WASHINGTON SERVICE QUALITY REVIEW

January 1 – December 31, 2022

Annual Report

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EXECUTIVE SUMMARY

During January 1 through December 31, 2022, 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 2022 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.

The Company implemented protection coordination settings that more substantially affected distribution system performance through its "Elevated Fire Risk" (EFR) settings. Concurrently, it developed a method to estimate the reliability impacts of device setting changes. EFR settings are applied when fire weather conditions such as high winds, low fuel moisture, high temperature, low relative humidity, and volatile fuels might be expected. Operational responses under these conditions are also different and can result in more frequent sustained outage events and longer outage duration.

1 Service Standards Program Summary

Pacific Power has several 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 on 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 execute 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 fifteen 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 ten 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 ten 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.

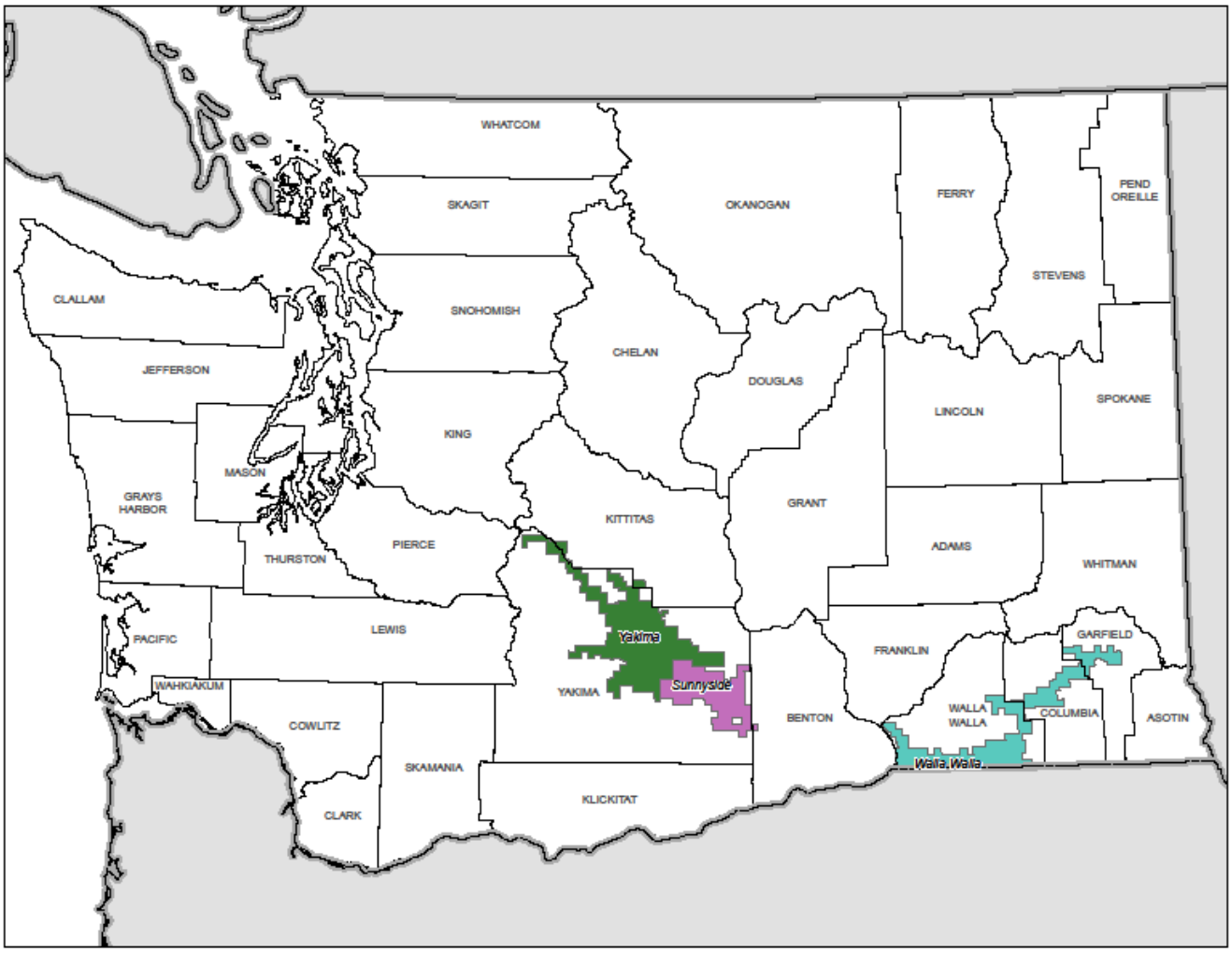
[1] The Company committed to Service Standards Programs that expired on 12/31/2011; during the program, all elements committed to were delivered successfully. By terms of the commitment any changes to the program required the approval of the Commission. The Company has proposed no changes to the program, 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 does not 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 2022

Washington

	Description	2022 Events	2022 Failures	2022 % Success	2022 Paid	2021 Events	2021 Failures	2021 % Success	2021 Paid
CG1	Restoring Supply	94,300	0	100.00%	$0	83,563	0	100.00%	$0
CG2	Appointments	2,122	4	99.81%	$200	3,091	1	99.97%	$50
CG3	Switching on Power	499	5	99.00%	$250	657	0	100.00%	$0
CG4	Estimates	223	0	100.00%	$0	409	0	100.00%	$0
CG5	Respond to Billing Inquiries	255	1	99.61%	$50	298	2	99.33%	$100
CG6	Respond to Meter Problems	116	2	98.28%	$100	93	0	100.00%	$0
CG7	Notification of Planned Interruptions	16,612	5	99.97%	$250	14,992	3	99.98%	$150
		114,127	**17**	**99.99%**	**$850**	**103,103**	**6**	**99.99%**	**$300**

(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:

- Each new customer is mailed a welcome aboard pamphlet that features the Guarantee program and how to file a claim.
- The consumer rights, responsibilities, and pricing bill inserts are sent to customers annually and includes information on the Guarantee program.
- Pacific Power's website features the Guarantee 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 90 minutes was much better than the approved SAIDI baseline of 150 minutes, while the year's "Major Events Excluded as Reported" SAIFI performance of 0.476 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[4]

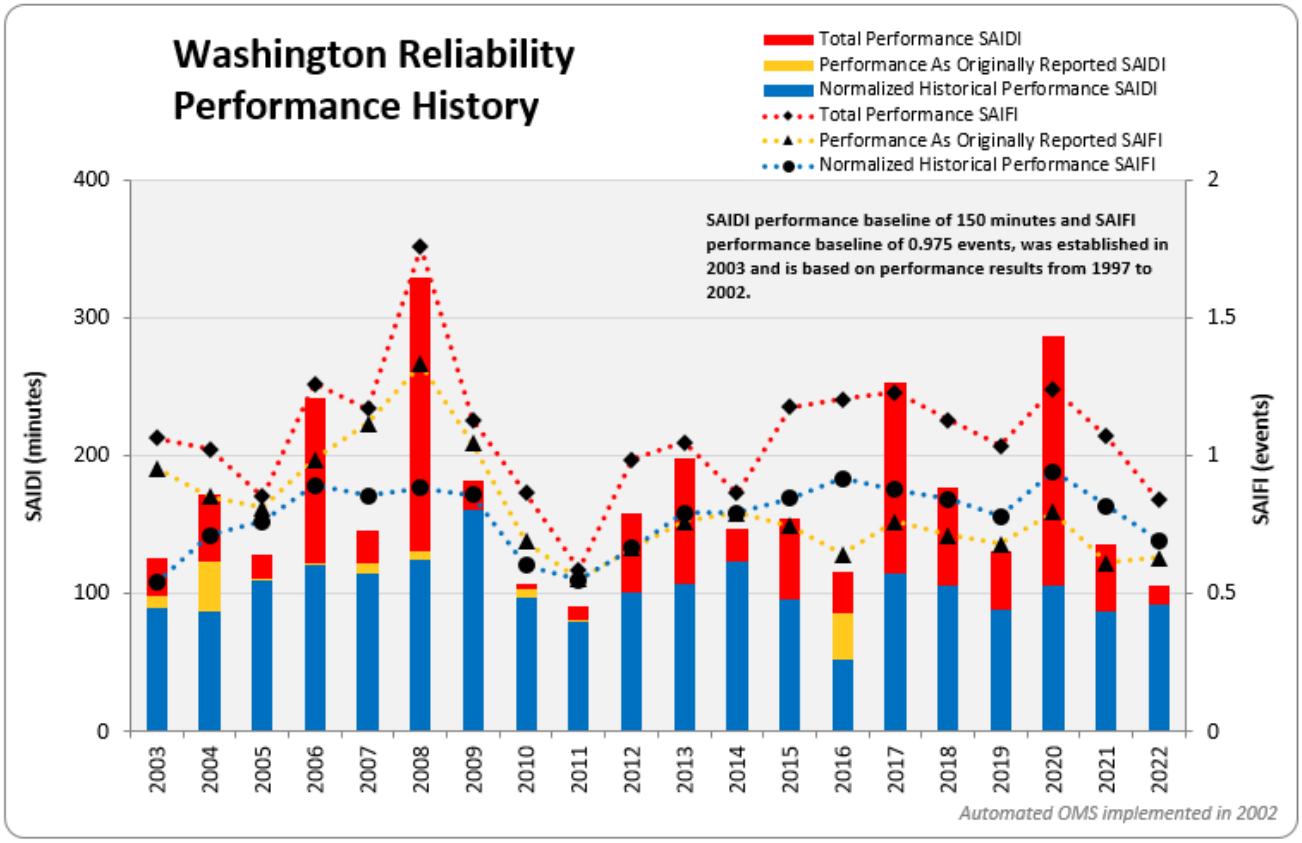
	Major Events Included[5]		SAIDI Based Major Events Excluded 2.5 beta		SAIFI Based Major Events Excluded 10% Op Area[6]		SAIDI & SAIFI-Based Major Events Excluded as Reported (*2.5 beta effective 2005)*		Normalized Historic Performance[7]		5 Year Rolling Average Performance	
Year	**SAIDI**	**SAIFI**	**SAIDI**	**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
2021	135	1.068	98	0.861	124	0.817	87	0.611	87	0.817	100	0.711
2022	106	0.84	95	0.777	102	0.691	92	0.628	92	0.691	96	0.684

[4] SAIDI performance baseline of 150 minutes and SAIFI performance baseline of 0.975 events. Performance baselines were established in June 2003. See page 3 of Reporting Plan.

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

[6] 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.

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


Washington Reliability Performance History
Total Performance SAIDI
Performance As Originally Reported SAIDI
Normalized Historical Performance SAIDI
Total Performance SAIFI
Performance As Originally Reported SAIFI
Normalized Historical 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
2021
2022
Automated OMS implemented in 2002

3.2 System Average Interruption Duration Index (SAIDI)

In 2022, 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[8] 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, two SAIDI-based and four SAIFI-based[9] major events were recorded. The events designate 14.19 minutes to be separated from underlying reporting metrics. Copies of the Company's filed major events are included in the Appendix of this report.

2022 Major Events			
Date	**Cause**	**SAIDI**	**SAIFI**
* January 3, 2022	Loss of Supply	0.47	0.073
* January 9, 2022	Loss of Supply	1.83	0.031
* February 18, 2022	Loss of Supply	0.47	0.023
April 11, 2022	Snowstorm	9.87	0.057
April 12, 2022	Snowstorm	0.96	0.007
* August 10, 2022	Loss of Supply	0.59	0.022
SAIDI Based Major Event Total		**10.83**	**0.06**
*** SAIFI Based Major Event Total**		**3.36**	**0.15**
	TOTAL	**14.19**	**0.212**

During the period, there were six significant event days[10] (daily underlying SAIDI of 2.22 minutes or more). These six days account for 33 SAIDI minutes and 0.151 SAIFI events, representing 37% of the underlying SAIDI and 32% of the underlying SAIFI.

SIGNIFICANT EVENT DAYS					
DATE	**PRIMARY CAUSE**	**SAIDI**	**SAIFI**	**% Underlying SAIDI (87 min)**	**% Underlying SAIFI (0.61 events)**
April 11, 2022	Snowstorm	9.9	0.057	11%	12%
May 5, 2022	Pole Fire	2.8	0.008	3%	2%
August 23, 2022	Tree – Trimmable	5.7	0.016	6%	3%
October 22, 2022	Pole Fire	3.7	0.017	4%	4%
November 4, 2022	Pole Fire and Trees – Non-Preventable	2.6	0.014	3%	3%
November 5, 2022	Various wind and tree related outages	8.3	0.039	9%	8%
	TOTAL	**33.0**	**0.151**	**37%**	**32%**

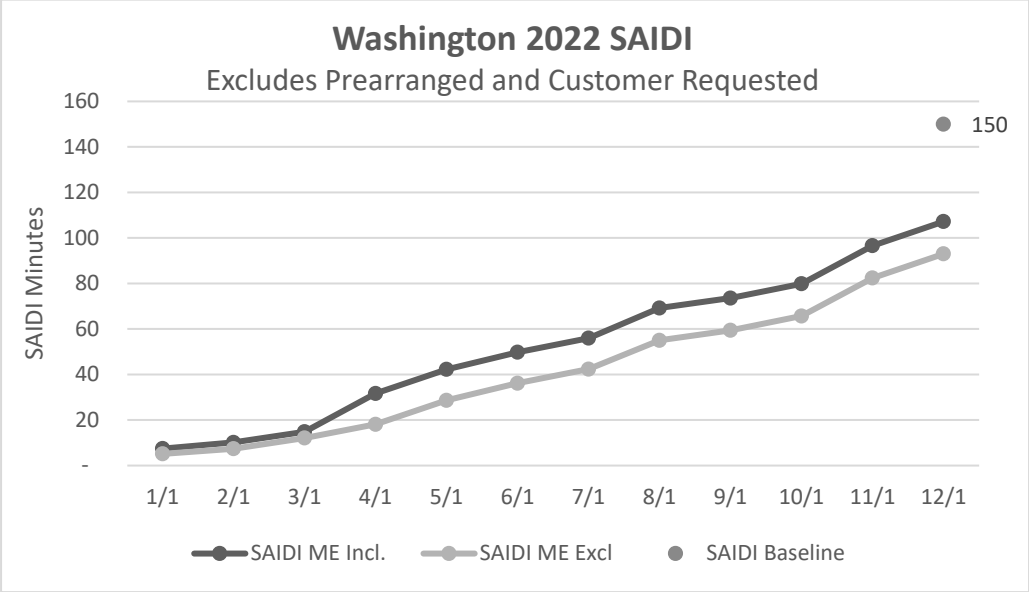
[8] During calendar 2022, the calculated threshold for a major event was 10.79 SAIDI Minutes; for 2023, it will be 9.94 SAIDI minutes.

[9] 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.

[10] 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 2022, outage duration, or SAIDI, was better than baseline.

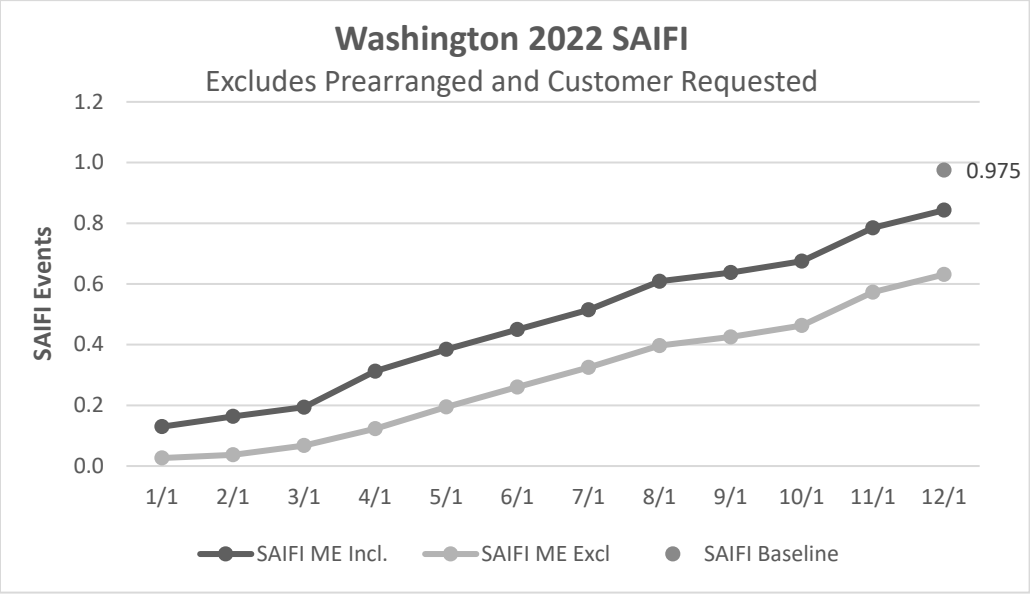
January 1 through December 31, 2022	
2022 SAIDI Internal Goal = 87.5	**SAIDI Actual**
Total Performance	**106**
SAIDI-based Major Events Excluded	**11**
SAIFI-based Major Events Excluded	**3**
Reported (Major Events Excluded)	**92**



3.3 System Average Interruption Frequency Index (SAIFI)

During 2022 outage frequency or SAIFI was better than baseline.

