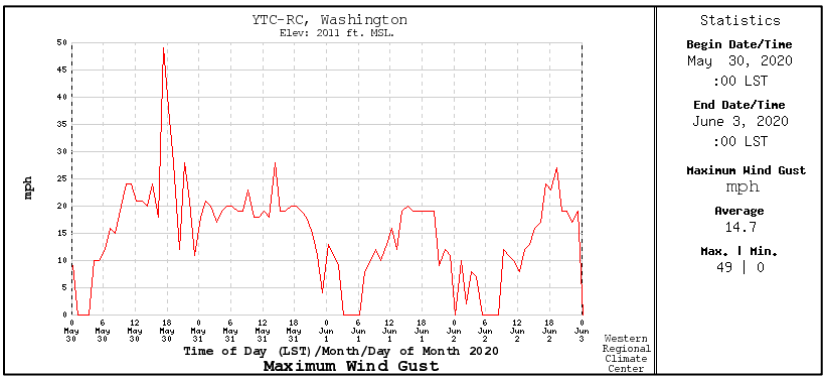


Figure 2. Yakima YTC-RC Washington maximum wind gust during the major event.

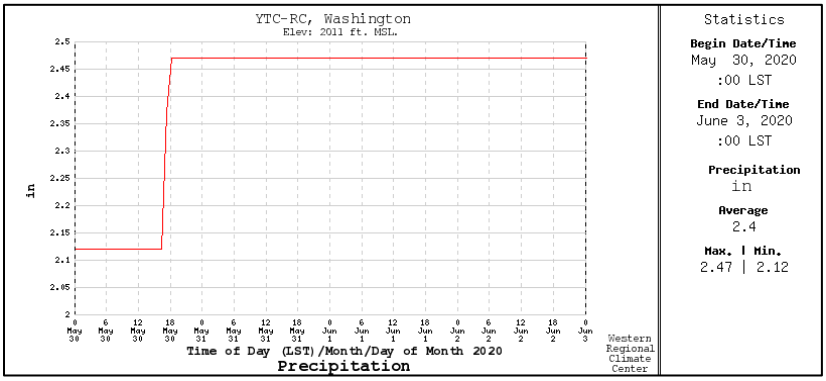


Figure 3. Yakima YTC-RC Washington precipitation during the major event.

The magnitude and severity of the storm during its initial onset coupled with the large number of outage events and affected customers, as described above, became a large task for crews in the region, which typically experience an average of only 2-3 outages a day. In addition the storm greatly affected the region as a whole causing a major event in Oregon, slowing the ability to bring in outside crews to assist in the restoration process. Internal crews from Walla Walla and Portland were brought in, along with several internal out of area single responders and 11 full contract crews were brought in. All crews in Yakima were used as responders for the duration of this event as well as many out of district two man crews, this allowed the local crews familiar with the area to feed the 13 crews repair work and keep in front of their need for next jobs.

Figure 4 below represents the percent of customer minutes lost and the number of customer interruptions by cause for the duration of the event. The most impactful outages were the result of wind and vegetation which account for 78% of the total customer minutes lost and 78% of all the customer interruptions. Pole fires also contributed to a significant amount of outages, while emergency damage repair outages resulted from steps required to safely make repairs to equipment initially damaged by effects of the storm. Repairs to equipment consisted of replacing broken poles, removing trees from lines, replacing transformers, responding to damaged service transformers and containment, clearing damaged trees and limbs that were not fully down but posed hazards, and reinstalling damaged conductor.

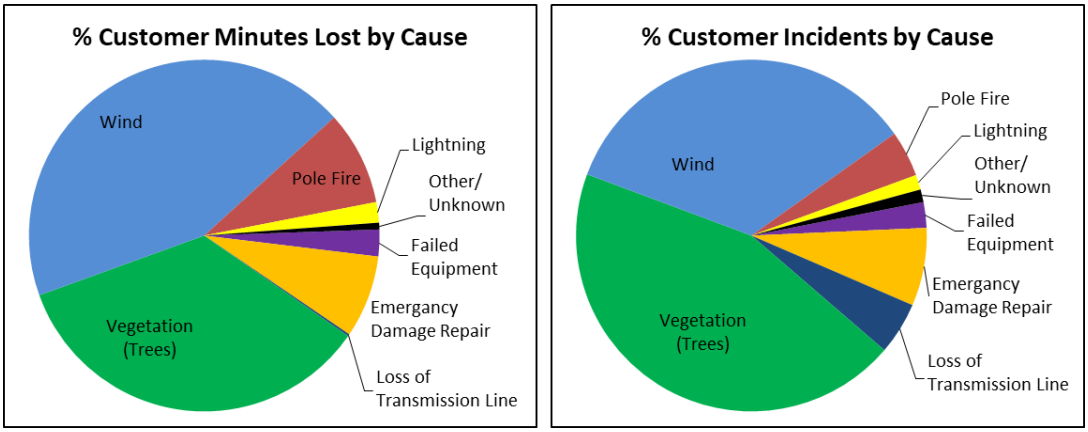


Figure 4. Percent of customer Minutes lost and % of customer incidents experienced by cause.

Approximately 23,750 customer interruptions were experienced, some of which were experienced by the same customers over the duration of the storm, see figures 5 and 6 below. The number of concurrent outages during the event peaked at 163 outages on the 30th at 10:54 p.m., with the number of open outages remaining above 100 for 46 hours. Sustained outage durations ranged from 7 minutes to 3 days 6 hours 14 minutes, with an average cumulative outage duration of 12 hours 2 minutes.

To date, there has been one company customer complaint and no commission customer complaints made regarding the major event.

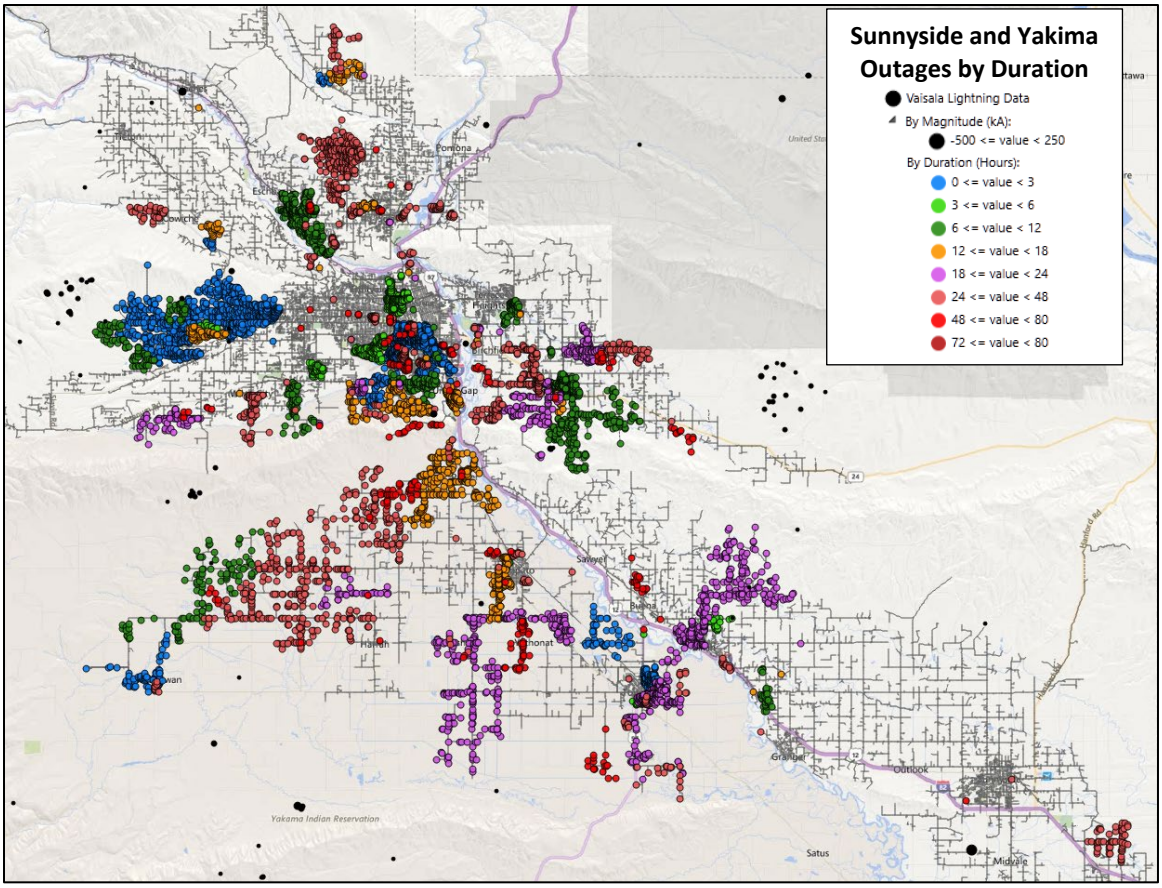


Figure 5. Sunnyside and Yakima, Outage Duration by hour and lightning strikes.