January 1 through December 31, 2022	
2022 SAIFI Internal Goal = 0.8	**SAIFI Actual**
Total Performance	**0.84**
SAIDI-based Major Events Excluded	**0.06**
SAIFI-based Major Events Excluded	**0.15**
Reported (Major Events Excluded)	**0.63**



3.4 Operating Area Metrics

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

January 1 – December 31, 2022	Sunnyside			Walla Walla			Yakima		
	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
Including Major Events	155	1.654	94	78	0.785	100	101	0.599	168
SAIDI-based Major Events	31	0.183	171	-	-	-	8	0.049	684
SAIFI-based Major Events	3	0.401	6	13	0.340	162	-	-	-
Reported Major Events Excluded	**121**	**1.070**	**113**	**65**	**0.445**	**147**	**92**	**0.551**	**168**

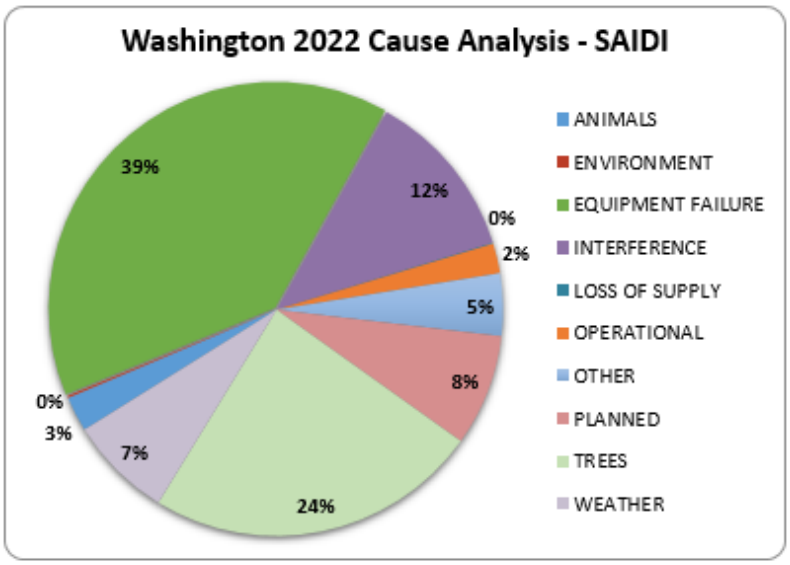
2022 Sunnyside Customer Count:	24,993
2022 Walla Walla Customer Count:	28,298
2022 Yakima Customer Count:	83,549
2022 Washington Customer Count:	**137,857**

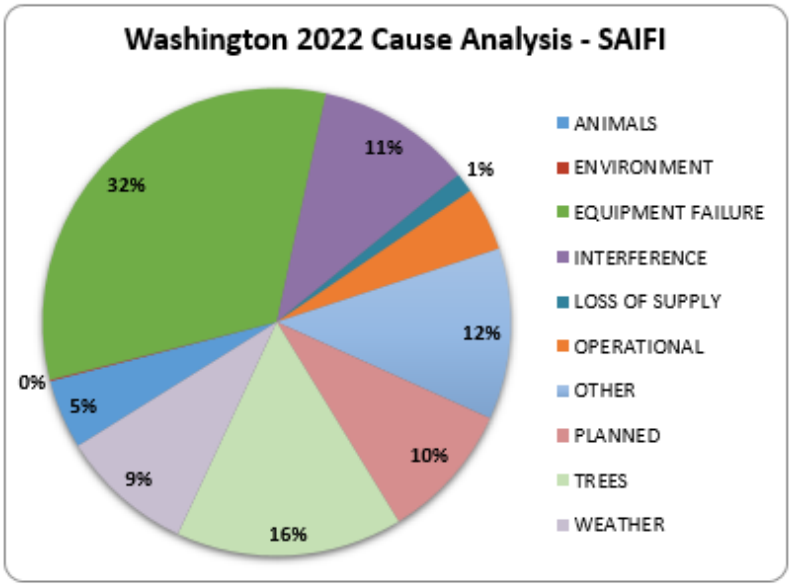
3.5 Cause Code Analysis

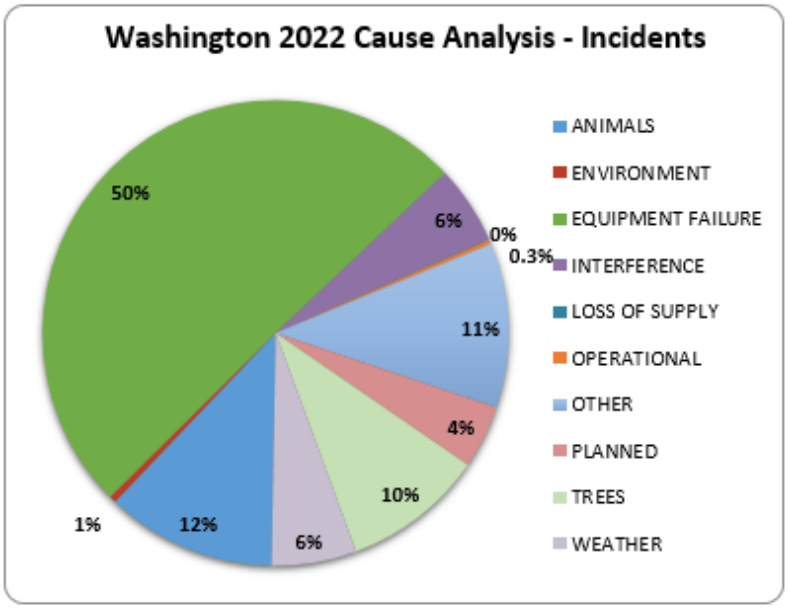
The table and charts below break out the number of outage incidents, customer minutes lost (CML), and sustained interruptions by cause code. CML is related to SAIDI (average outage duration); Sustained Incidents are related to SAIFI (average outage frequency). Certain types of outages typically result in high duration, but are infrequent, such as Loss of Supply outages. Others tend to be more frequent but are 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.

Washington Cause Analysis - Underlying 1/1/2022 - 12/31/2022					
Direct Cause	**Customer Minutes Lost for Incident**	**Customers in Incident Sustained**	**Sustained Incident Count**	**SAIDI**	**SAIFI**
ANIMALS	142,350	1,096	115	1.03	0.008
BIRD MORTALITY (NON-PROTECTED SPECIES)	154,443	2,517	113	1.12	0.018
BIRD MORTALITY (PROTECTED SPECIES) (BMTS)	589	4	4	0.00	0.000
BIRD NEST (BMTS)	2,236	3	2	0.02	0.000
BIRD SUSPECTED, NO MORTALITY	22,408	566	19	0.16	0.004
ANIMALS	**322,025**	**4,186**	**253**	**2.34**	**0.030**
FIRE/SMOKE (NOT DUE TO FAULTS)	11,686	47	7	0.08	0.000
FLOODING	6,146	34	3	0.04	0.000
ENVIRONMENT	**17,832**	**81**	**10**	**0.13**	**0.001**
B/O EQUIPMENT	1,559,472	9,838	458	11.31	0.071
DETERIORATION OR ROTTING	1,192,993	5,169	442	8.65	0.037
NEARBY FAULT	8,337	103	7	0.06	0.001
OVERLOAD	324,248	2,616	56	2.35	0.019
POLE FIRE	1,956,457	10,432	116	14.19	0.076
EQUIPMENT FAILURE	**5,041,507**	**28,158**	**1,079**	**36.57**	**0.204**
DIG-IN (NON-PACIFICORP PERSONNEL)	1,057	5	5	0.01	0.000
OTHER INTERFERING OBJECT	12,903	144	11	0.09	0.001
OTHER UTILITY/CONTRACTOR	238,593	2,267	13	1.73	0.016
VANDALISM OR THEFT	906	5	5	0.01	0.000
VEHICLE ACCIDENT	1,303,646	6,950	83	9.46	0.050
INTERFERENCE	**1,557,104**	**9,371**	**117**	**11.30**	**0.068**
LOSS OF TRANSMISSION LINE	7,060	1,180	1	0.05	0.009
LOSS OF SUPPLY	**7,060**	**1,180**	**1**	**0.05**	**0.009**
FAULTY INSTALL	178	1	1	0.00	0.000
IMPROPER PROTECTIVE COORDINATION	45,423	1,915	2	0.33	0.014
INCORRECT RECORDS	812	2	2	0.01	0.000
INTERNAL CONTRACTOR	227,560	1,912	1	1.65	0.014
OPERATIONAL	**273,972**	**3,830**	**6**	**1.99**	**0.028**
OTHER, KNOWN CAUSE	110,066	1,609	78	0.80	0.012
UNKNOWN	461,646	8,690	167	3.35	0.063
OTHER	**571,712**	**10,299**	**245**	**4.15**	**0.075**
CONSTRUCTION	695	14	2	0.01	0.000
EMERGENCY DAMAGE REPAIR	359,057	4,141	74	2.60	0.030
ENERGY EMERGENCY INTERRUPTION	9,195	189	1	0.07	0.001
INTENTIONAL TO CLEAR TROUBLE	655,626	3,928	17	4.76	0.028
PLANNED	**1,024,572**	**8,272**	**94**	**7.43**	**0.060**
TREE - NON-PREVENTABLE	1,929,462	10287	194	14.00	0.075
TREE - TRIMMABLE	1,132,364	3346	16	8.21	0.024
TREES	**3,061,826**	**13,633**	**210**	**22.21**	**0.099**
FREEZING FOG & FROST	240	1	1	0.00	0.000
ICE	79,230	1,595	12	0.57	0.012
LIGHTNING	112,646	2,362	34	0.82	0.017
SNOW, SLEET AND BLIZZARD	189,089	580	25	1.37	0.004
WIND	563,233	3,437	54	4.09	0.025
WEATHER	**944,438**	**7,975**	**126**	**6.85**	**0.058**
Washington Including Prearranged	**12,822,050**	**86,985**	**2,141**	**93.01**	**0.631**
Washington Prearranged	**-**	**-**	**-**	**-**	**0.000**

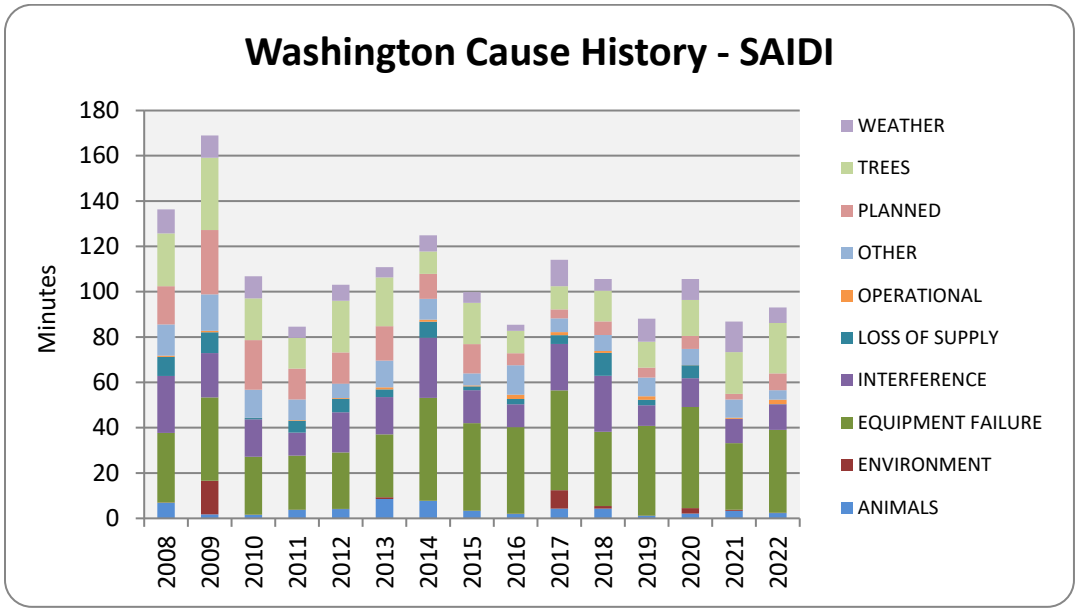
Washington Underlying Results	**12,822,050**	**86,985**	**2,141**	**93.01**	**0.631**

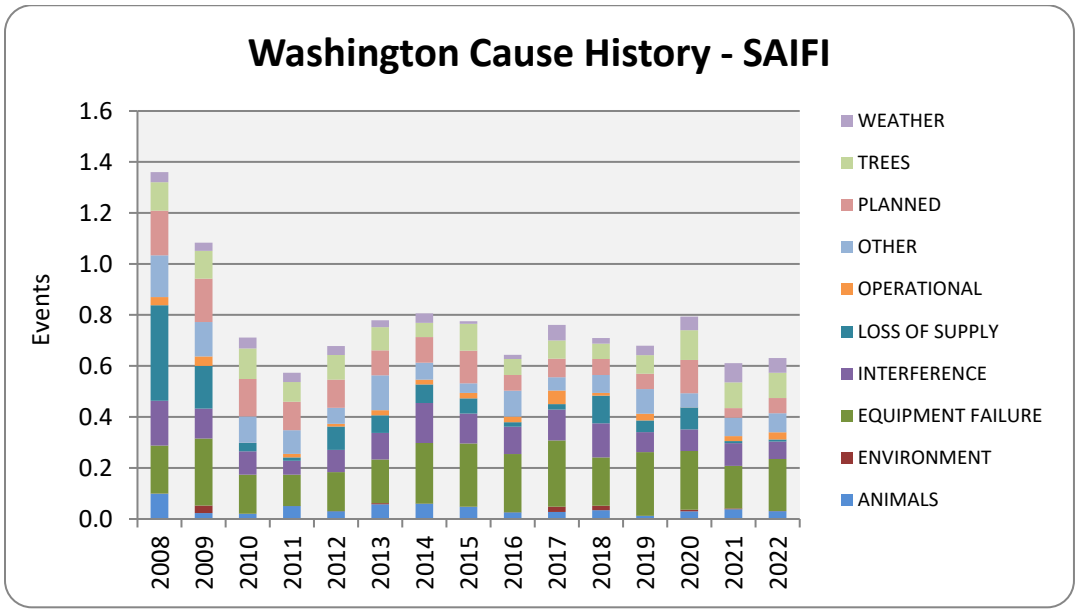

Washington 2022 Cause Analysis - SAIDI
39%
12%
0%
2%
5%
8%
0%
3%
7%
24%
ANIMALS
ENVIRONMENT
EQUIPMENT FAILURE
INTERFERENCE
LOSS OF SUPPLY
OPERATIONAL
OTHER
PLANNED
TREES
WEATHER


Washington 2022 Cause Analysis - SAIFI
32%
11%
1%
12%
0%
5%
10%
9%
16%
ANIMALS
ENVIRONMENT
EQUIPMENT FAILURE
INTERFERENCE
LOSS OF SUPPLY
OPERATIONAL
OTHER
PLANNED
TREES
WEATHER


Washington 2022 Cause Analysis - Incidents
50%
6%
0%
0.3%
11%
4%
10%
1%
12%
6%
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, staffed 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 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 of whether 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
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
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
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
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 number of customers exposed to 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.

As the Company has reported in the past, it continues to look for strategies to improve its service delivery to its customers. In 2022 this included expansion of work done under its pole fire mitigation program in addition to energy equity data supporting selection of targeted reliability. The pole fire mitigation includes targeted inspection of specific assets with replacement or repair for facilities that have been more problematic. Energy equity data, including that associated with the state's Clean Energy Implementation Plan, were incorporated into selection of improvement projects.

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 2024 circuits in Section 3.7.

Substation	Circuit Name	Circuit	2023 Assessment	Baseline CPI99
WHITE SWAN	PAHTOE	5Y690	Identified as a worst performing circuit and a circuit that is in a disadvantaged community. 5Y690 will undergo circuit hardening, specifically animal guard in 2023.	99
NOB HILL	AIRPORT	5Y338	Identified as a worst performing circuit. 5Y338 will receive additional protection in the form of Fusesavers and fuses in 2023.	94
TOPPENISH	WEST RURAL	5Y243	Identified as a worst performing circuit and a circuit that is in a disadvantaged community. 5Y243 will undergo circuit hardening, specifically animal guard in 2023.	68
WAITSBURG	PRESCOTT	5W305	Identified as a worst performing circuit and a circuit that is in a disadvantaged community. 5W305 will receive additional protection in zones one and two in 2023.	65
WAPATO	HARRAH	5Y202	Identified as a worst performing circuit. 5Y202 will receive additional protection in zone 3 and circuit hardening, specifically animal guard.	56

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 period. 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 and are no longer shown in the performance update below.

WASHINGTON WORST PERFORMING CIRCUITS	BASELINE	Performance 12/31/2022
PROGRAM YEAR 2023		
Fraley 5Y246	33	46
Jefferson 5Y352	97	84
Windward 4W22	79	74
East Valley 5Y441	109	158
Nile 4Y1	385	348
TARGET SCORE = 112	141	114
PROGRAM YEAR 2022		
Freeway 5Y356	22	21
Mall 5Y466	31	2
Sheller 5Y314	43	18
Touchet 5W124	73	70
Twelfth Ave. 5Y197	13	81
TARGET SCORE = 29	36	38
PROGRAM YEAR 2021		
Donald 5Y330	117	63
Nikola 5Y435	65	18
Pippin 5Y860	78	52
Stone Creek 5W19	63	20
Waneta 5Y316	67	17
GOAL MET! TARGET SCORE = 63	78	34
PROGRAM YEAR 2020		
Bonneview 5Y302	44	38
Cannery 5W323	50	63
Gibson Rd 5Y601	126	16
Peach 5Y498	34	9
Satus 5Y205	80	132
GOAL MET! TARGET SCORE = 53	**69**	52
PROGRAM YEAR 2019		
GRANGER 5Y357	114	51
HAY 5Y131	191	82
MABTON EXPR 5Y174	113	29
WESLEY 5Y218	135	109
ZILLAH 5Y245	280	26
GOAL MET! TARGET SCORE = 133	**167**	59
PROGRAM YEAR 2018		
Dazet 5Y434	30	13
Green Park 5W116	53	37
Harrah 5Y202	113	56
Orion 5Y577	89	26
Reser Road 5W16	50	85
GOAL MET! TARGET SCORE = 57	**67**	43

WASHINGTON WORST PERFORMING CIRCUITS	BASELINE	Performance 12/31/2022
PROGRAM YEAR 2017		
GURLEY 5Y358 (circuit split into 5Y850 and 5Y854)	119	28, 37
BOYER 5W118	48	66
FERNDALE 5W106	88	65
NILE 4Y1	301	348
4TH St. 5Y468	91	36
GOAL MET! TARGET SCORE = 104	**129**	**97**
PROGRAM YEAR 2016		
DRAPER 5Y156	162	38
PINE STREET (BOWMAN) 5W150	26	51
RUSSEL CREEK 5W121	23	35
TAUMARSON FEEDER 5W50	29	28
VAN BELLE 5Y312	149	30
GOAL MET! TARGET SCORE = 62	**78**	**36**

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 2022 = 83**%**					
January	February	March	April	May	June
79%	82%	57%	92%	92%	82%
July	August	September	October	November	December
80%	80%	92%	83%	87%	92%

3.9 Telephone Service and Response to Commission Complaints

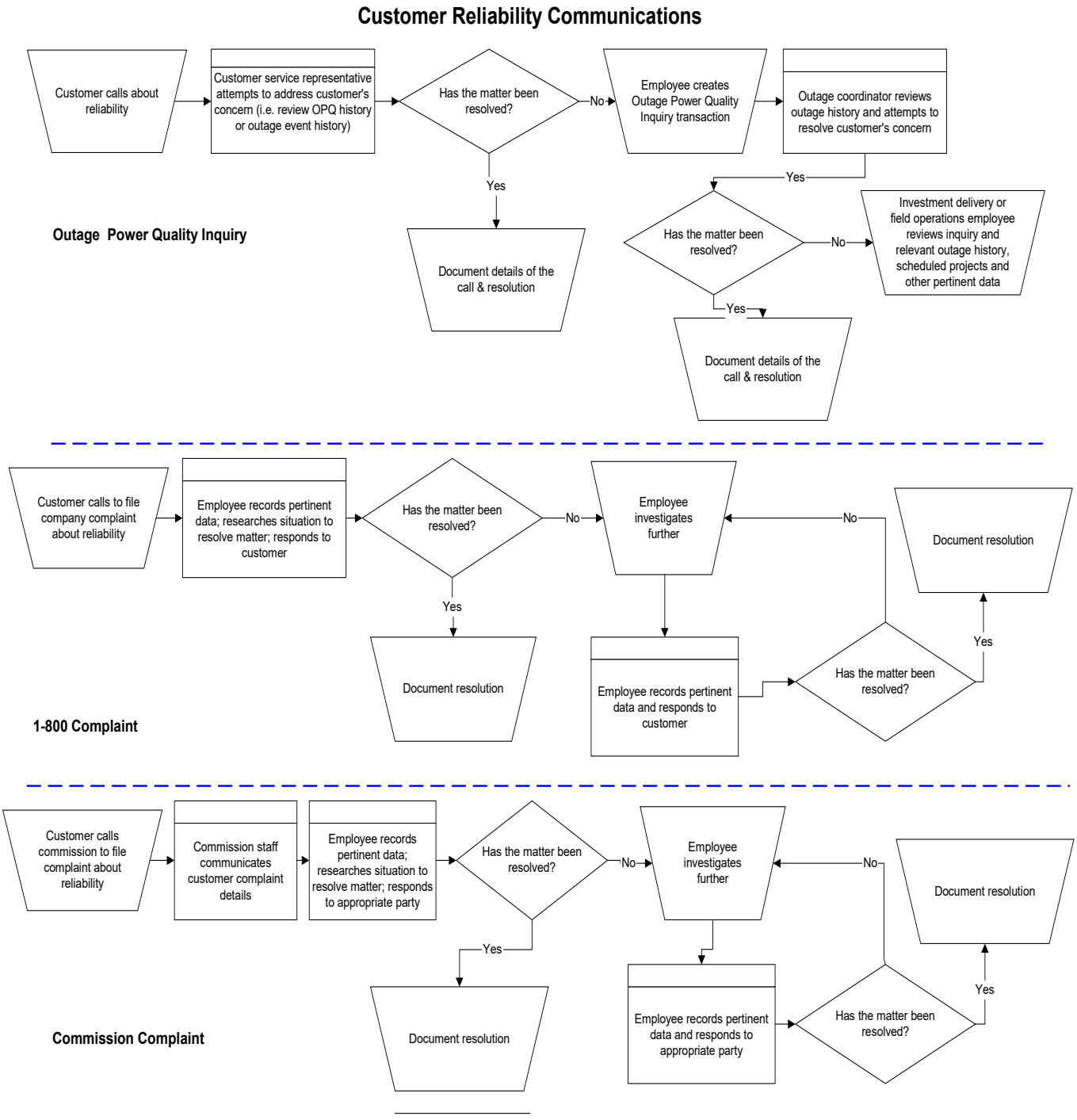
COMMITMENT	GOAL	PERFORMANCE
PS5-Answer calls within 30 seconds	80%	82%
PS6a) Respond to commission complaints within 3 days[11]	95%	100%
PS6b) Respond to commission complaints regarding service disconnects within 4 hours	95%	100%
PS6c) Resolve commission complaints within 30 days	95%	100%

[11] 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.



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 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 were no Informal Complaints received by the company in the reporting period.

- **Commission Complaints**

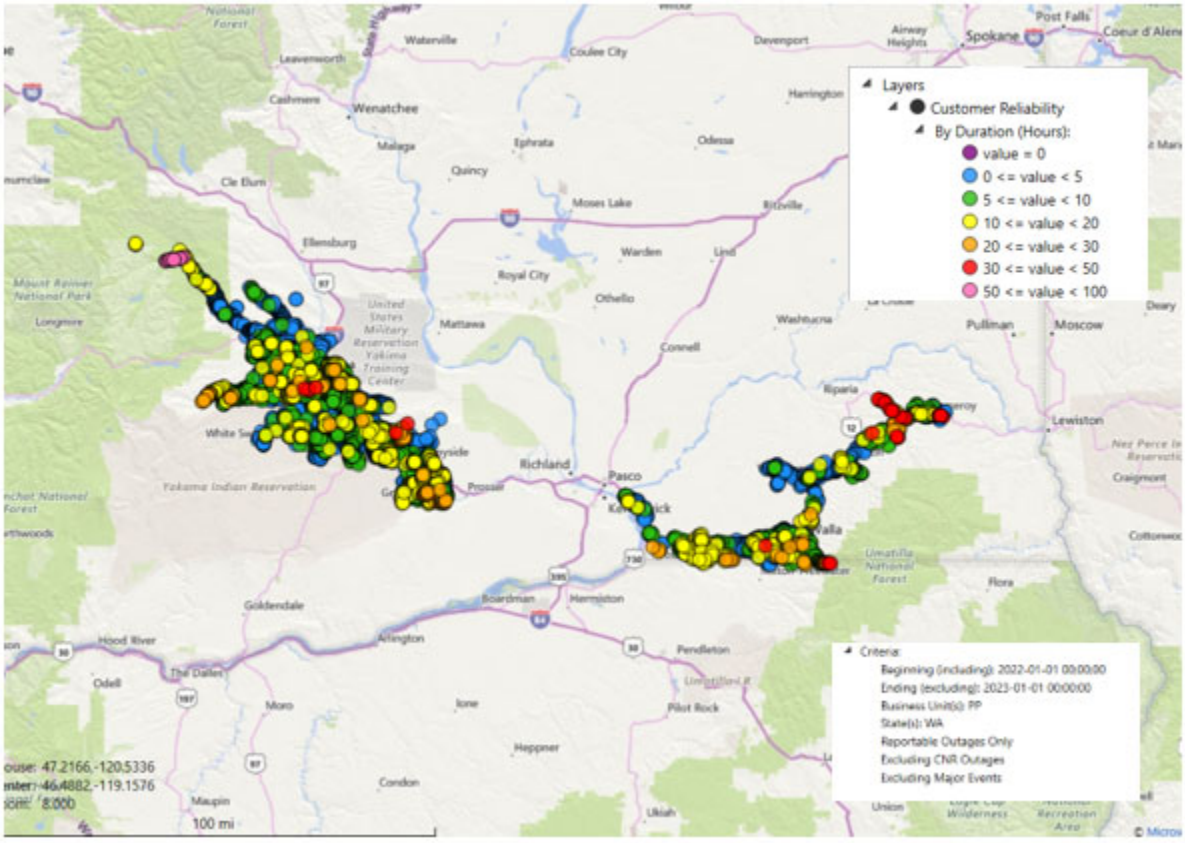
Received	Complaint Type	Site Address	Site ID	Sub- Complaint type	Summary
7/29/2022	Reliability and Restoration	209 N Ahtanum Ave	957679807	Frequency of Outages	The customer was concerned with the frequency of outages in recent months. An outage history was provided showing one sustained outage on July 28, 2022, and a previous sustained outage on May 2, 2021.
9/6/2022	Reliability and Restoration	304 W Selah Ave	847389319	Planned Outage	The customer claimed to not have been notified of a planned outage scheduled for this day.
11/15/2022	Reliability and Restoration	100 Hailey Pl	140754316	Duration of Outages	The customer was concerned an outage in the previous year lasted 48 hours and then a recent outage lasted over 12 hours.

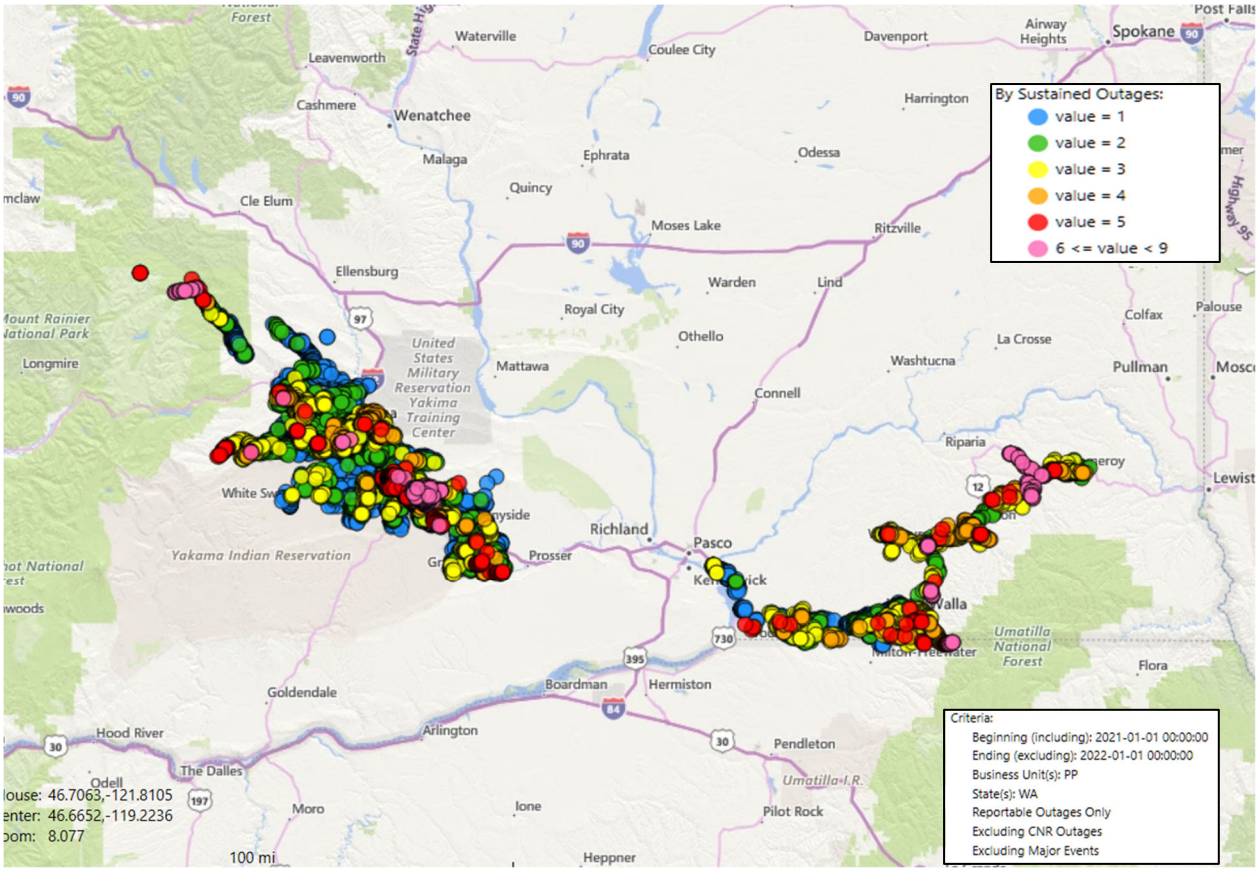
5 WASHINGTON RELIABILITY RESULTS DURING 2022

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.

There are a few things the reader should note. First, this depiction exceeds the requirements of the reporting rule, although it is helpful to the Company in selecting areas of reliability concern. Second, in line with reporting rules, sustained interruptions are shown. This measure shows how many sustained outages a service transformer has experienced. 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

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value = 3
value = 4
value = 5
6 <= value < 9
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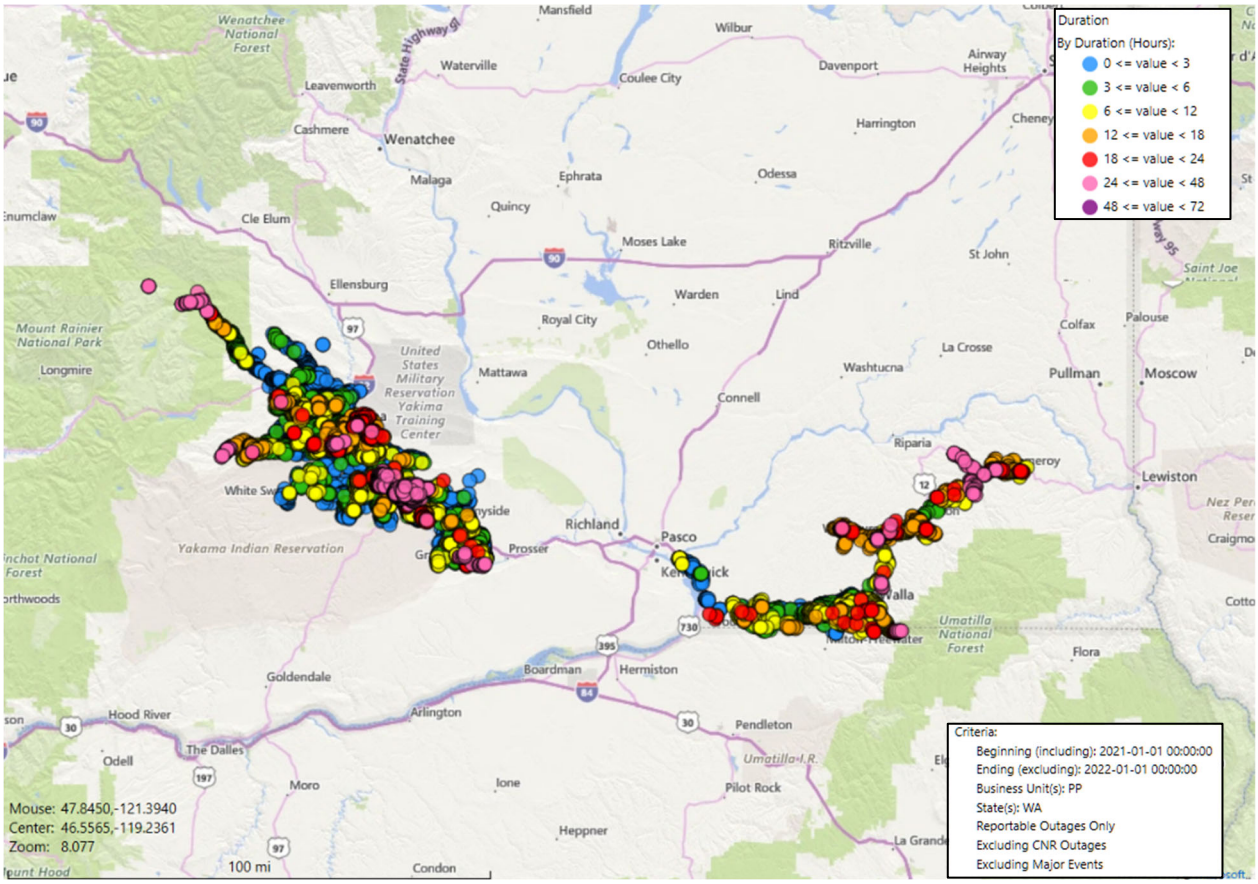
Ending (excluding): 2022-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Spokane
Davenport
Coulee City
Waterville
Wenatchee
Leavenworth
Cashmere
Ephrata
Quincy
Moses Lake
Ritzville
Odessa
Harrington
Ellensburg
Cle Elum
Warden
Lind
Royal City
Othello
Mattawa
Connell
Washtucna
La Crosse
Colfax
Pullman
Palouse
Longmire
United States Military Reservation Yakima Training Center
Yakama Indian Reservation
Richland
Pasco
Prosser
Riparia
Walla
Umatilla National Forest
Boardman
Hermiston
Goldendale
Arlington
Hood River
The Dalles
Pendleton
Umatilla I.R.
Pilot Rock
Moro
Ione
Heppner
Flora
Lewist
100 mi