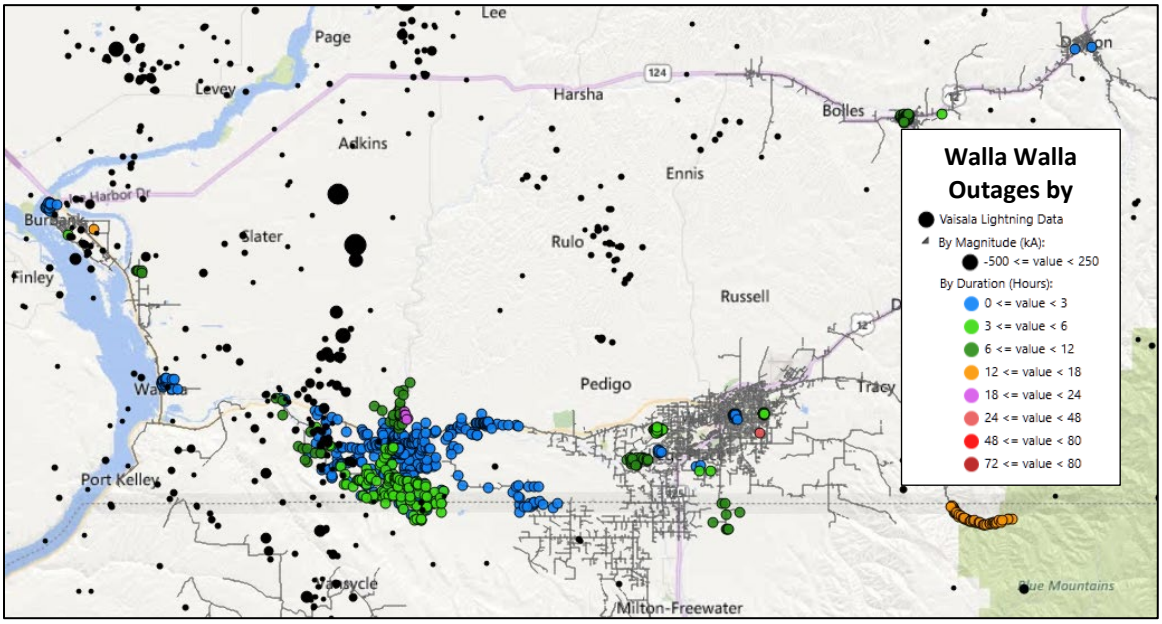


Figure 6. Walla Walla, Outage Duration by hour and lightning strikes.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.	48-72 Hrs.	72-79 Hrs.
23,750	7,356	12,542	3,264	582	6

Restoration Resources

Personnel Resources	
Lineman	17
Support	8
Serviceman	7
Line Foreman	6
General Foreman	4
Substation Wireman	3
Relay Tech	3
Field Service Specialist	3
Lineman Representative	3
Meterman	2
Communications Tech	1
Line Patrolman	1
Contract crewman	62
Tree crewman	13
Flaggers	8
Total	**141**

Materials	
# Distribution Poles	24
# Transmission Poles	3
# Approx. conductor Line (feet)	22,708 ft.
# Transformers	27
# Crossarms	76
Insulators	381
Cutouts	132
Line fuses	121
Line splices	1,168
Guy Wire	6,518 ft.
Pole Top Extension	10

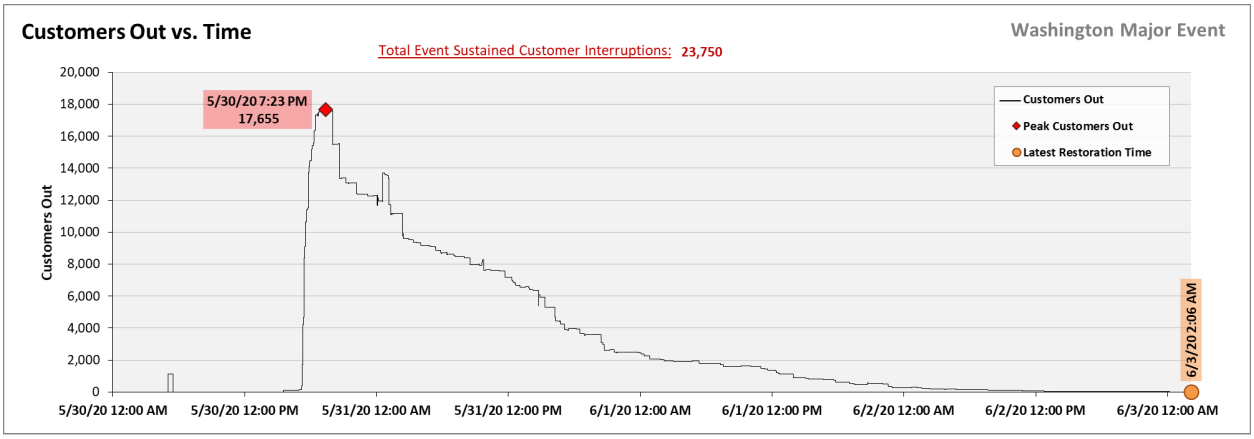
State Estimated Major Event Costs

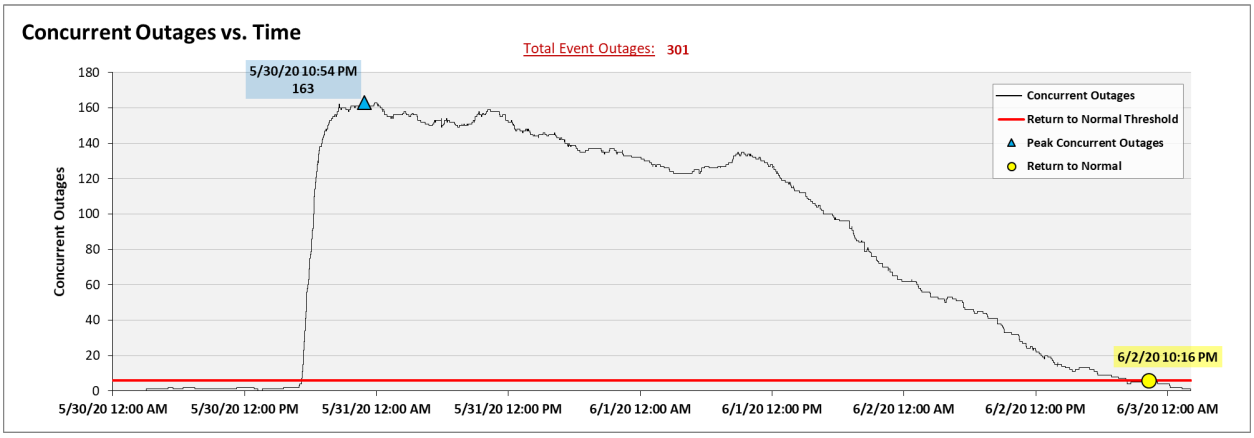
Estimate $	Labor	Contracts	Material	Overheads	Total
Capital	$23,667	$376,445	$75,446	$65,525	**$541,083**
Expense	$500,495	$435,532	$41,342	$52,992	**$1,030,362**
Total	**$524,162**	**$811,977**	**$116,788**	**$118,518**	**$1,571,445**

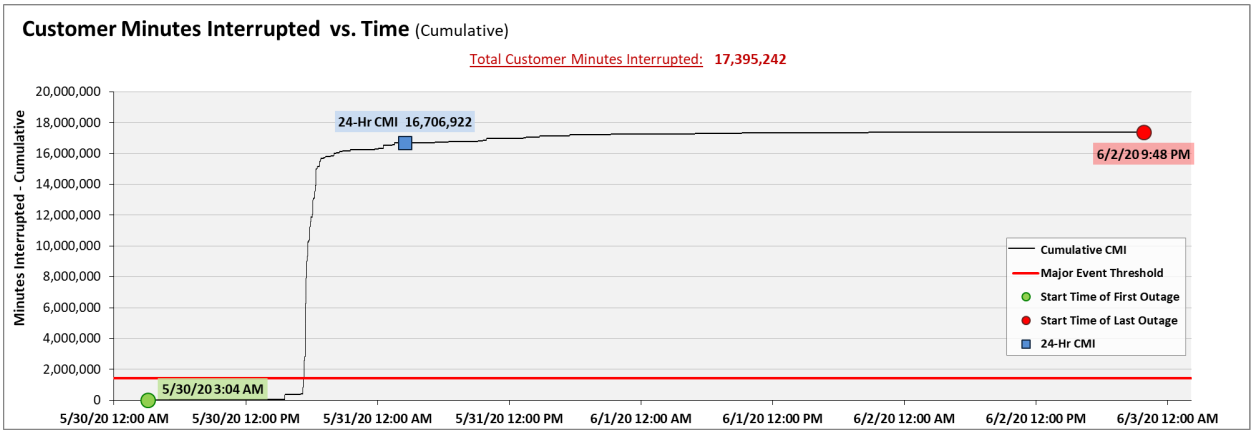
Major Event Declaration

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 2020 Washington threshold of 1,427,191 customer minutes lost (10.5 state SAIDI minutes) in a 24-hour period.