Duration
By Duration (Hours):
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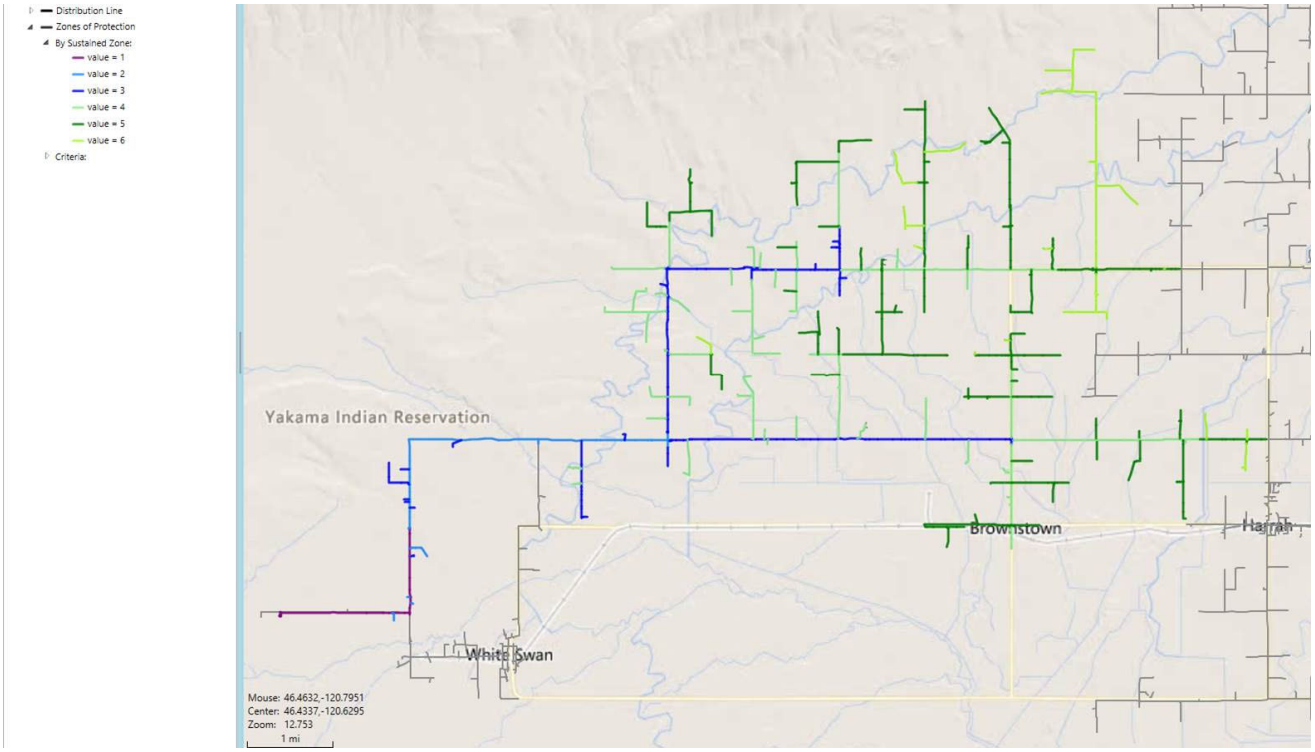
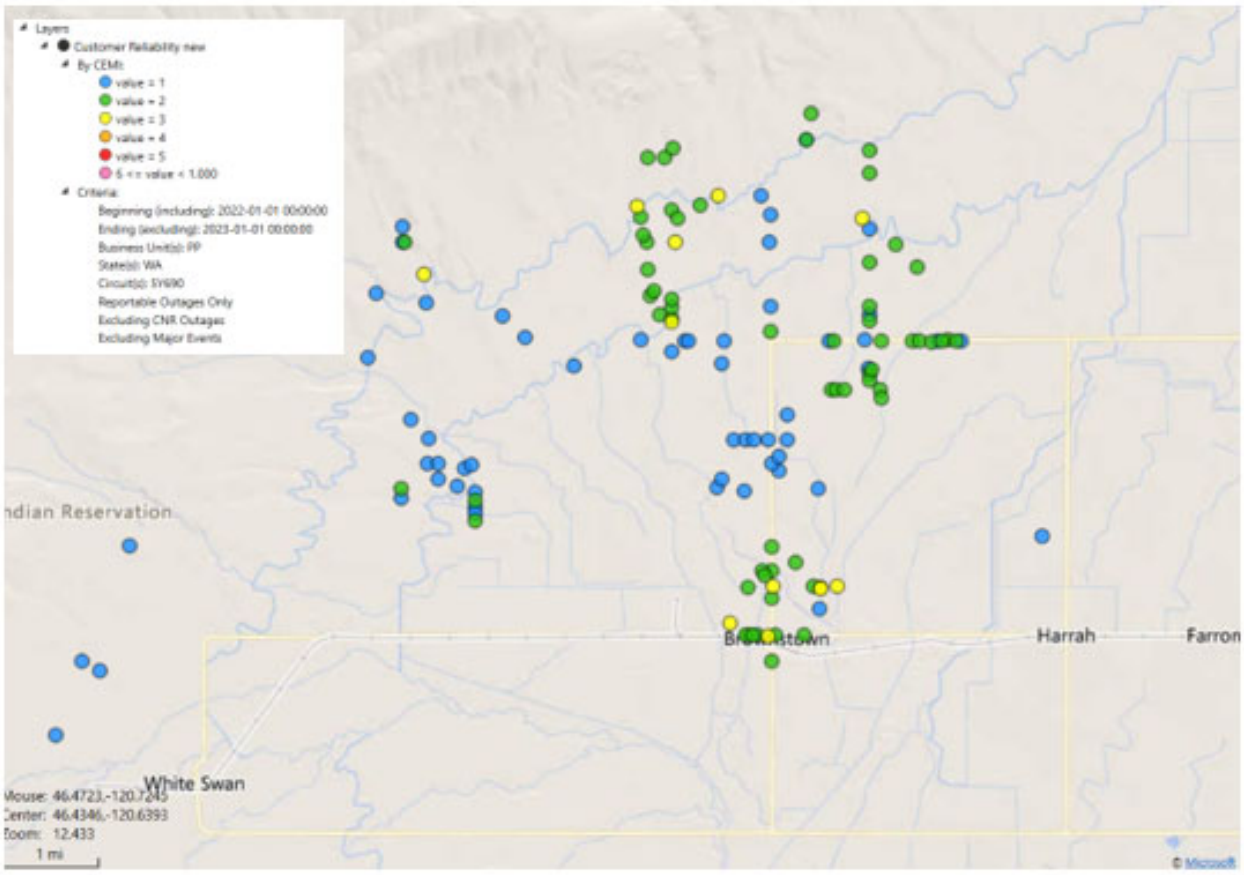
3 <= value < 6
6 <= value < 12
12 <= value < 18
18 <= value < 24
24 <= value < 48
48 <= value < 72
Criteria:
Beginning (including): 2021-01-01 00:00:00
Ending (excluding): 2022-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Mouse: 47.8450,-121.3940
Center: 46.5565,-119.2361
Zoom: 8.077
100 mi
Wenatchee
Leavenworth
Cashmere
Waterville
Mansfield
Wilbur
Coulee City
Davenport
Airway Heights
Harrington
Cheney
Odessa
Ephrata
Malaga
Quincy
Cle Elum
Moses Lake
Ritzville
St John
Ellensburg
Warden
Lind
Royal City
Othello
Mattawa
Connell
Washtucna
La Crosse
Colfax
Palouse
Pullman
Moscow
Lewiston
Riparia
Richland
Pasco
Prosser
Yakama Indian Reservation
Goldendale
Boardman
Hermiston
Arlington
Hood River
The Dalles
Odell
Moro
Ione
Heppner
Pendleton
Pilot Rock
Umatilla I.R.
Umatilla National Forest
Flora
Condon

5.2 5Y690: Pahtoe




Layers
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By CEMI:
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value = 3
value = 4
value = 5
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Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): SY690
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
ndian Reservation
Harrah
Farron
White Swan
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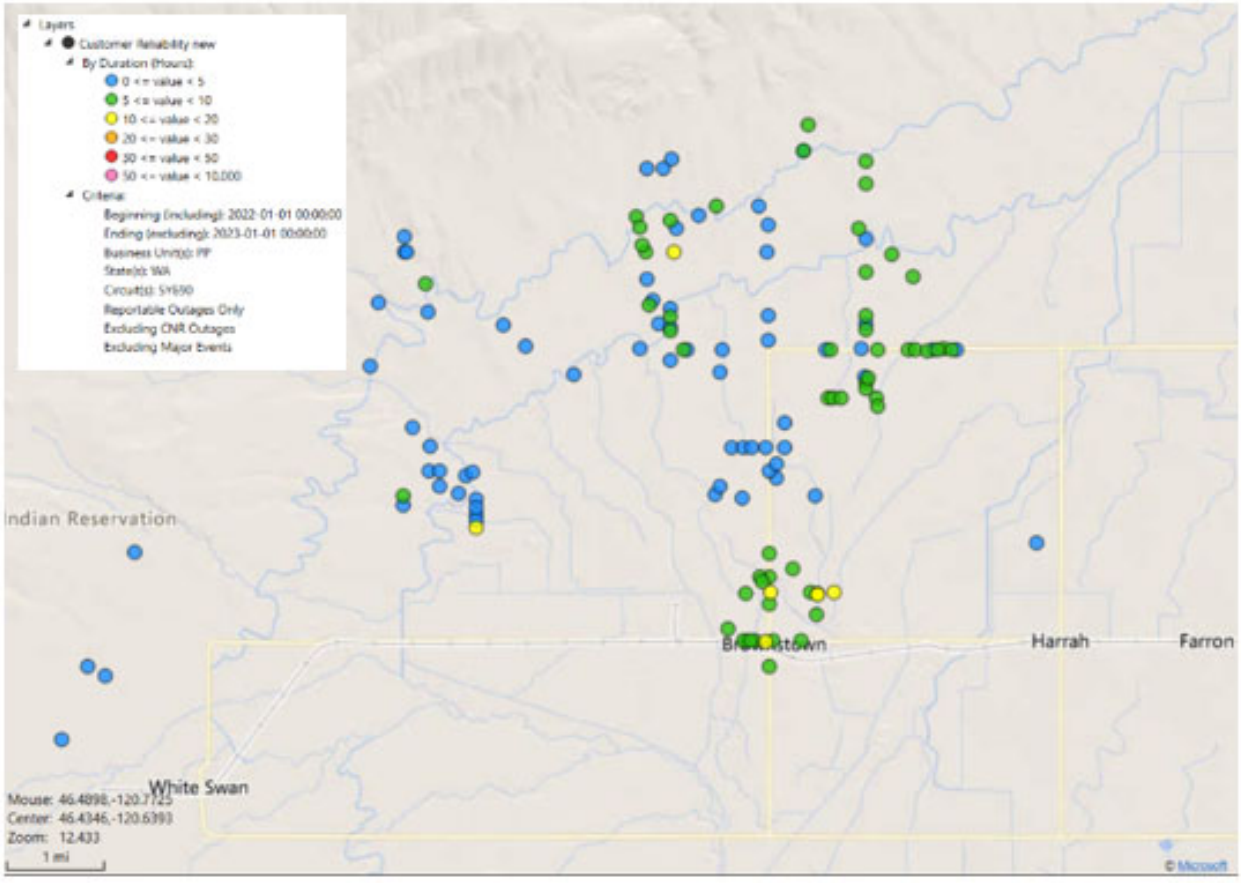
Zoom: 12.433
1 mi
© Microsoft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Customer Reliability new
By Duration (Hours):
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10 <= value < 20
20 <= value < 30
30 <= value < 50
50 <= value < 10,000
Criteria:
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Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): SY690
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
ndian Reservation
Harrah
Farron
White Swan
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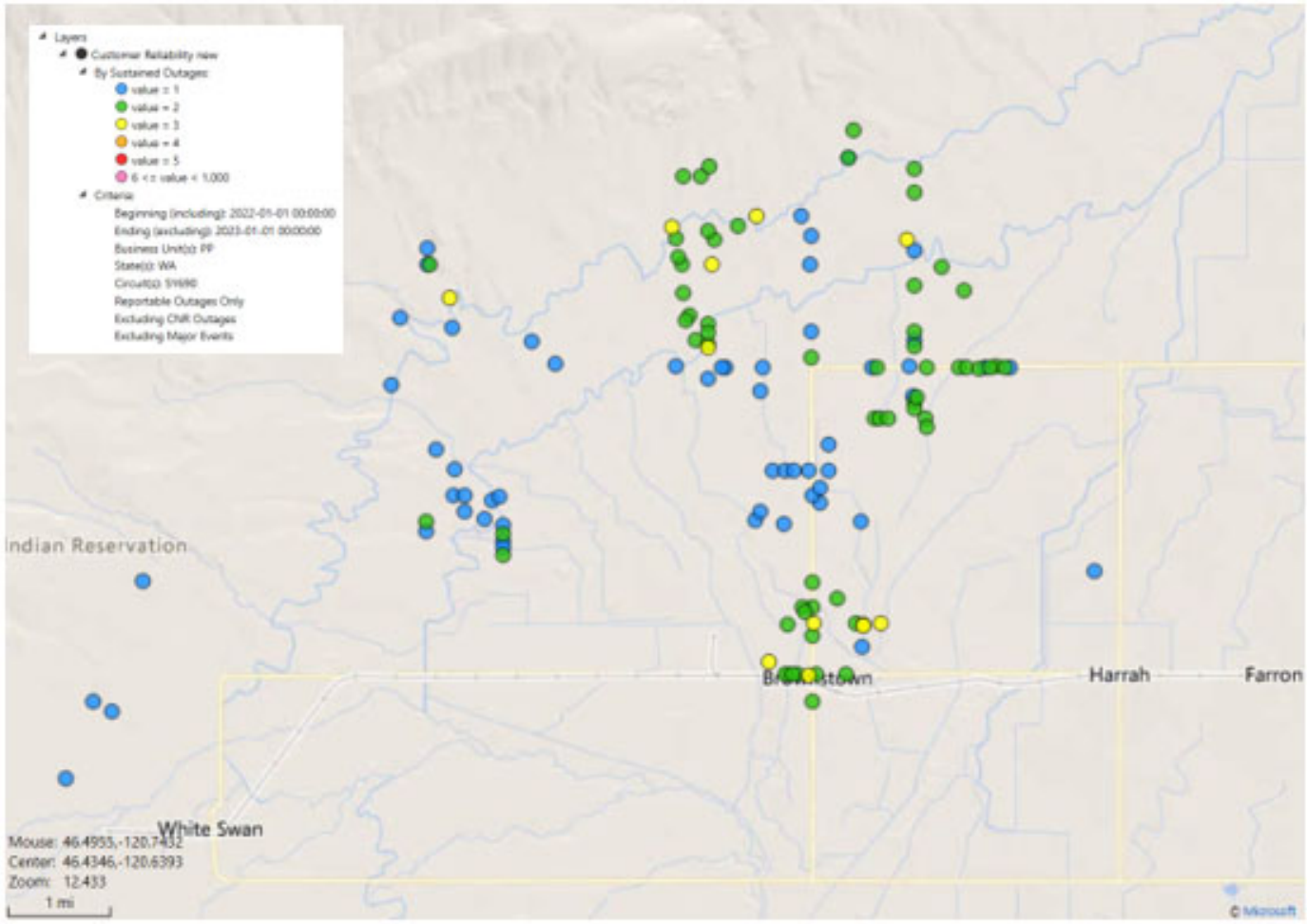
Center: 46.4346,-120.6393
Zoom: 12.433
1 mi
© Microsoft


Layers
Customer Reliability new
By Sustained Outages
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value = 2
value = 3
value = 4
value = 5
6 <= value < 1,000
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Ending (excluding): 2023-01-01 00:00:00
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State(s): WA
Circuit(s): 51690
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
ndian Reservation
Harrah
Farron
White Swan
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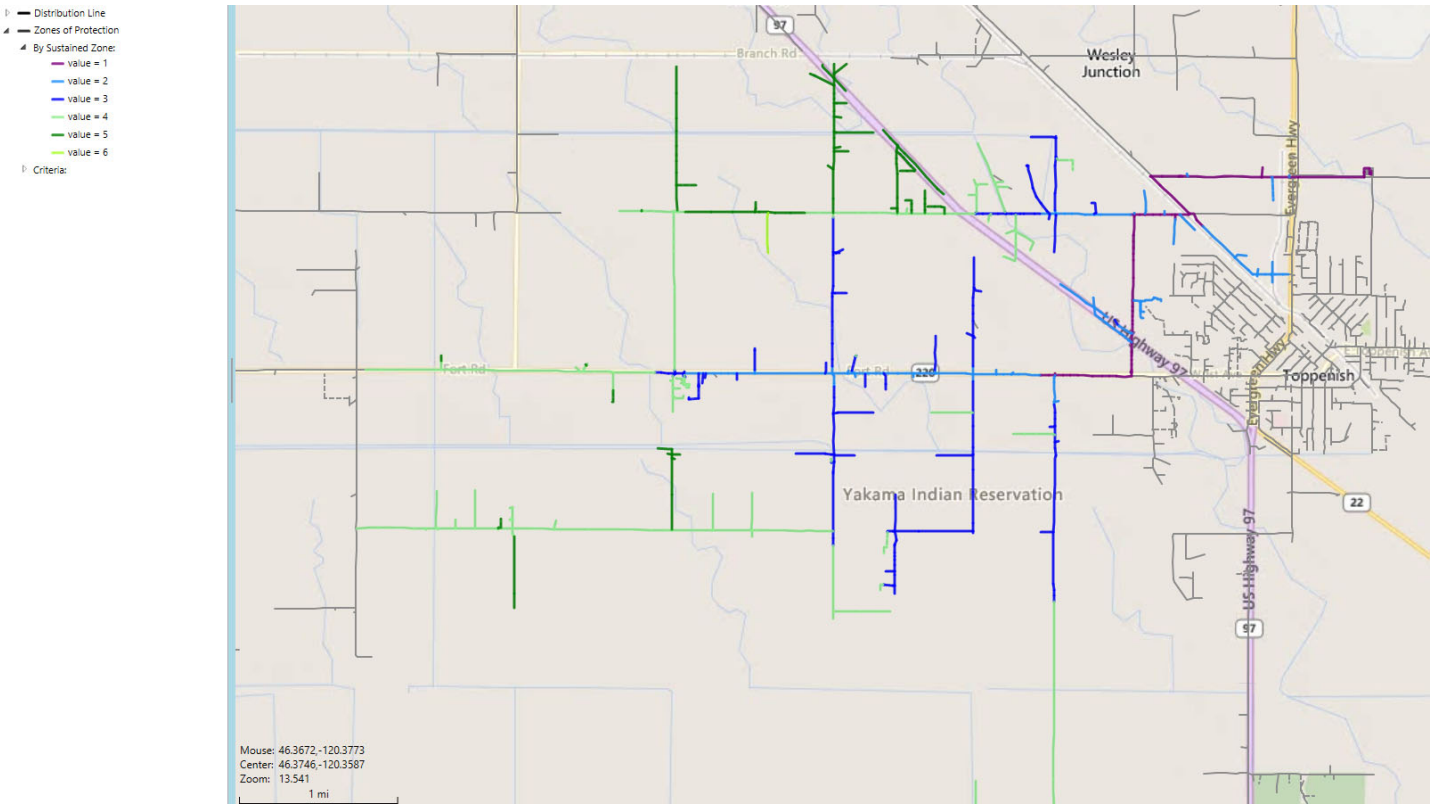
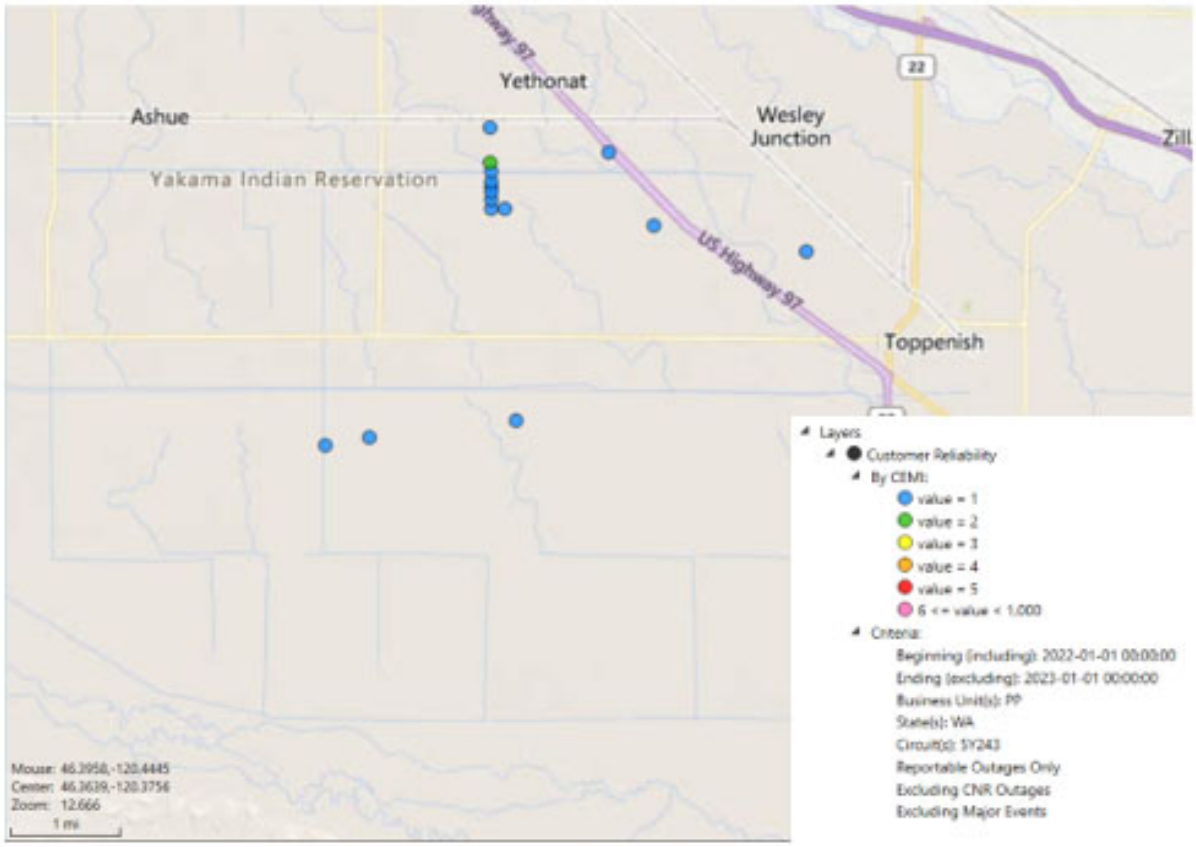
Center: 46.4346,-120.6393
Zoom: 12.433
1 mi
© Microsoft