Event Detail







Report to the Washington Utilities and Transportation Commission

Electric Service Reliability - Major Event Report

Event Date:	July 24-25, 2020
Date Submitted:	September 11, 2020
Primary Affected Locations:	Statewide
Primary Cause:	Weather
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / Carrie Laird / Chad Ooten

Event Description and Restoration Summary

Event Outage Summary	
# Interruptions (sustained)	11
Total Customers Interrupted (sustained)	2,336
Total Customer Minutes Lost	1,711,524
State Event SAIDI	12.6 Minutes
CAIDI	733
Major Event Start	7/24/2020 10:53 p.m.
Major Event End	7/25/2020 10:53 p.m.

On the evening of July 24th, 2020, customers in Yakima, Washington experienced a major event when high winds downed a tree which fell on equipment (Figure 1). Beginning on the morning of July 24th winds related to a summer storm affected the area, beginning the day normal and calm, however as the day progressed, wind speeds and significant gusts occurred, as shown Figures 2 and 3 below[12].

[12] Remote Automatic Weather Station (RAWS). https://raws.dri.edu/

Figure 1. Photos of damaged equipment from downed tree.

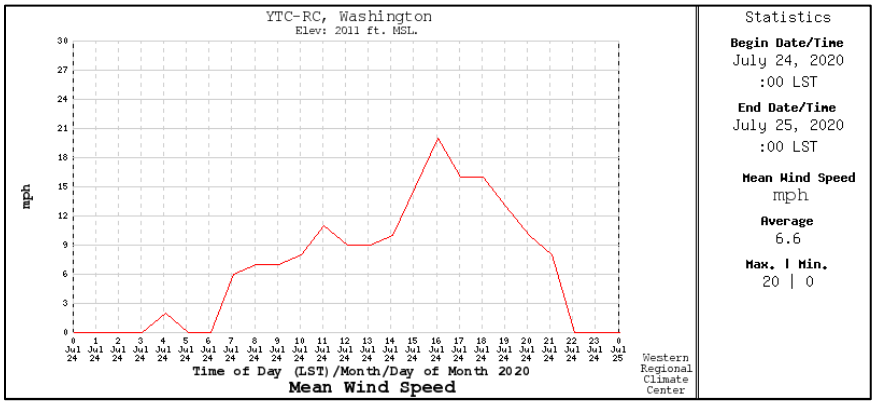


Figure 2. Yakima YTC-RC Washington mean wind speed during the major event.

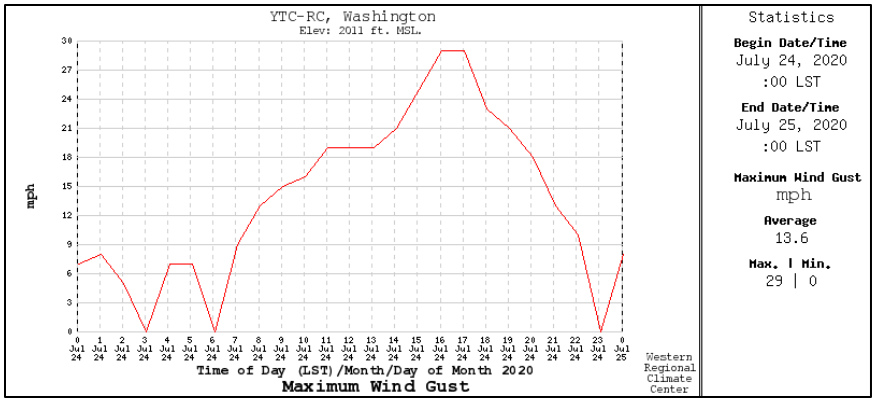


Figure 3. Yakima YTC-RC Washington maximum wind gust during the major event.

At 10:53 p.m. a large street tree fell. As it fell it damaged a pole, line, and related distribution equipment along seven spans of the circuit. The damaged equipment included heavy stranded mainline feeder, poles, cross-arms, transformers, and a gang switch that serves as a tie point to adjacent circuits (used as an isolation point to step restore customers from the breaker to the switch). Crews were quickly dispatched to the location to assess the damage; they determined

that their options for stage restoration had been compromised by the tree's damage of the feeder tie and switch, but that if they prioritized that repair they could quickly restore power to a large number of customers.

Repairing the feeder tie involved resetting downed twisted conductor and repairing the switch, after which crews were able to perform the first step restoration, restoring 1,686 customers in 11 hours 59 minutes. During the second stage of repairs crews worked to replace the damaged pole, cross-arms, insulators and reinstall conductor, with the final restoration stage occurring, restoring the remaining 503 customer in 15 hours 14 minutes.

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

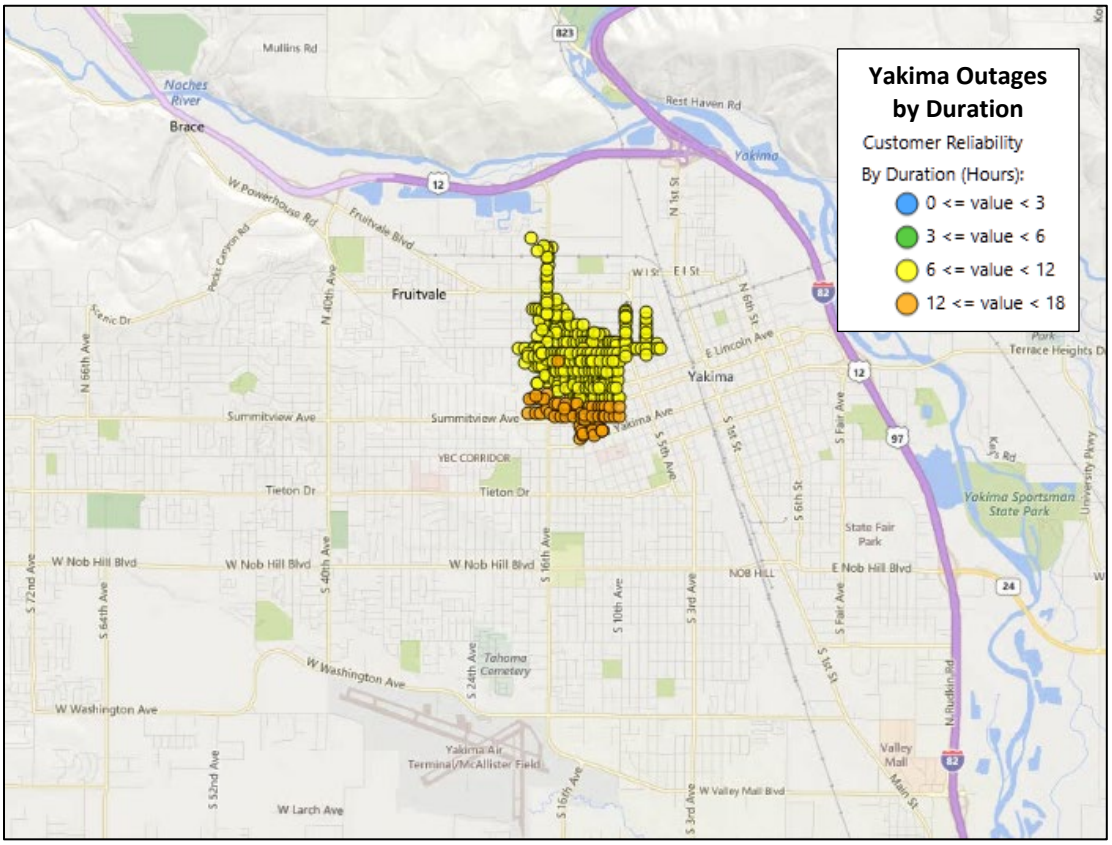


Figure 3. Yakima Outage Duration by hour.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
2,336	4	2,332	0

Restoration Resources [13]

Personnel Resources	
Collector	2
Field Journeyman	7
Substation Relay Tech	2
Substation Wireman	1
Vegetation Crew Members	4
Total	**16**
Materials	
# Distribution Poles	1
# Approx. conductor Line (feet)	465 ft.
# Crossarms	7
Insulators	43
Line splices	11

State Estimated Major Event Costs

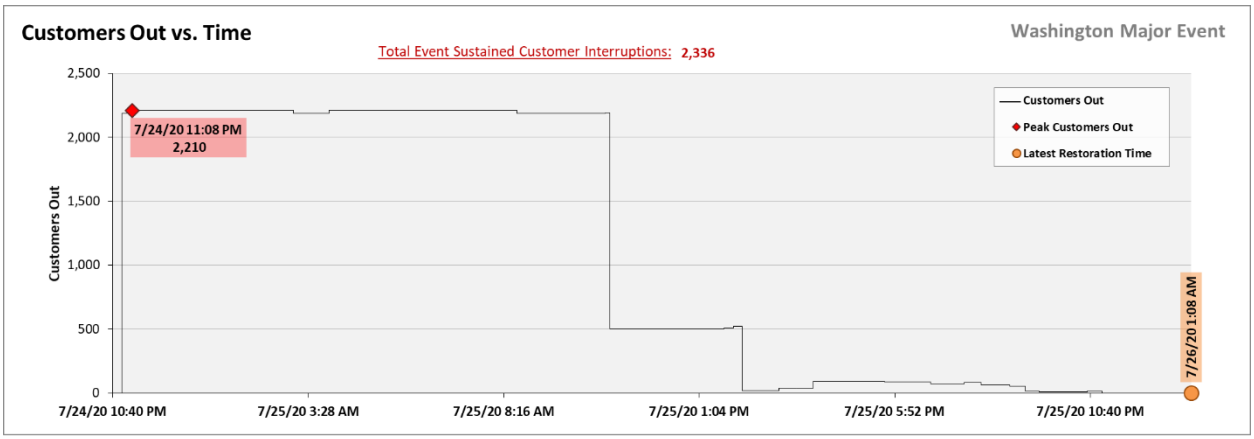
Estimate $	Labor	Contracts	Material	Overheads	Total
Capital	$21,627	$2,142	$3,122	$3,202	**$30,094**
Expense	$0	$0	$0	$0	**$0**
Total	**$21,627**	**$2,142**	**$3,122**	**$3,202**	**$30,094**

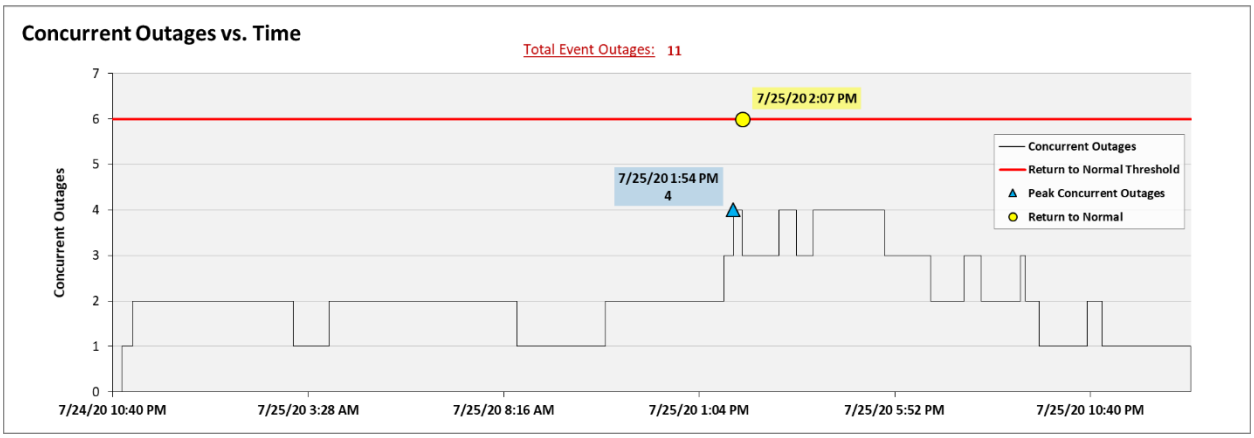
[13] Data provided represents specific system records for personnel, resources, and costs; and is specific to the event, not inclusive of state delineation. However additional resources whose participation did not get individually captured in transaction recording systems were utilized during the event, 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.

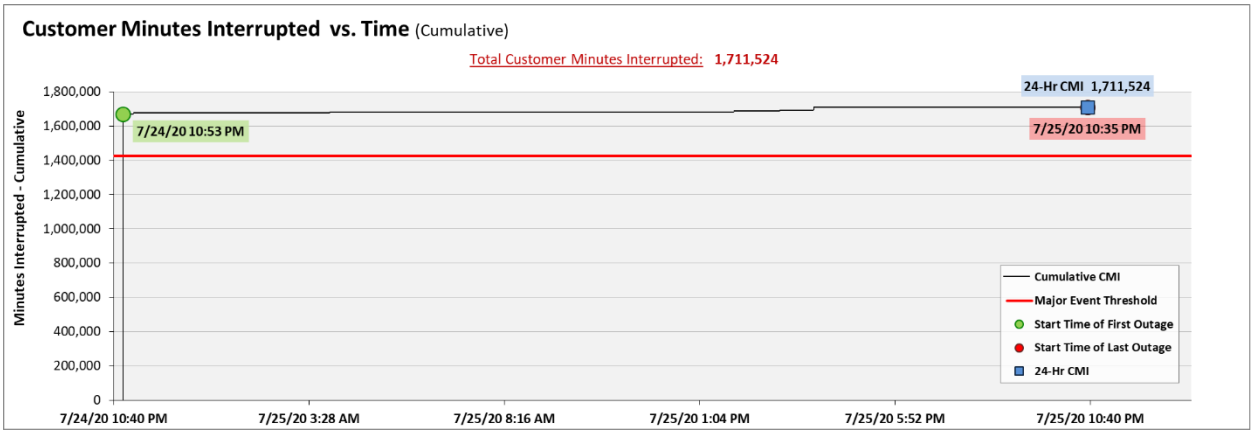
Major Event Declaration

Pacific Power is requesting designation of this event and its consequences to be classified as a "Major Event" for exclusion from network performance reporting with the IEEE 1366-2003/2012. This major event exceeded the company's 2020 Washington threshold of 1,427,191 customer minutes lost (10.5 state SAIDI minutes) in a 24-hour period.

Event Detail







Report to the Washington Utilities and Transportation Commission

Electric Service Reliability - Major Event Report

Event Date:	August 20, 2020
Date Submitted:	October 16, 2020
Primary Affected Locations:	Walla Walla
Primary Cause:	Loss of Substation
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
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.

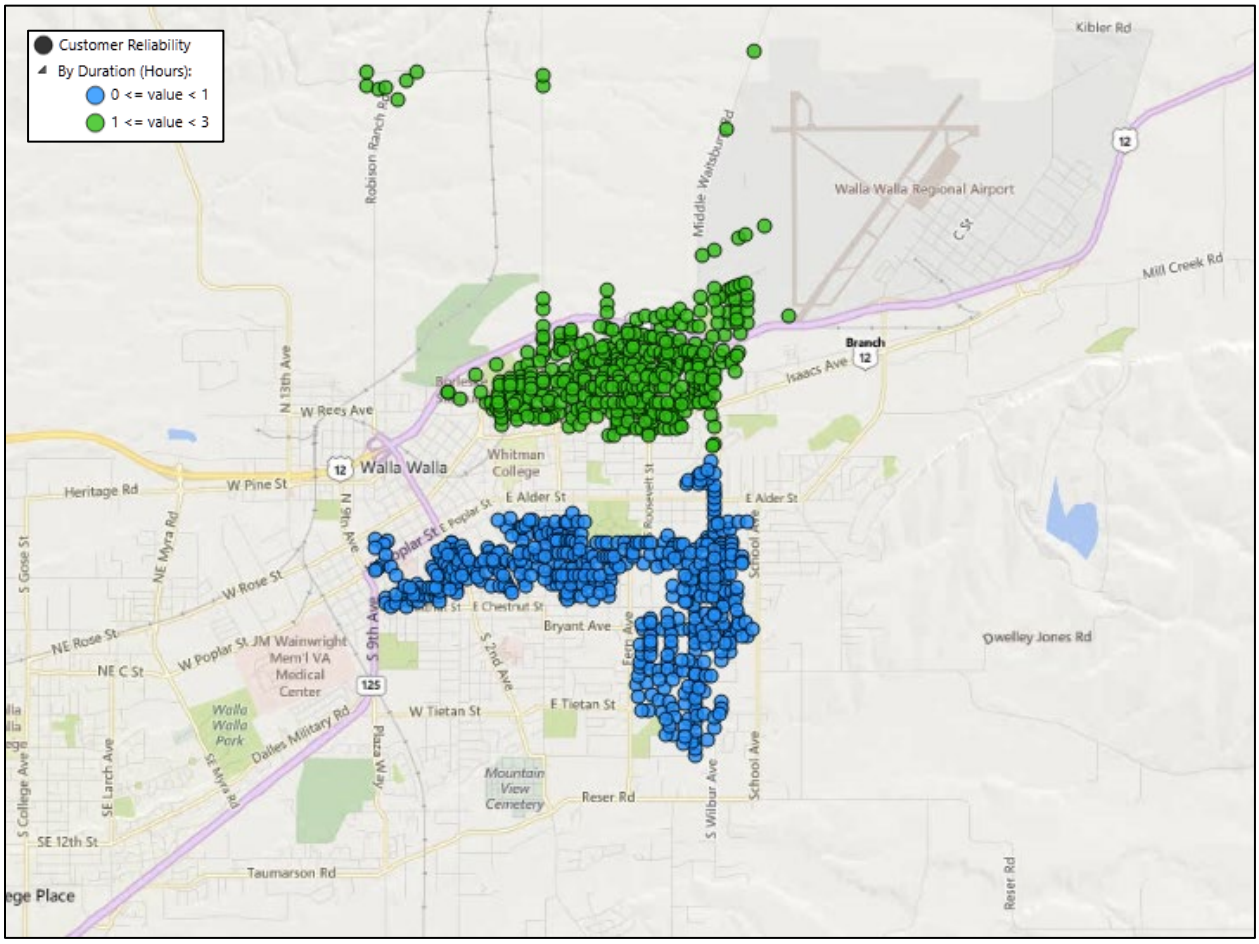


Figure 1: Loss of Substation outages experienced during the major event by duration.