5.3 5Y243: West Rural




Yethonat
Ashue
Wesley
Junction
Yakama Indian Reservation
US Highway 97
22
Toppenish
Layers
Customer Reliability
By CEMI:
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 1,000
Criteria:
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Ending (excluding): 2023-01-01 00:00:00
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State(s): WA
Circuit(s): SY243
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
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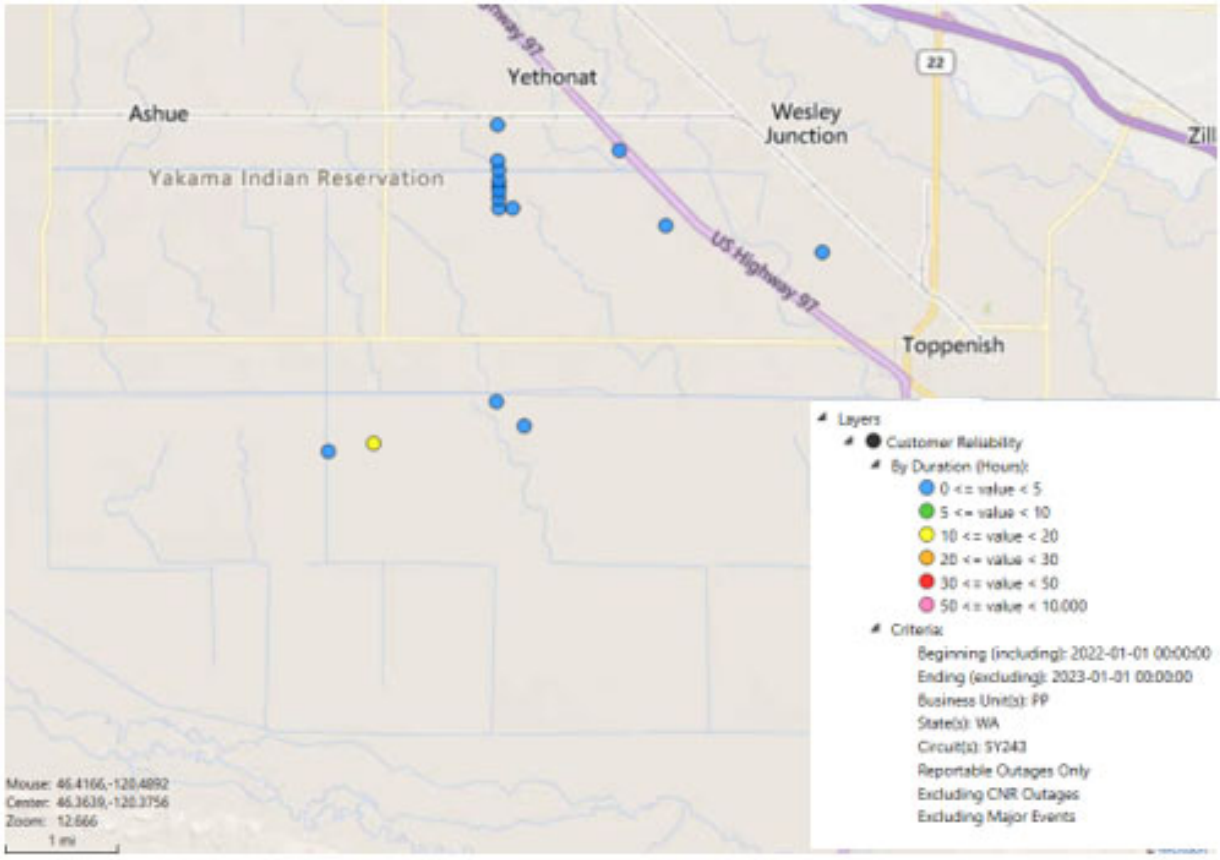
Zoom: 12.666
1 mi


Yethonat
Ashue
Wesley
Junction
Yakama Indian Reservation
US Highway 97
22
Toppenish
Layers
Customer Reliability
By Duration (Hours):
0 <= value < 5
5 <= value < 10
10 <= value < 20
20 <= value < 30
30 <= value < 50
50 <= value < 10,000
Criteria:
Beginning (including): 2022-01-01 00:00:00
Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): SY243
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Excluding CNR Outages
Excluding Major Events
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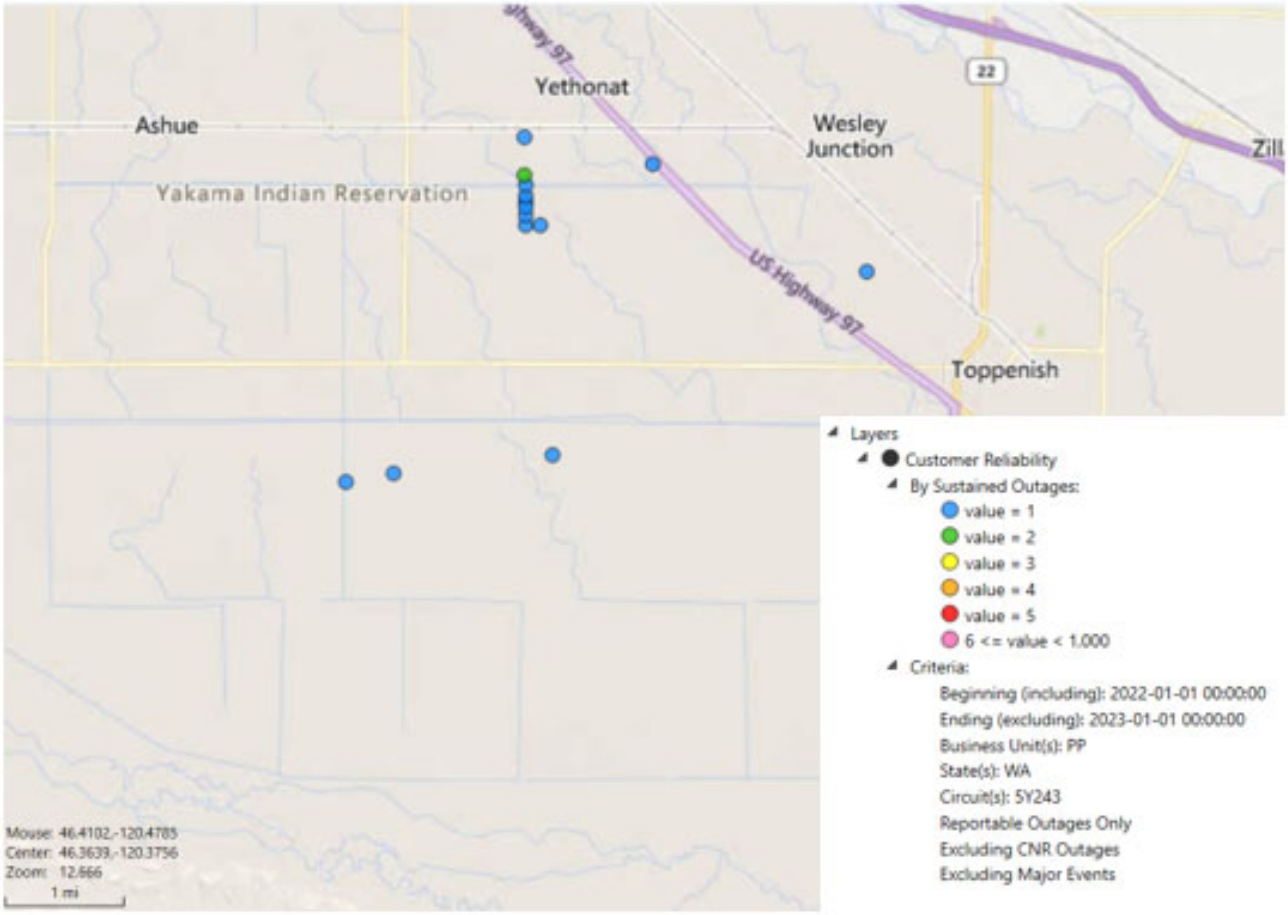
1 mi


Yethonat
Ashue
Wesley
Junction
22
Yakama Indian Reservation
US Highway 97
Toppenish
Layers
Customer Reliability
By Sustained Outages:
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value = 3
value = 4
value = 5
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Ending (excluding): 2023-01-01 00:00:00
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State(s): WA
Circuit(s): 5Y243
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
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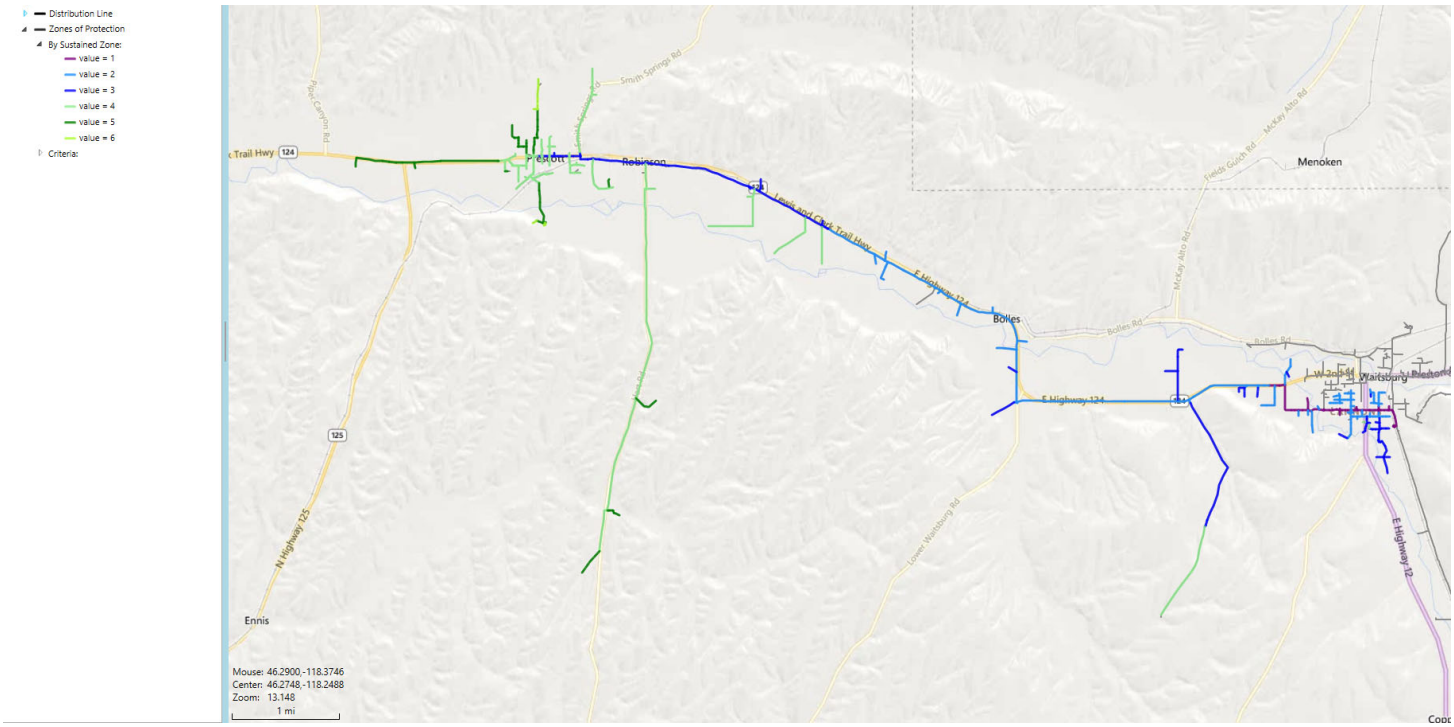
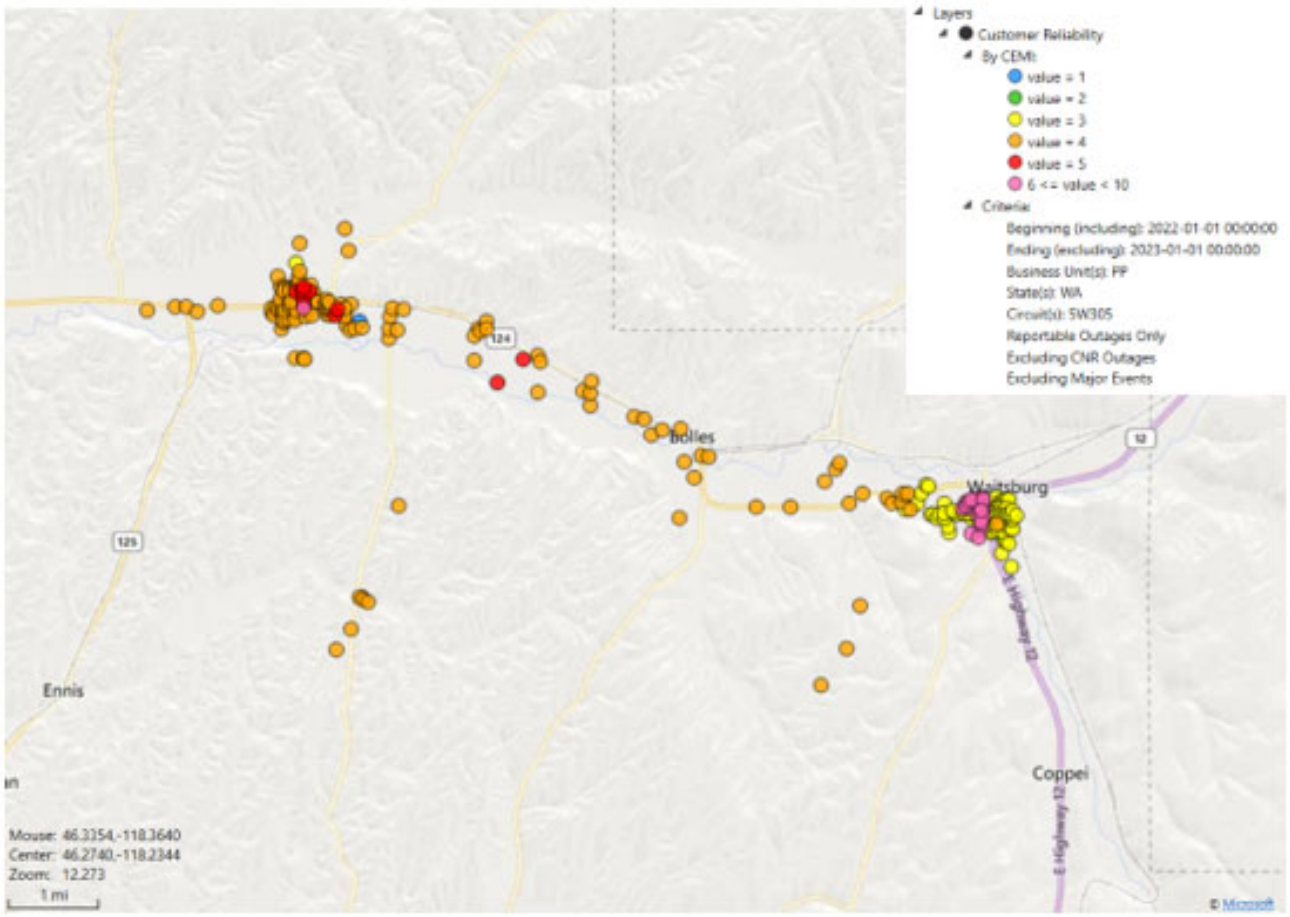
Zoom: 12.666
1 mi

5.4 5W305: Prescott

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Customer Reliability
By CEMI:
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value = 3
value = 4
value = 5
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Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): SW305
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Bolles
Waitsburg
Ennis
Coppei
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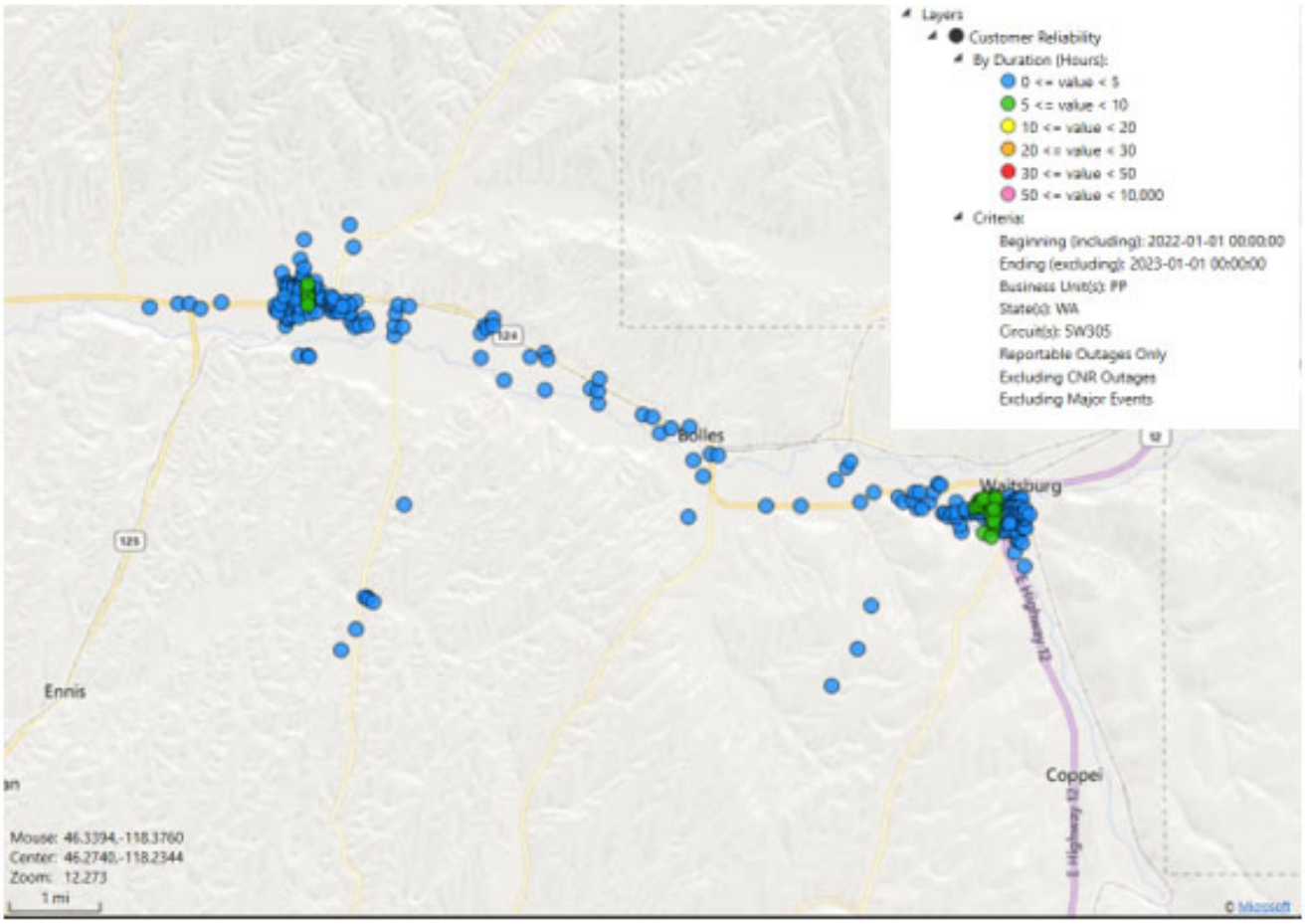
Zoom: 12.273
1 mi
© Microsoft