Restoration Intervals

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

Restoration Resources [14]

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]

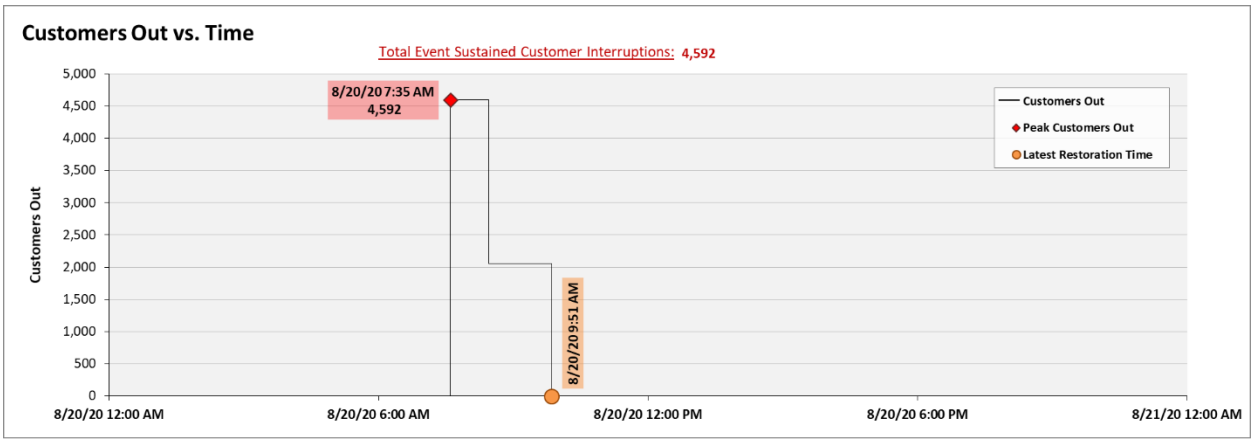
Estimate $	Labor	Material	Overheads	Total
Capital	$26,690	$37	**$1,188**	**$27,915**
Expense	$0	$0	**$0**	**$0**
Total	**$26,690**	**$37**	**$1,188**	**$27,915**

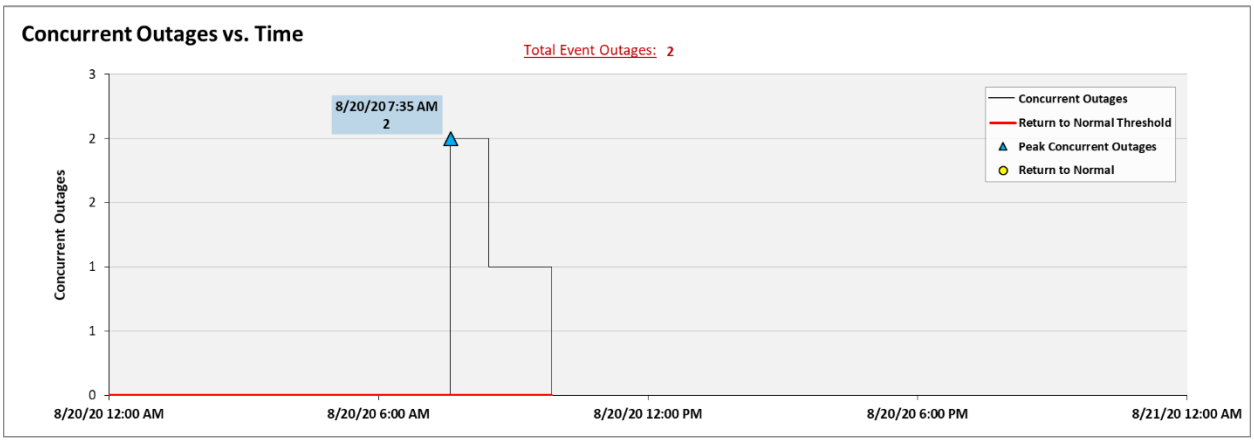
Major Event Declaration

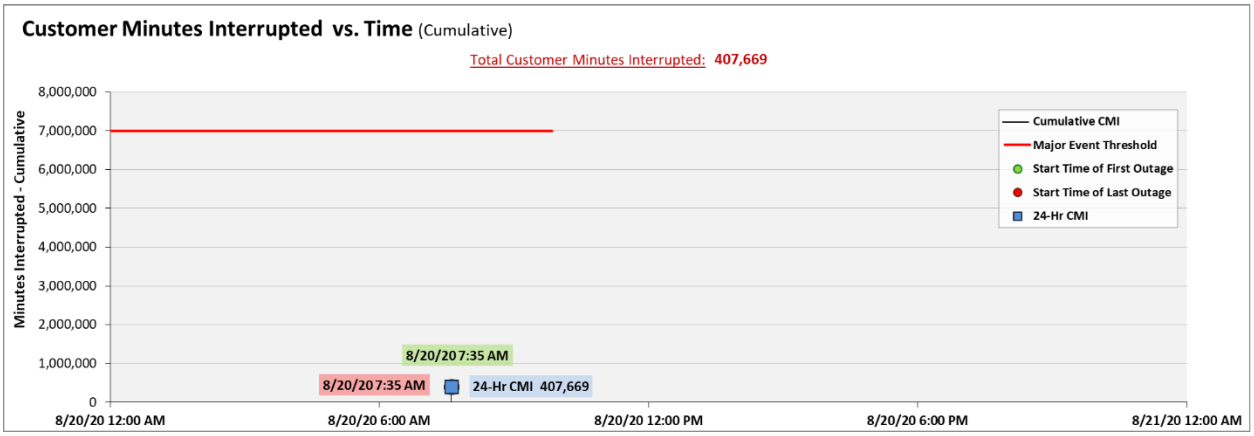
Pacific Power is requesting designation of this event and its consequences to be classified as a "Major Event" for exclusion from underlying network performance reporting. This major event exceeded the company's current Washington system average interruption frequency index-driven (SAIFI) threshold of 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.

[14] 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







Report to the Washington Utilities and Transportation Commission

Electric Service Reliability - Major Event Report

Event Date:	September 7-9, 2020
Date Submitted:	November 5, 2020
Primary Affected Locations:	Statewide
Primary Cause:	Weather
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)	164
Total Customers Interrupted (sustained)	14,337
Total Customer Minutes Lost	4,426,378
State Event SAIDI	32.6 Minutes
CAIDI	309
Major Event Start	9/7/2020 12:00 AM
Major Event End	9/9/2020 01:54 PM

On the early morning of September 7, 2020, the National Weather Service forecast a rare high east wind event with gusts up to 65-75 mph. The results of this storm across the region caused major events to occur in the three states Pacific Powers serves; Washington, Oregon and California. In anticipation of this unusually high wind event Pacific Power activated its Emergency Operations Center (PPEOC) on September 7th. The PPEOC activation allowed Pacific Power to begin mobilizing crews across the region and coordinating resources and restoration support to areas heavily impacted by the wind event.

The easterly winds are unique as they are countervailing to normal summer airflow. During these east wind events trees are more susceptible to damage, as root and stem growth is typically stronger in the direction of prevailing winds. As a result, tree related outages become substantial. As a matter of fact over the course of the two day storm 69% of all customer minutes lost and 68% of all customer interruptions were the result of vegetation. Wind outages accounted for 16% of all customer minutes lost and 19% of all customer interruptions. Figures

1-6 below show area wind station readings[15] during the event relative to the Washington services areas.

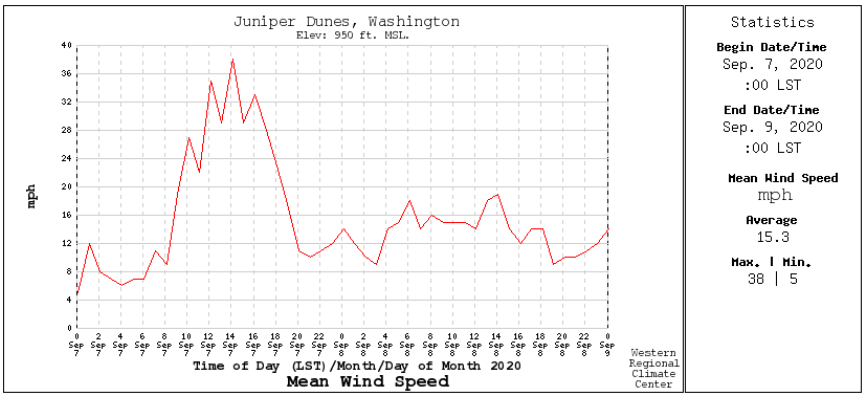


Figure 1. Walla Walla area, Juniper Dunes weather station mean wind speed during the major event.