Layers
Customer Reliability
By Duration (Hours):
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5 <= value < 10
10 <= value < 20
20 <= value < 30
30 <= value < 50
50 <= value < 10,000
Criteria:
Beginning (including): 2022-01-01 00:00:00
Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): SW305
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Bolles
Waitsburg
Ennis
Coppei
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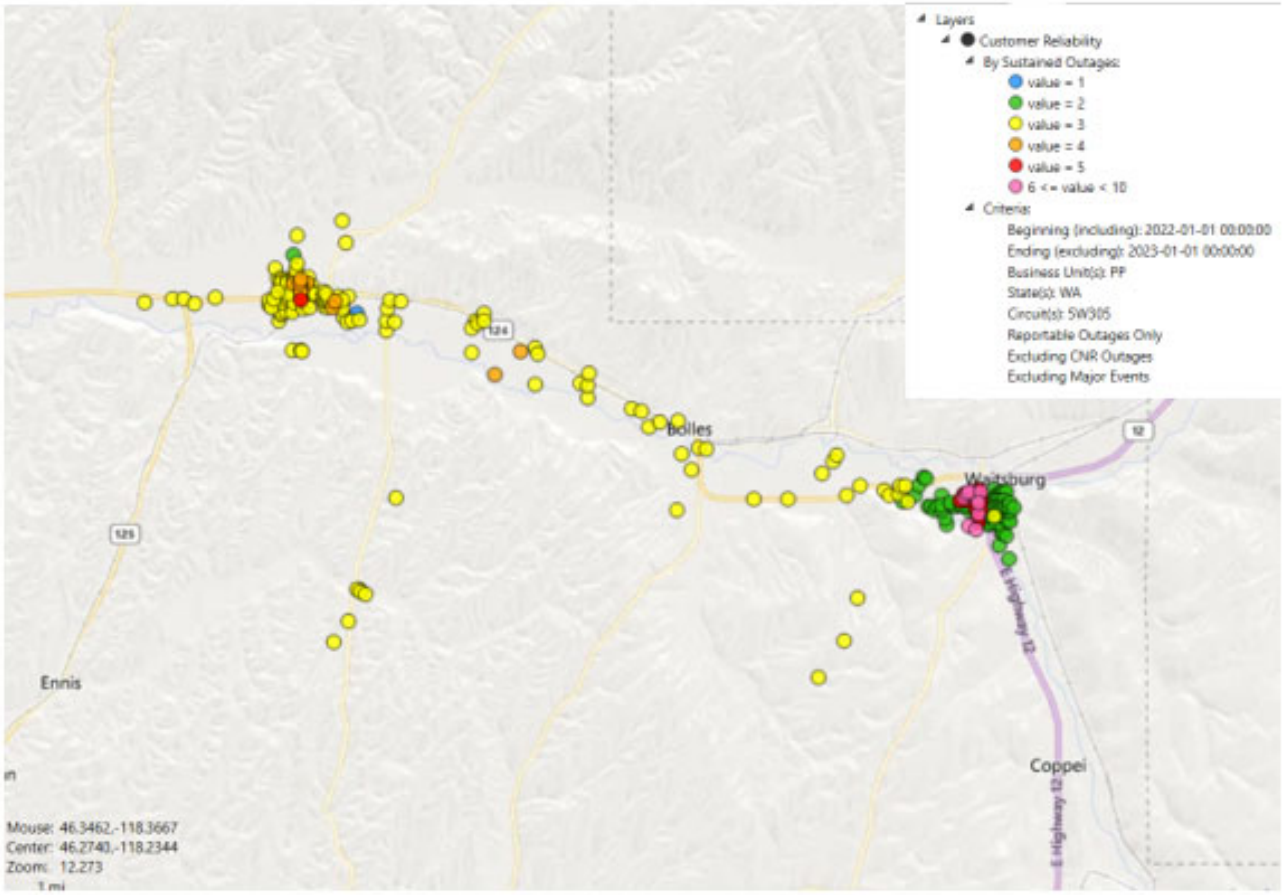
1 mi
© Microsoft


Layers
Customer Reliability
By Sustained Outages:
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value = 2
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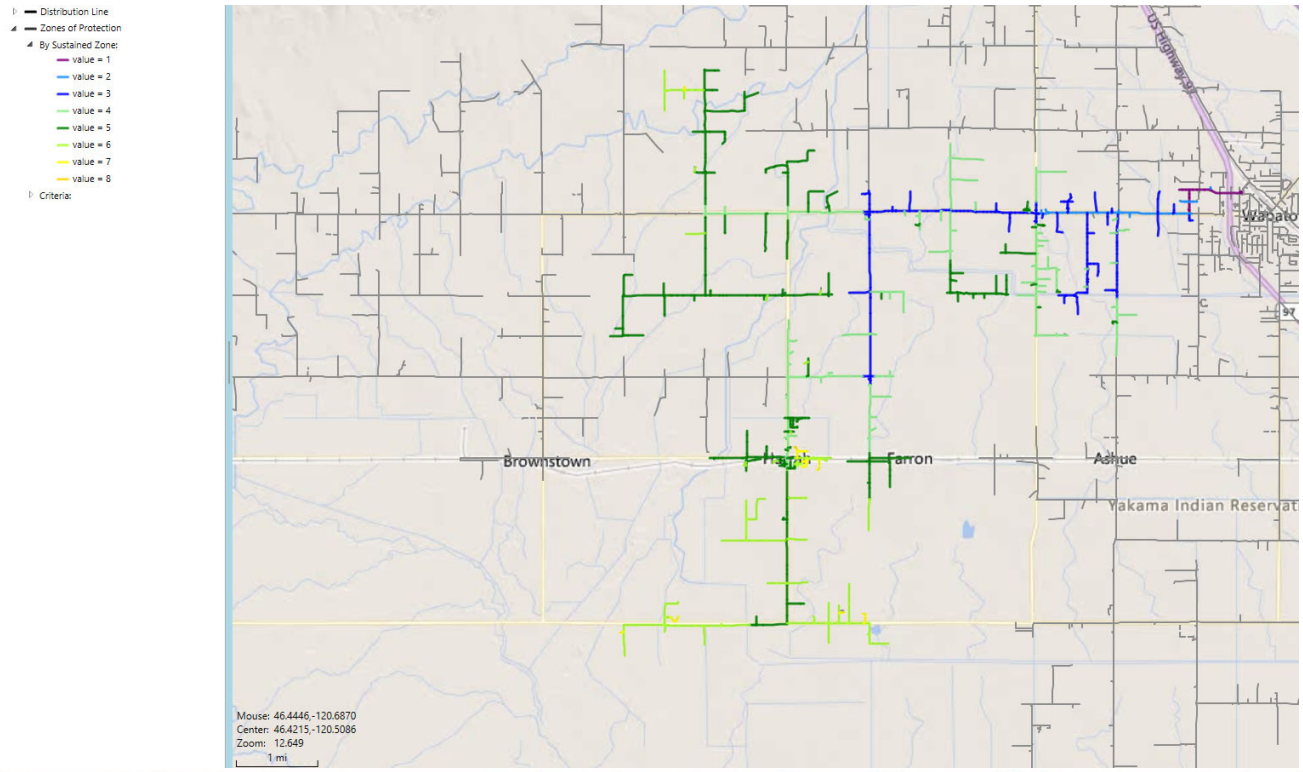
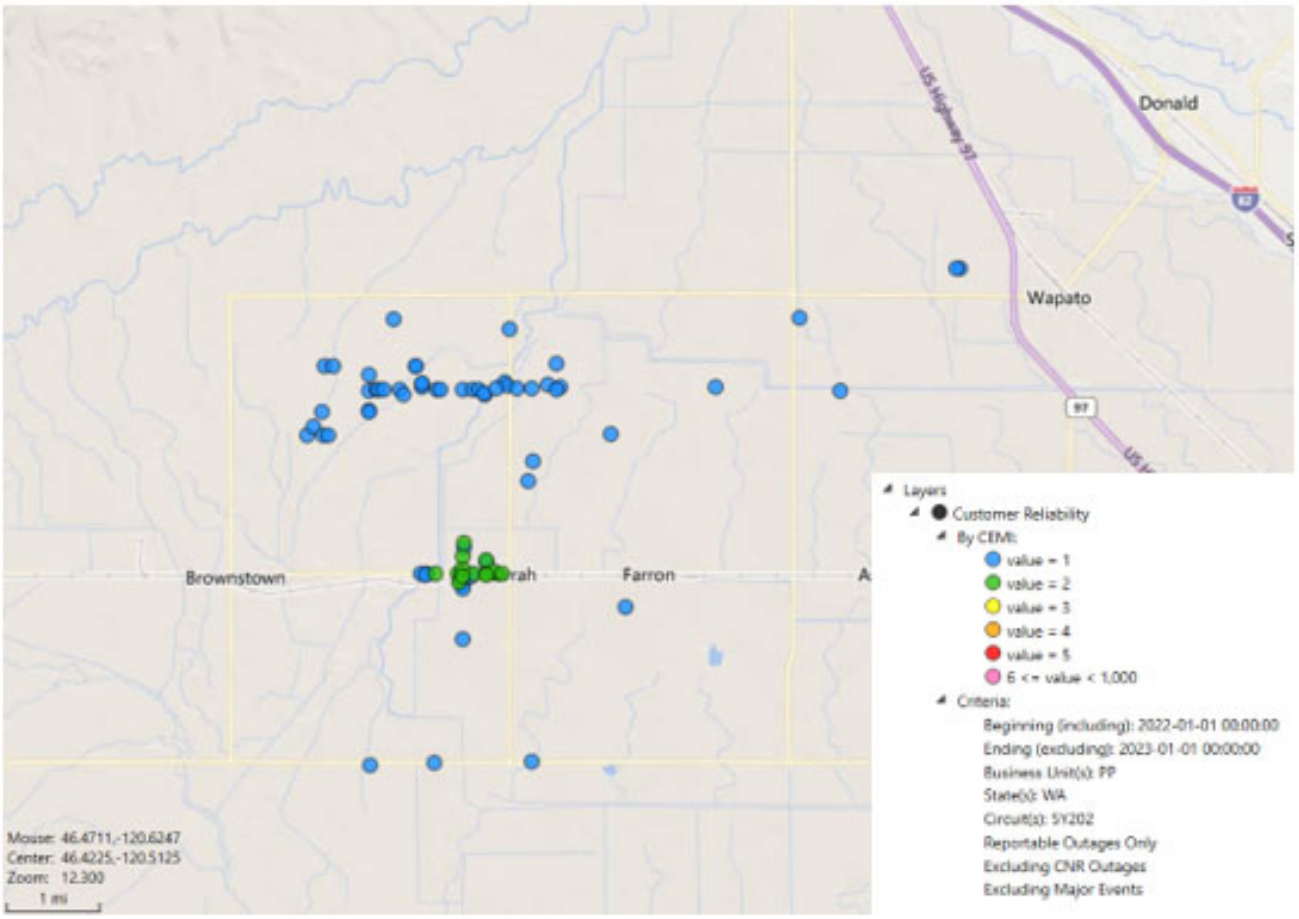
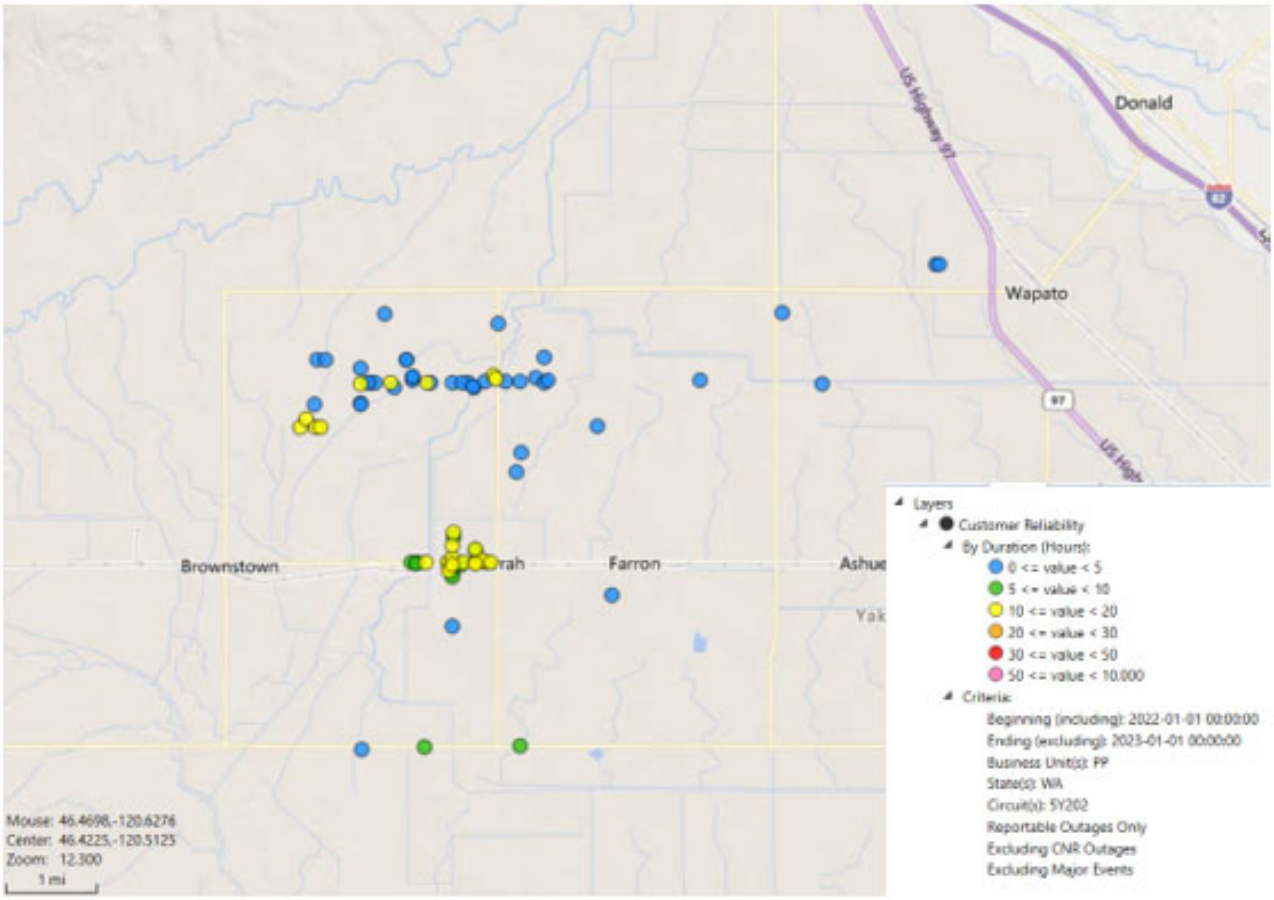
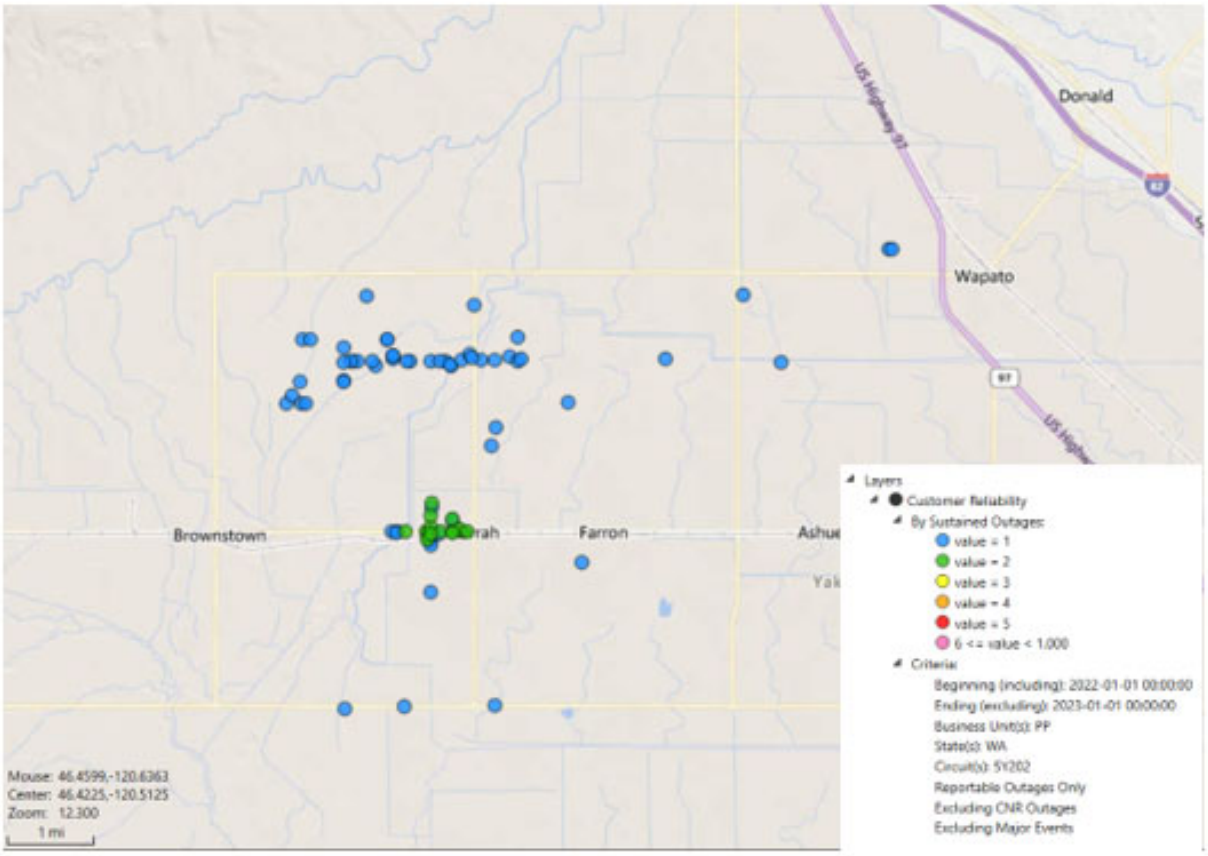
value = 4
value = 5
6 <= value < 10
Criteria:
Beginning (including): 2022-01-01 00:00:00
Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): SW305
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Colfax
Waitsburg
Ennis
Coppei
124
125
12
Mouse: 46.3462,-118.3667
Center: 46.2740,-118.2344
Zoom: 12.273