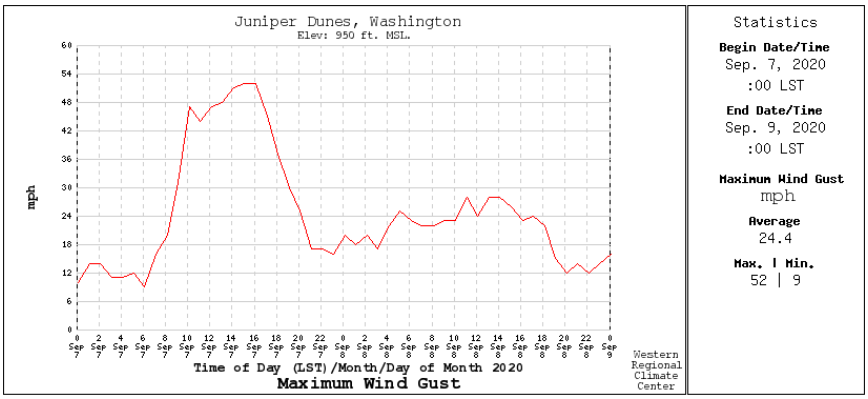


Figure 2. Walla Walla area, Juniper Dunes weather station wind gust during the major event.

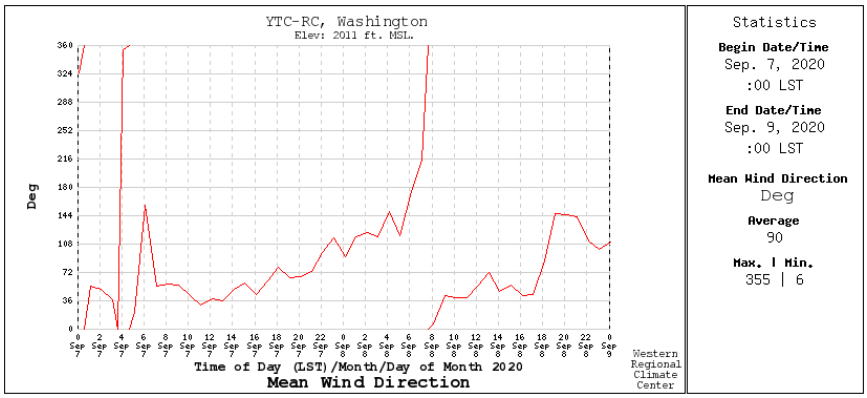


Figure 3. Walla Walla area, Juniper Dunes weather station wind direction during the major event.

[15] Remote Automatic Weather Station (RAWS). https://raws.dri.edu/

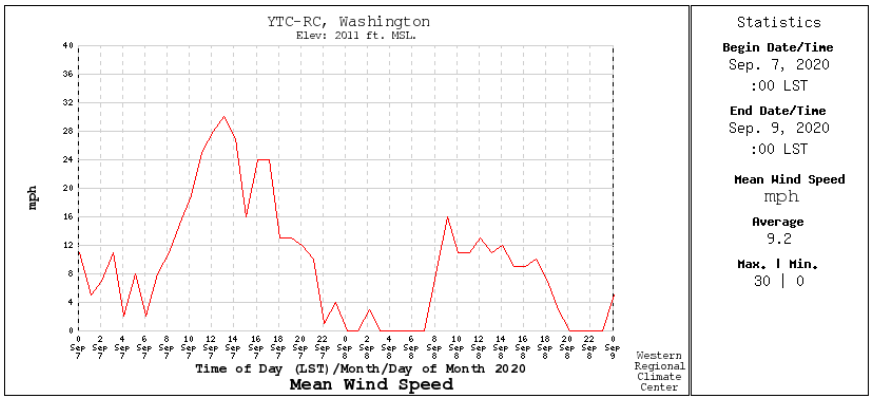


Figure 4. Yakima area, YTC-RC weather station mean wind speed during the major event.

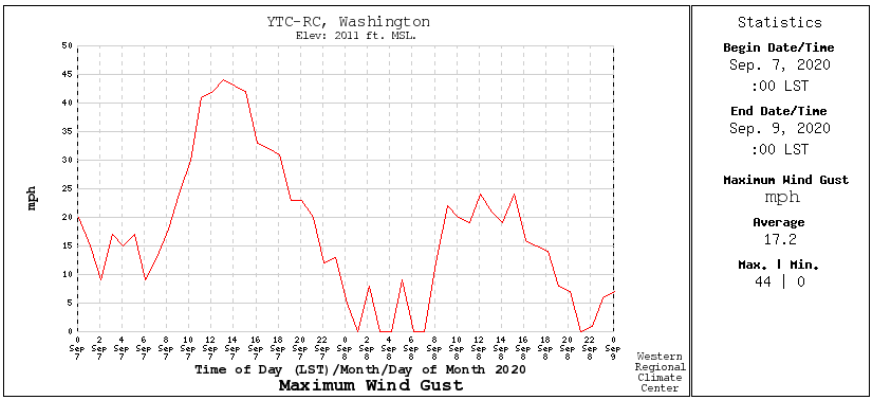


Figure 5. Yakima area, YTC-RC, weather station wind gust during the major event.

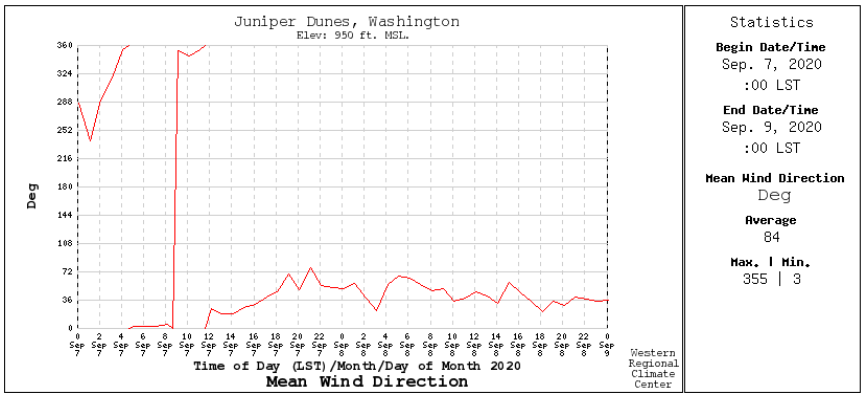


Figure 6. Yakima area, YTC-RC, weather station wind direction during the major event.

Restoration activities during the initial onset of the event were challenged due to the magnitude of outages. From noon, September 7, through noon, September 8, a total of 144 outage events occurred. During this period company employees from every operational area were dispatched to assist in restoration activities, including field personnel, assessors, engineers, vegetation crews, contractors, and administrative support services. In addition outside crews from eastern Washington and eastern Oregon were called in to assist in the restoration efforts.

Complications arose pinpointing specific damage locations due to the tendency for certain locations to mask subordinate outage events, which challenged restoration efficiency and

slowed the restoration process as crews ended up needing to patrol larger portions of the circuit in order to identify where the multiples of damaged facilities were located. In many of these cases step restorations were performed as lines were fully patrolled prior to restoration. Initial outage and circuit damaged assessments were also impacted due to road closures resulting from downed vegetation; further, high winds and sporadic gusting impeded efforts to access damaged equipment. During the event crews worked to remove downed and hazardous trees that had not fully fallen. Repairs and replacements were made to damaged poles, downed wire and crossarms. The photos below were taken by field personnel during the event. The maps in figures 7 and 8 show the locations of customer outages and their duration. To date, there have been no company or commission customer complaints made regarding the major event.

Photos of damaged equipment from downed trees.

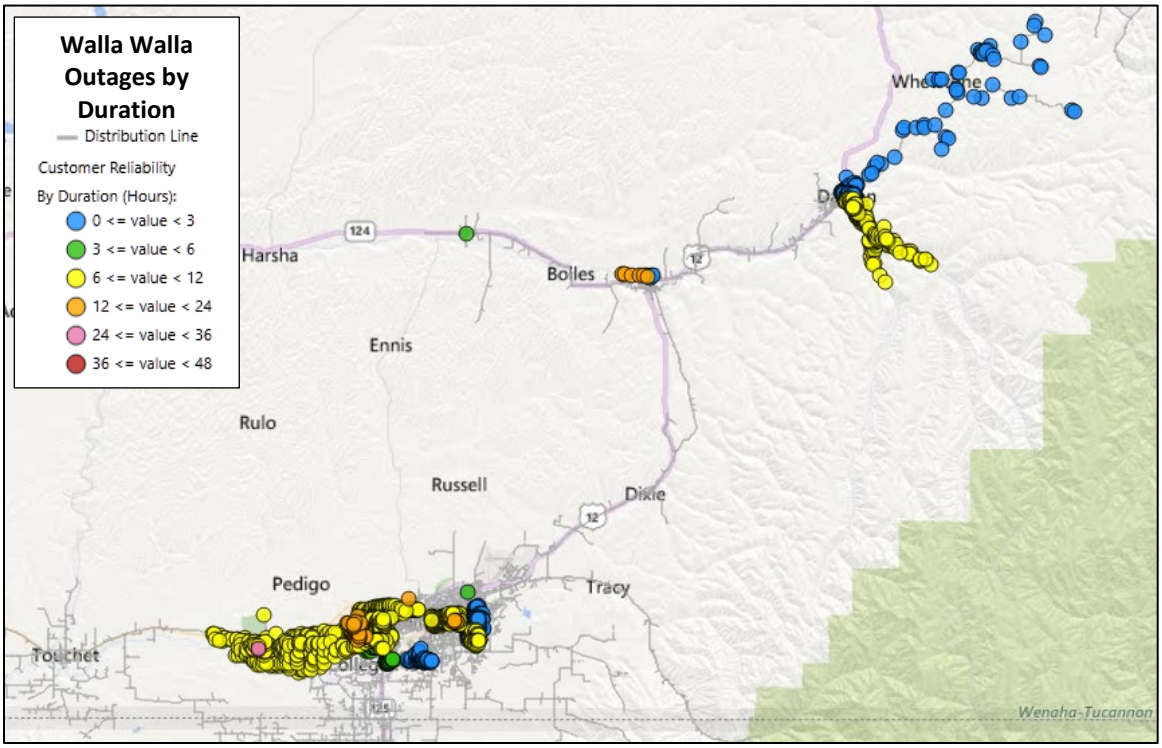


Figure 7. Walla Walla Outage Duration by hour.