5.5 5Y202: Harrah

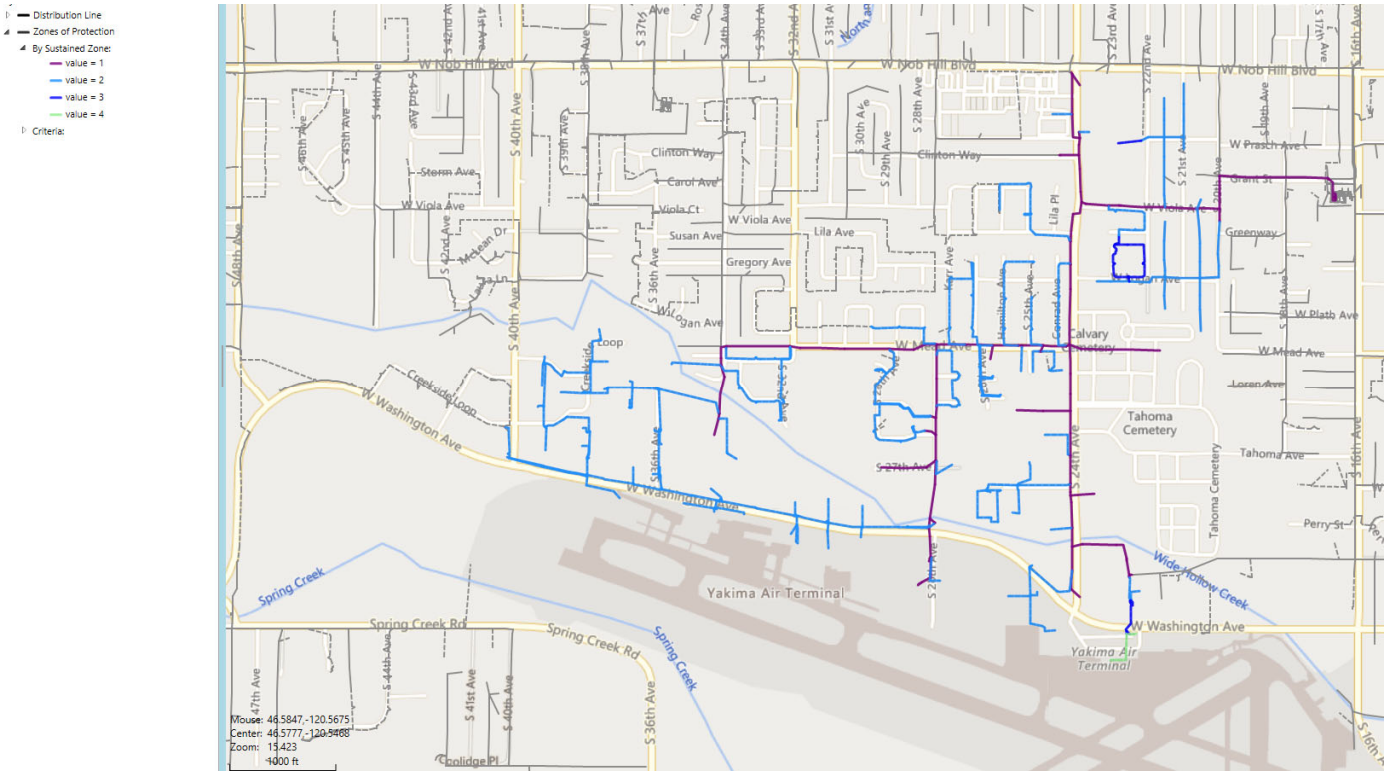


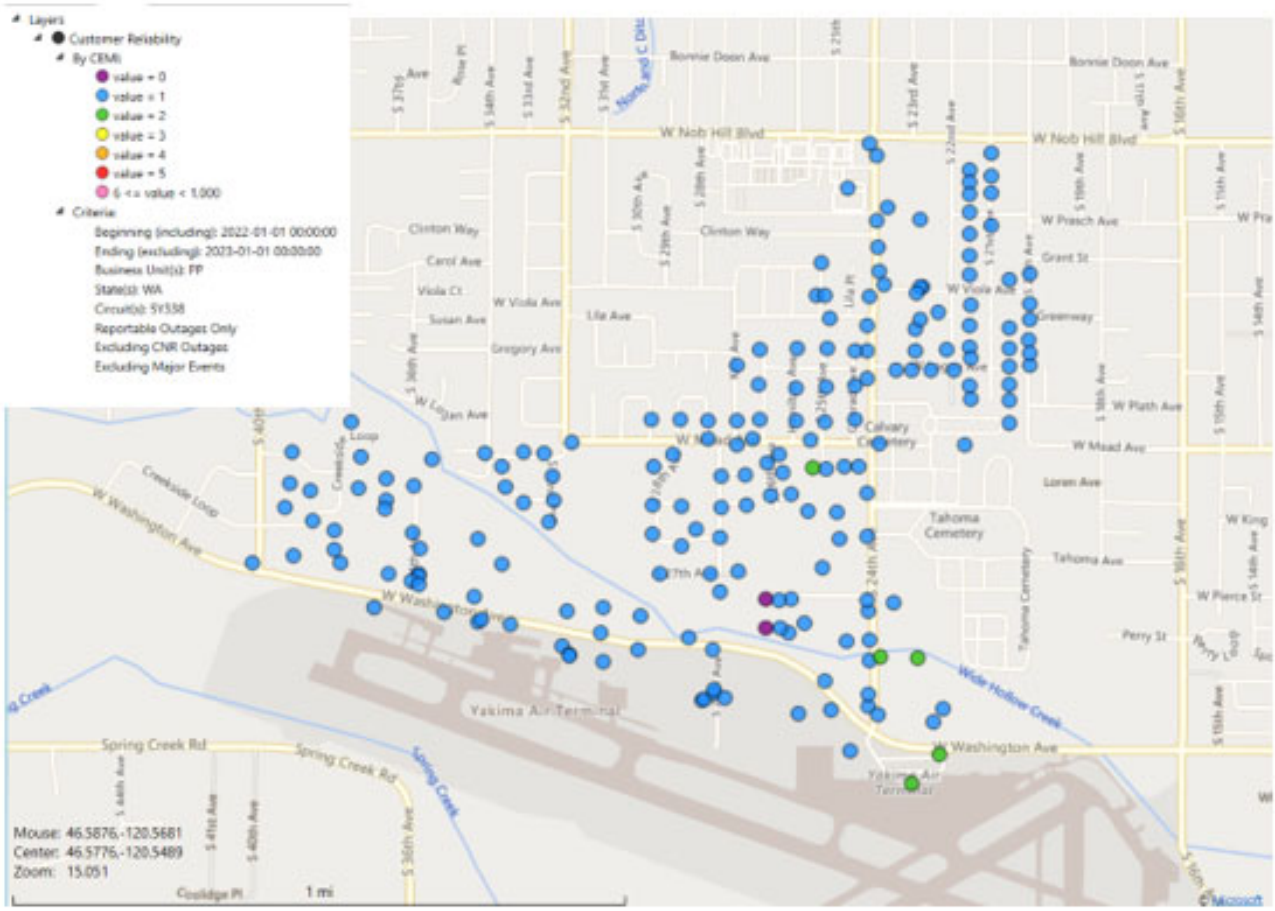


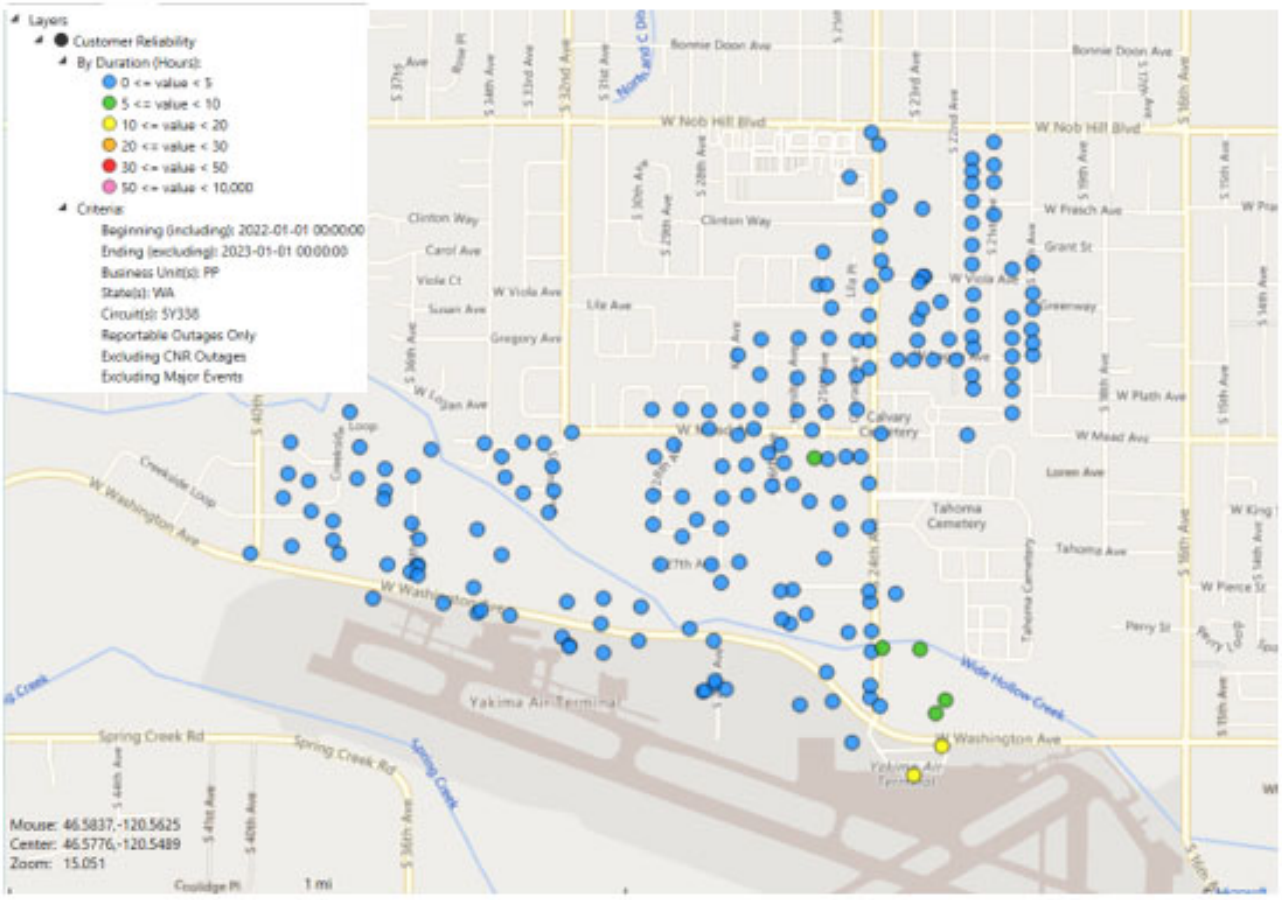

Donald
Wapato
Brownstown
Farron
Layers
Customer Reliability
By Duration (Hours):
0 <= value < 5
5 <= value < 10
10 <= value < 20
20 <= value < 30
30 <= value < 50
50 <= value < 10,000
Criteria:
Beginning (including): 2022-01-01 00:00:00
Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): 5Y202
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Mouse: 46.4698,-120.6276
Center: 46.4225,-120.5125
Zoom: 12.300
1 mi

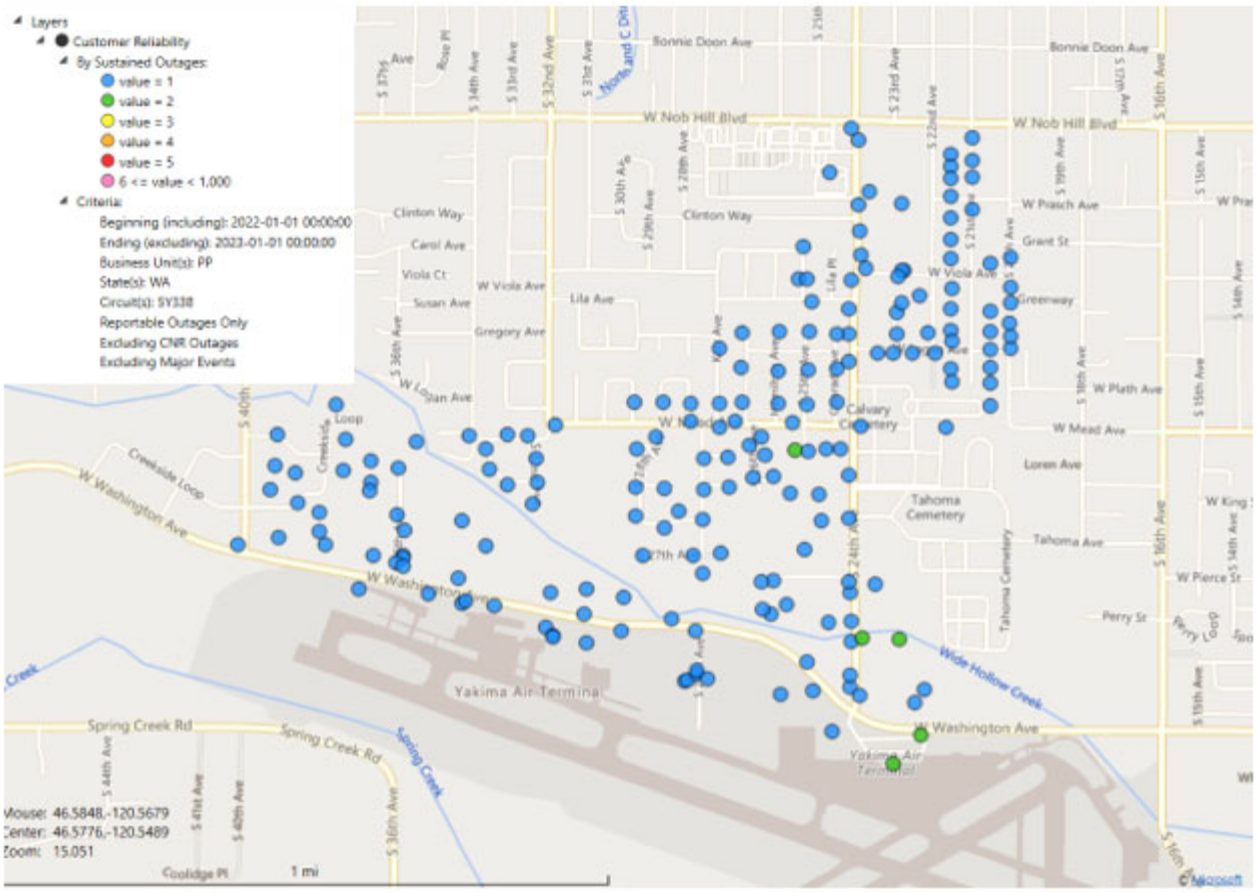

Donald
Wapato
Brownstown
Farron
Layers
Customer Reliability
By Sustained Outages:
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 1,000
Criteria:
Beginning (including): 2022-01-01 00:00:00
Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): 5Y202
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Mouse: 46.4599,-120.6363
Center: 46.4225,-120.5125
Zoom: 12.300
1 mi

5.6 5Y338: Airport




Layers
Customer Reliability
By CEMI
value = 0
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 1,000
Criteria
Beginning (including): 2022-01-01 00:00:00
Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): 5Y338
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Mouse: 46.5876,-120.5681
Center: 46.5776,-120.5489
Zoom: 15.051
1 mi


Layers
Customer Reliability
By Duration (Hours)
0 <= value < 5
5 <= value < 10
10 <= value < 20
20 <= value < 30
30 <= value < 50
50 <= value < 10,000
Criteria
Beginning (including): 2022-01-01 00:00:00
Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): 5Y338
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Mouse: 46.5837,-120.5625
Center: 46.5776,-120.5489
Zoom: 15.051
1 mi


Layers
Customer Reliability
By Sustained Outages:
value = 1
value = 2
value = 3
value = 4
value = 5
6 <= value < 1,000
Criteria:
Beginning (including): 2022-01-01 00:00:00
Ending (excluding): 2023-01-01 00:00:00
Business Unit(s): PP
State(s): WA
Circuit(s): SY338
Reportable Outages Only
Excluding CNR Outages
Excluding Major Events
Mouse: 46.5848,-120.5679
Center: 46.5776,-120.5489
Zoom: 15.051
1 mi
Bonnie Doon Ave
W Nob Hill Blvd
Clinton Way
W Viola Ave
Lila Ave
Gregory Ave
W Logan Ave
Calvary Cemetery
Tahoma Cemetery
W Mead Ave
Loren Ave
Tahoma Ave
W Pierce St
Perry St
W Washington Ave
Yakima Air Terminal
Wide Hollow Creek
Spring Creek Rd
Spring Creek
Creekside Loop
Grant St
Greenway
W Prasch Ave
W Plath Ave

APPENDIX A: Reliability Definitions

This section will define the various terms[12] 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 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.

[12] 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.

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

MAIFI (momentary average interruption frequency index) is an industry standard index that quantifies the frequency of all momentary interruptions that the average customer experiences during a given timeframe. It is calculated by counting all momentary interruptions which occur, as long as the interruption event did not result in a device experiencing a sustained interruption.

$MAIFI_E$

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 timeframe. 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: 2022 Major Event Filings

Report to the Washington Utilities and Transportation

Electric Service Reliability - Major Event Report

Event Date:	January 3, 2022
Date Submitted:	February 11, 2022
Primary Affected Locations:	Sunnyside
Primary Cause:	Loss of Supply
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / Mark Vanwinkle

Event Description and Restoration Summary

Event Outage Summary	
# Interruptions (sustained)	12
Total Customers Interrupted (sustained)	10,079
Total Customer Minutes Lost	64,820
State Event SAIDI	0.47 Minutes
CAIDI	6
Major Event Start	1/3/22 12:00 AM
Major Event End	1/4/22 12:00 AM

At 6:42 p.m. on January 3, 2022, Sunnyside, Washington, experienced a SAIFI-based major event due to a loss of supply outage. The event occurred when Bonneville Power Administration (BPA) reported a fault, likely a falling tree briefly impacting the line, on its system 35 miles from the North Bonneville substation on the North Bonneville (BPA) – Outlook (PP) – Midway (BPA) 230 kilovolt (kV) transmission line. The fault tripped Outlook substation 2Y76 and 2Y80 circuit breakers which resulted in a loss of supply to distribution-fed substations Toppenish and Punkin Center (via PacifiCorp 115kV transmission lines). Figure 1 below is a graphical representation of the affected network. Pacific Power immediately took quick actions to restore customers via alternate feeds.