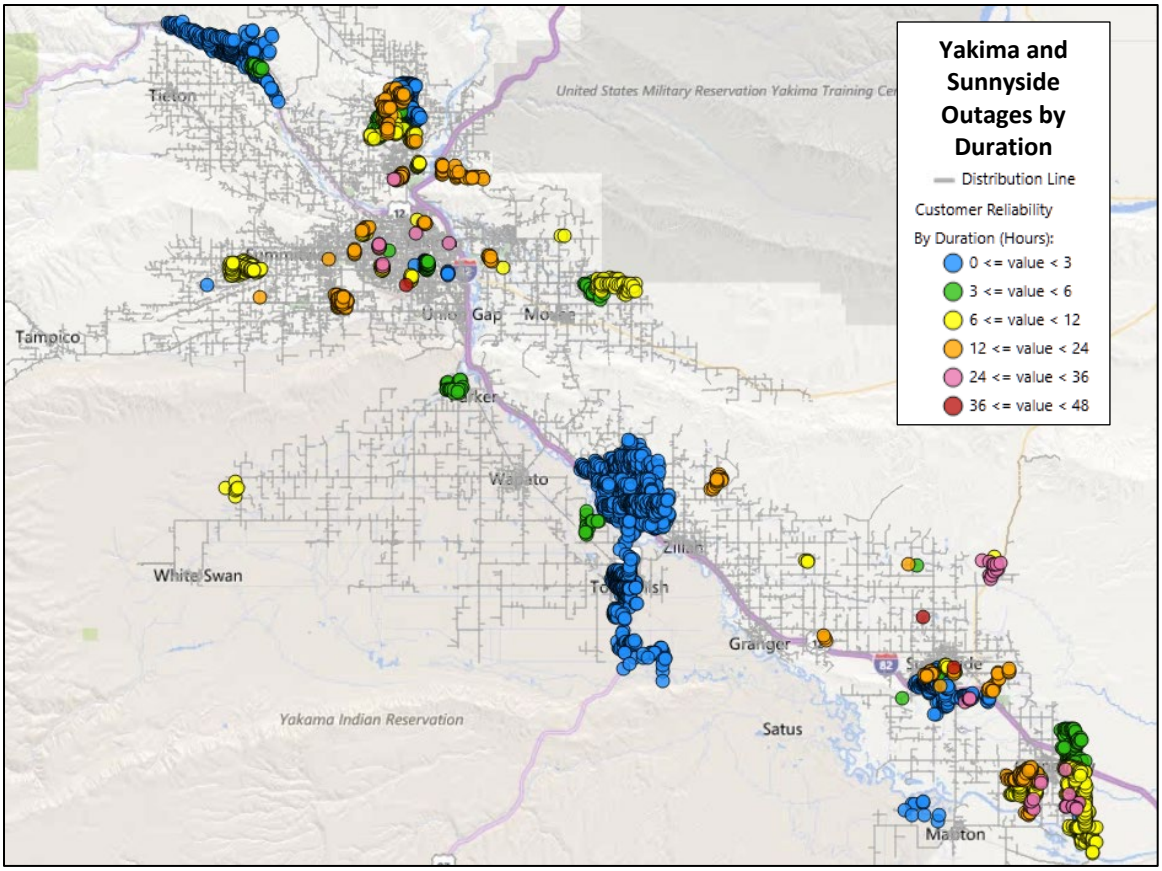


Figure 8. Yakima and Sunnyside Outage Duration by hour.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.	48+ Hrs.
6,265	7,945	7,945	127	0

Restoration Resources [16]

Personnel Resources			
Internal local crewmembers	**40**	Tree crewman	**34**
Substation crewmembers	**4**	Mechanic	**3**
# Support staff	**11**	Flaggers	**5**
Contract crewman	**35**	**Total**	**132**

[16] 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.

Materials			
Poles (D)	**14**	Cutouts	**28**
# Approx. conductor Line (feet)	**22,904**	Line fuses	**15**
Transformers	**7**	Line splices	**824**
Crossarms	**27**	Guy wire	**3,950**
Insulators	**78**	Arresters	**12**
Switch	**1**		

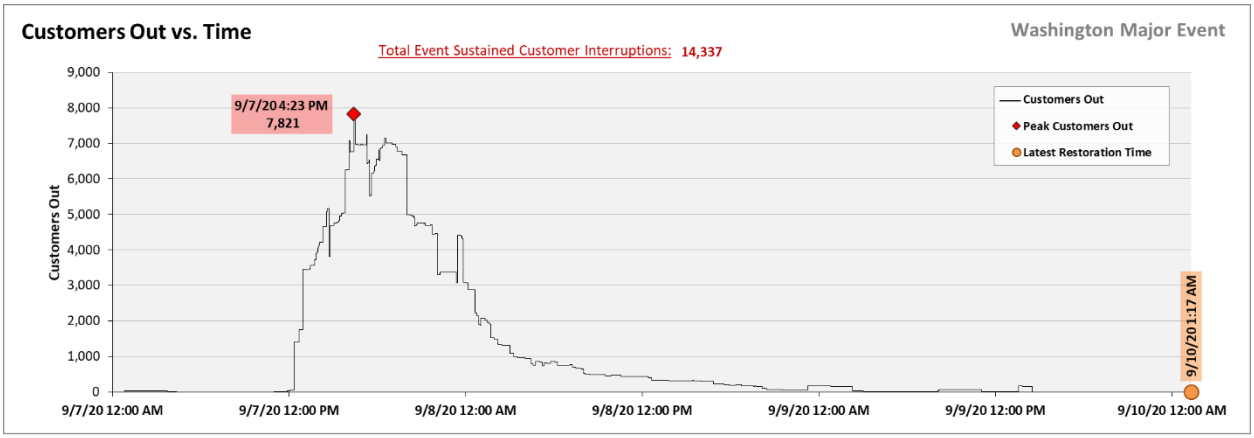
State Estimated Major Event Costs

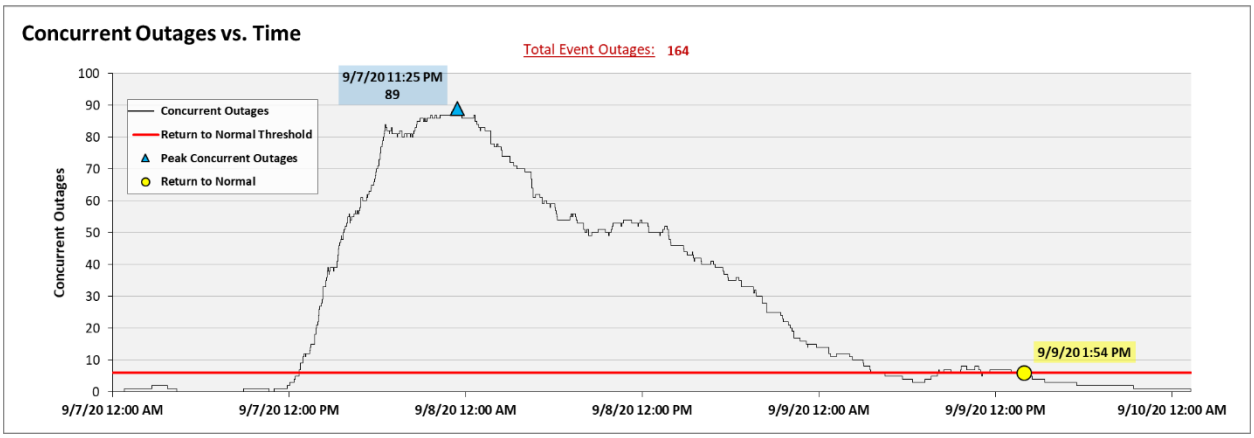
Estimate $	Labor	Contracts	Material	Overhead/Other	Total
Capital	$123,658	$220,758	$39,697	$74,551	$458,664
Expense	$243,843	$265,237	$22,816	$37,017	$568,913
Total	**$367,501**	**$485,995**	**$62,513**	**$111,568**	**$1,027,577**

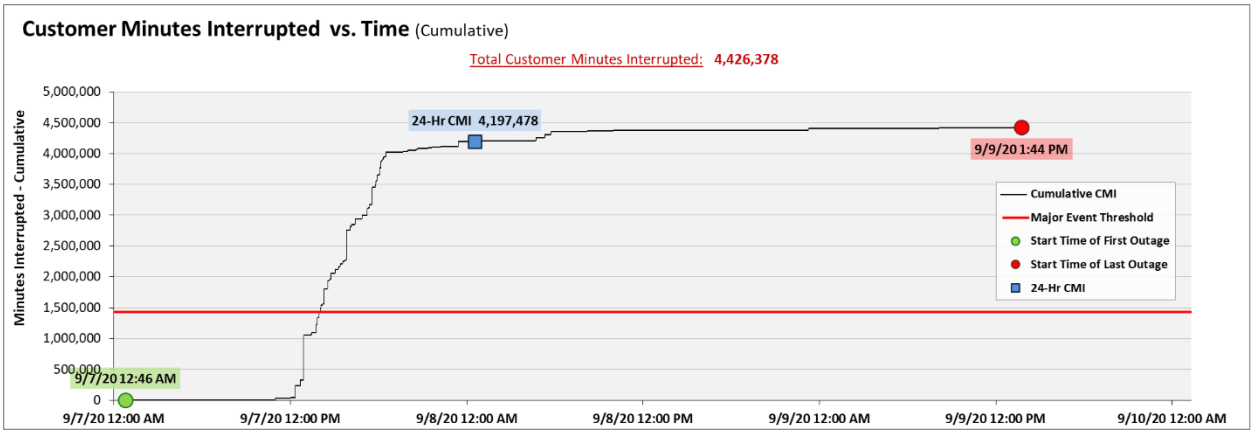
Major Event Declaration

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 2020 Washington threshold of 1,427,191 customer minutes lost (10.5 state SAIDI minutes) in a 24-hour period.

Event Detail







Report to the Washington Utilities and Transportation Commission

Electric Service Reliability - Major Event Report

Event Date:	September 19, 2020
Date Submitted:	November 5, 2020
Primary Affected Locations:	Walla Walla
Primary Cause:	Pole fire
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / Carrie Laird

Event Outage Summary	
# Interruptions (sustained)	10
Total Customers Interrupted (sustained)	5,254
Total Customer Minutes Lost	402,507
State Event SAIDI	2.97 Minutes
CAIDI	77
Major Event Start	9/19/2020 12:00 AM
Major Event End	9/20/2020 12:00 AM

Event Description and Restoration Summary

On September 19, 2020, Walla Walla, Washington, experienced a SAIFI-based major event when 15% of its served customers experienced an outage due to a loss of transmission resulting from a pole fire[17]. During the day several pole fire events occurred, the result of light morning rain mixed with smoke from wildfires. The first pole fire outage began at 9:20 a.m. on the on line 5W324 fed from the Dayton Substation, affecting 902 customers. An hour later at 10:15 a.m. and 10:23 a.m. a second and third pole fire-related outage occurred on line 5W323 (also feed from the Dayton Substation); combined these two events affected 148 customers. At 1:17 p.m. Walla Walla experienced a loss of transmission line outage when a pole fire occurred on a transmission line with distribution underbuild. This outage affected three substation (Dayton, Waitsburg, and Pomeroy), feeding a total of 5 circuits serving 5,171 customers.

Local crews were already in the area working on restoring outages due to the previous pole fires when this fourth pole fire outage occurred on the transmission line. Due to the close proximity, crews were able to quickly arrive and assess the damage, allowing them to compile a list of needed equipment to begin repairs. In addition they were able to quickly communicate

[17] Pole fires are often the result of environmental conditions, such as contamination (as from a wildfire) that when combined with light precipitation experience "leakage current", where a new current path occurs. After a heavy, washing rain, the insulation level generally returns to normal and no further pole fire symptoms exist.

the extent of damages to dispatch, who began putting together a plan to restore power by switching to alternate feeds, as possible. Within the first 30 minutes of the event 3,185 customers were restored, leaving circuit 5W323 out due to the damaged distribution underbuild on the line. At 2:07 p.m. (49 minutes after the start of the outage) crews were able to restore another 934 customer on line 5W323. This left 59 customers out until final repairs could be made.

The damage to the pole was extensive and required that a new pole be set. Pacific Power contracted an excavator to the begin digging a footing for the new pole. Muddy ground and rocky soil slowed the repair. In 10 hours and 29 minutes the remaining 59 customers were restored. Figure 1 below shows the Walla Walla customers outages for the day relative to their outage duration.

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

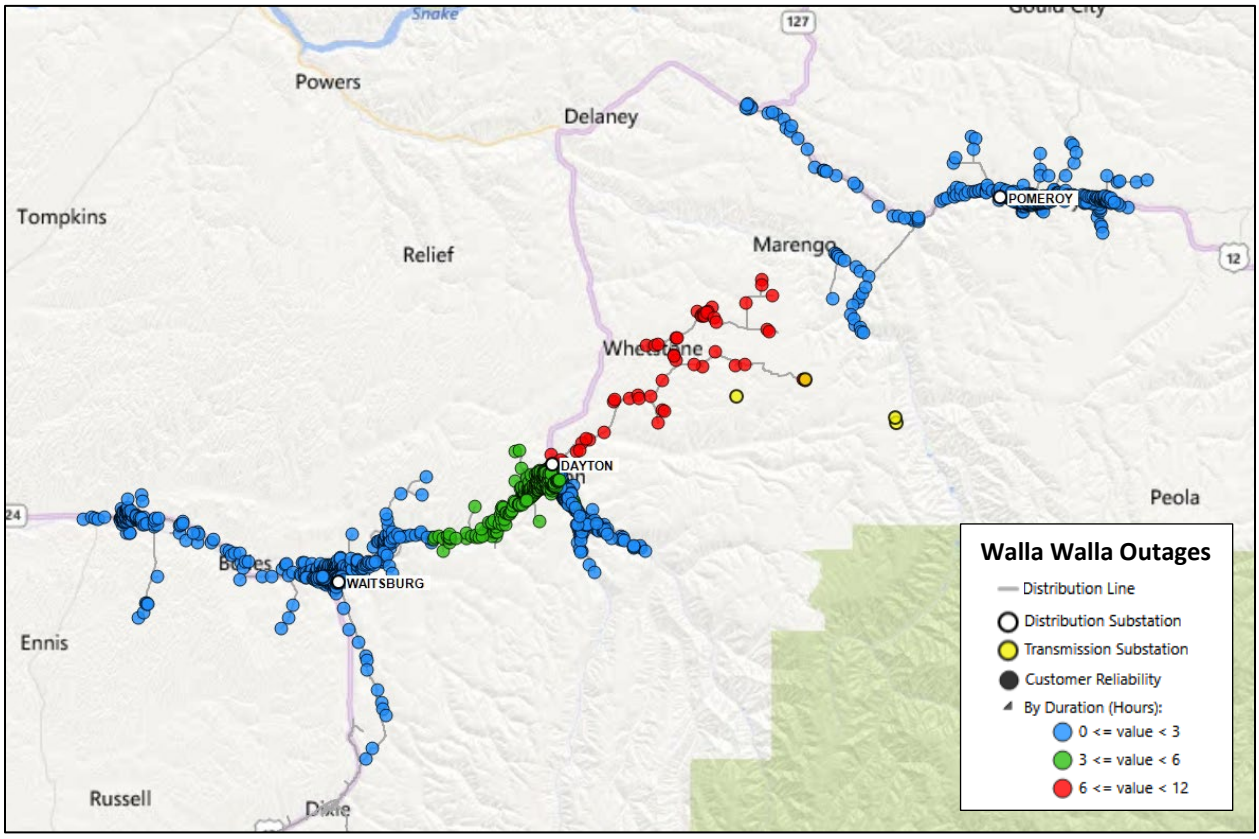


Figure 1: Outages experienced during the major event by duration.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.
5,254	4,211	1,043

Restoration Resources [18]

Personnel Resources	
Internal local crewmembers	4
Support staff	1
Contract crewman	1
Total	**6**

Equipment	
Poles (D&T)	1
# Crossarms	1
Insulators	12

State Estimated Major Event Costs [1]

Estimate $	Labor	Contracts	Material	Overheads	Total
Capital	$6,267	$2,663	$2,382	$1,590	**$11,312**
Expense	$0	$0	$0	$0	**$0**
Total	**$6,267**	**$2,663**	**$2,382**	**$1,590**	**$11,312**

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 (4,260 customers were interrupted out of 28,092 Walla Walla operating area customers, or 15% of the operating area customers) simultaneously in a 24-hour period.

[18] 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.

Event Detail