The Toppenish Substation lost feed to six distribution circuits serving a total of 6,025 customers for a total of six minutes, and the Punkin Substation loss feed to three circuits serving 4,046 customers for a total of seven minutes. In total the event impacted 10,071 customers. Figure 2 depicts the customers out and the duration.

To date, there have been no commission or company complaints concerning this major event.

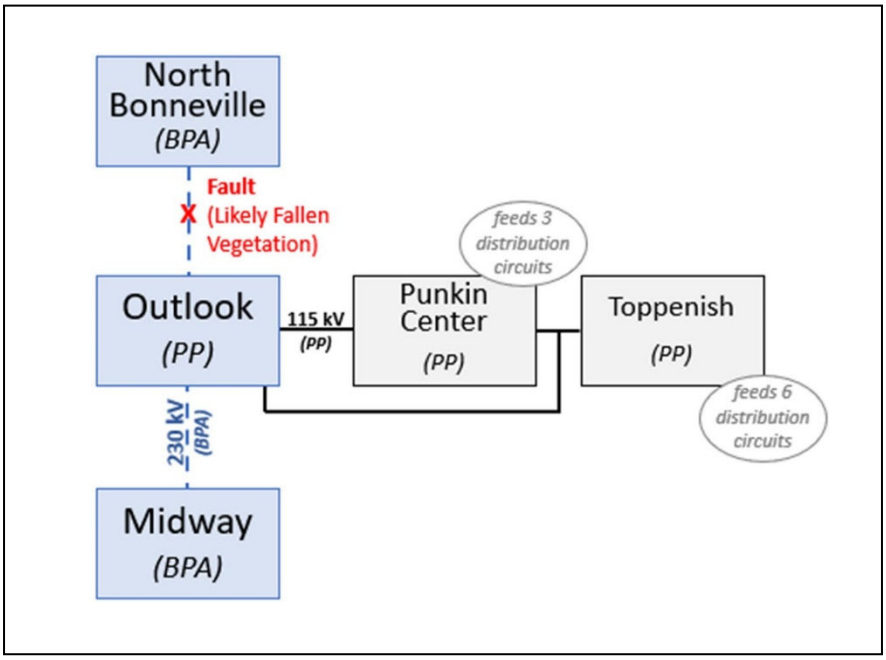


Figure 1. Affected system diagram

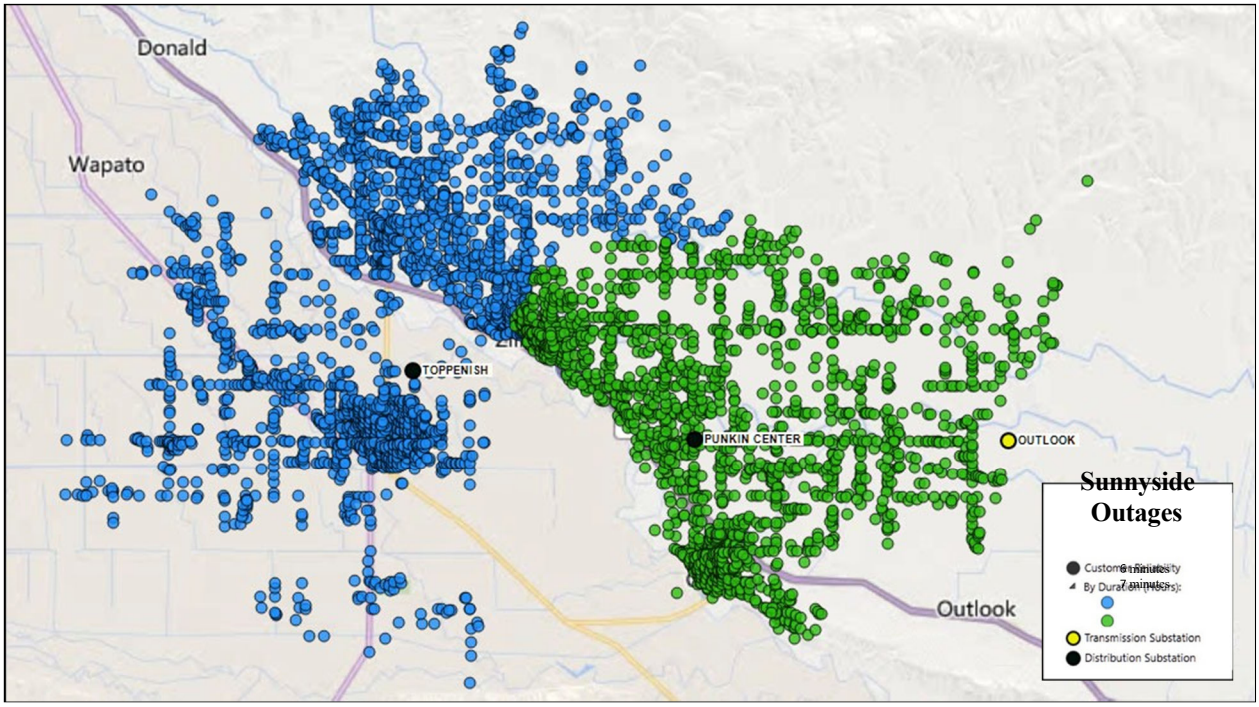


Figure 2. Sunnyside Major event outages.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.
10,079	10,079	0	0

Restoration Resources[13]

Personnel Resources	
Support Staff	**1**
Substation Manager	**1**
Relay Tech	**1**
Total	**3**

State Estimated Major Event Costs

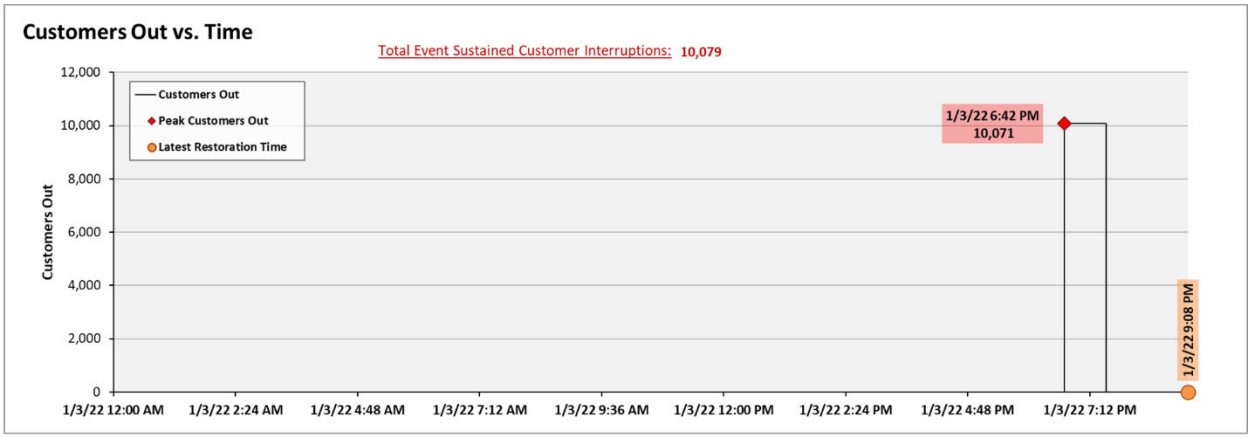
Estimate $	Labor	Contracts	Material	Total
Capital	$0	$0	$0	**$0**
Expense	$950	$0	$0	**$950**
Total	**$950**	**$0**	**$0**	**$950**

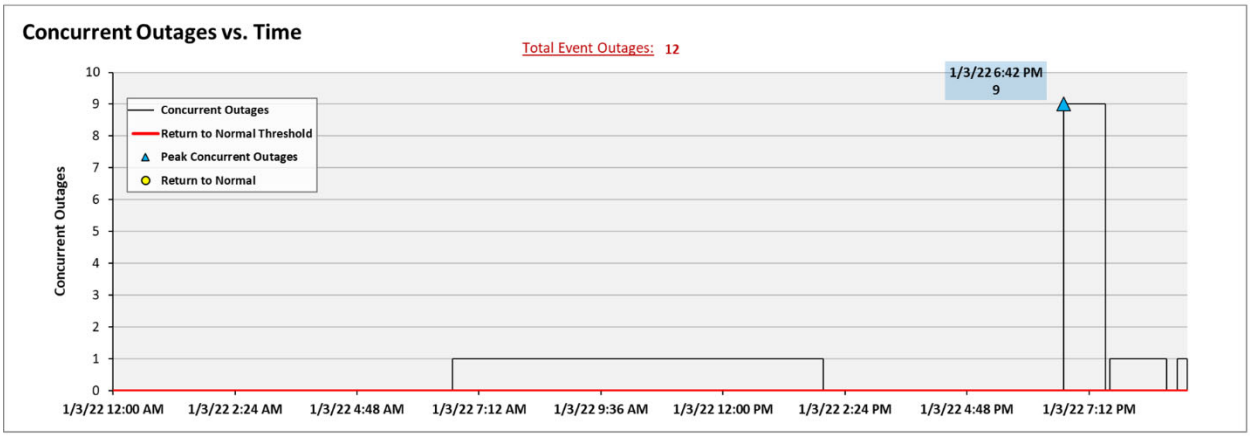
Major Event Declaration

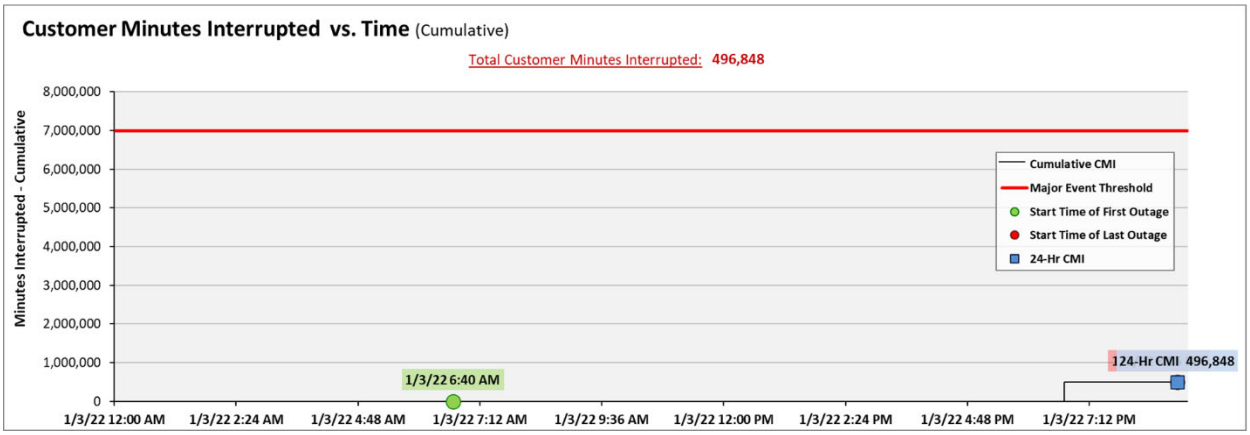
Pacific Power is requesting designation of this event and its consequences to be classified as a "Major Event" for exclusion from underlying network performance reporting. This major event exceeded the company's current Washington system average interruption frequency index- driven (SAIFI) threshold of 10 percent total operating area customers served sustained interruptions (10,079 customers were interrupted out of 24,993 Sunnyside operating area customers, or 40 percent of the operating area customers) simultaneously in a 24-hour period.

[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 may have been utilized during the event, thus the data presented here effectively understates the resources, including cost, involved in restoring the system to normal.

Event Detail







SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

Report to the Washington Utilities and Transportation

Electric Service Reliability - Major Event Report

Event Date:	January 9, 2022
Date Submitted:	February 15, 2022
Primary Affected Locations:	Walla Walla
Primary Cause:	Loss of Supply
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / Tyler Andreatta

Event Description and Restoration Summary

Event Outage Summary	
# Interruptions (sustained)	6
Total Customers Interrupted (sustained)	4,205
Total Customer Minutes Lost	251,914
State Event SAIDI	1.83 Minutes
CAIDI	60
Major Event Start	1/9/22 12:00 AM
Major Event End	1/10/22 12:00 AM

On the afternoon of January 9, 2022, Walla Walla, Washington, experienced a SAIFI-based major event that was the result of a winter storm culminating in a loss of supply outage when the circuit breaker at the Millcreek substation operated to lockout. The winter storm brought high winds and snow to the area. In the days prior to the substation outage the region experienced several outages due to snow and high winds which downed trees, resulting in equipment damage. As a result of the prior storm and tree related outages a helicopter patrol was requested on January 7th. On January 9th, the helicopter patrol was available and dispatched. With the use of the helicopter and a snowcat, ground crews were quickly able to patrol the area to identify the location and clear damaged trees and debris from lines and right of way areas. Due to the responsiveness of the local operations team dealing with the multi-day weather outages, crews were primed for quick response to this loss of supply event.

The event on January 9th, affected three substations which serve a total of five distribution feeds. Personnel were able to quickly begin assessing the outages and develop a plan for stage restorations. Feed was quickly restored to the Waitsburg Substation, bringing power back to 1,085 customers within 19 minutes. Shortly thereafter, feed was restored to the Dayton substation, where 1,919 customers were restored in 32 minutes. Meanwhile, personnel dispatched a helicopter from Portland to patrol the transmission line, as ground access was

limited due to high snow drifts which blocked access to patrol the line. Once the patrol of the last section of the transmission line was complete crews were able to restore power to the Pomeroy Substation, serving 1,175 customers, restored within two hours 21 minutes. During the patrol no permanent damage was found on the line, and responders believed the outage was the result of high wind gusts combined with icing. Figure 1 below is a graphical representation of the affected network. Figure 2 highlights the geographical which was affected by the SAIFI-based major event.

To date, there have been no commission or company complaints concerning this major event.

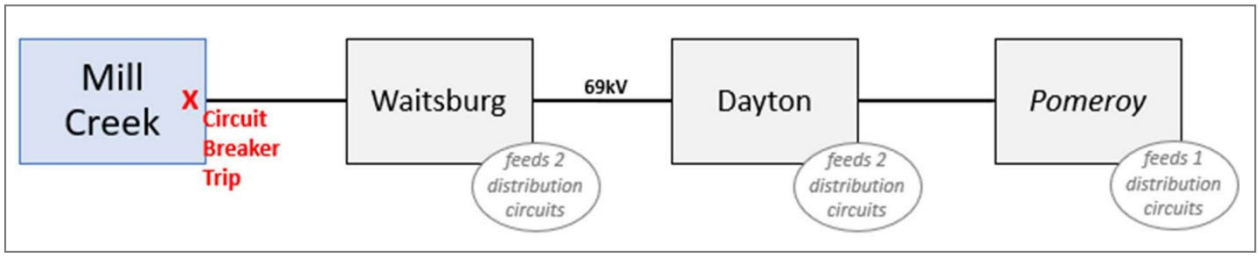


Figure 1. Affected system diagram

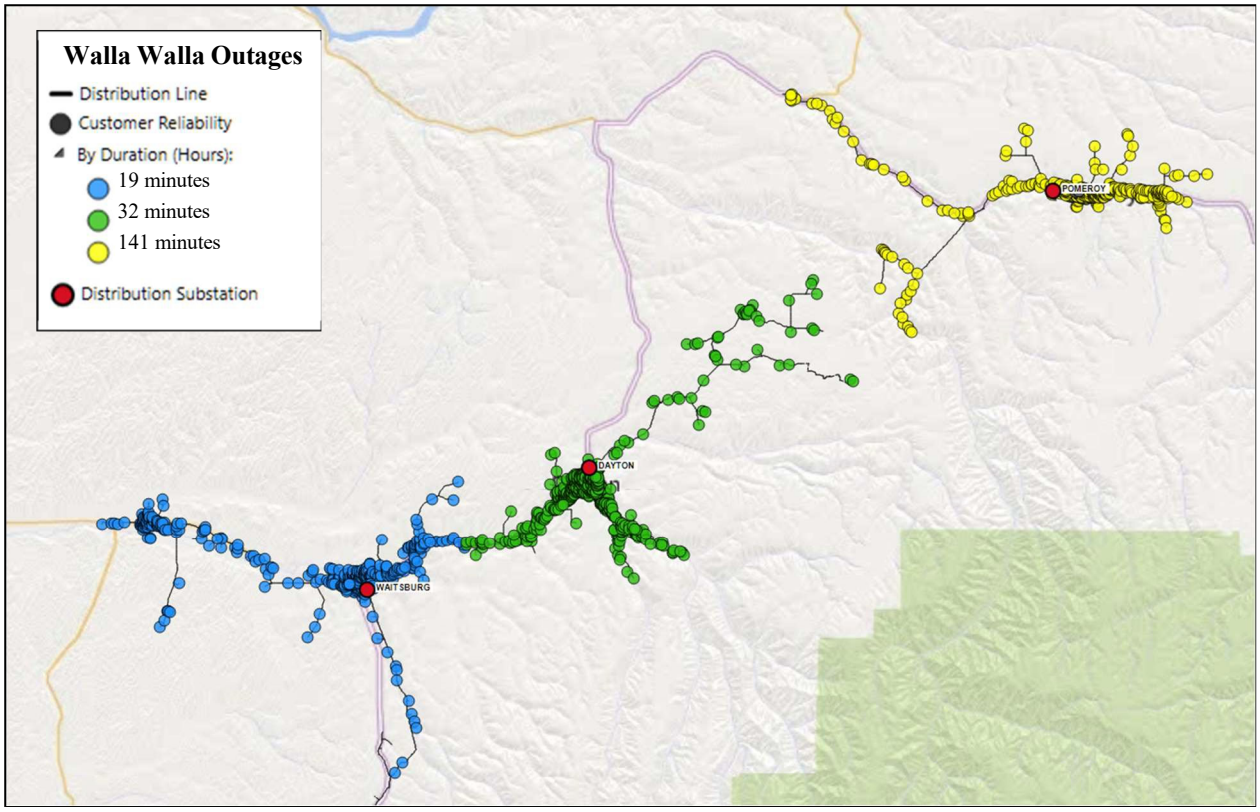


Figure 2. Walla Walla Major event outages.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.
4,205	4,205	0	0

Restoration Resources[14]

Personnel Resources			
Troubleman/assessors	3	Tree crewman	4
Substation crewmembers	2	Foreman	1
# Support staff	2	Warehouseman	1
Line crewman	4	**Total**	**17**

Resources			
Insulators	1	Helicopters	1
Line fuses	6	Sid by side	1
Snowcat	4		

State Estimated Major Event Costs

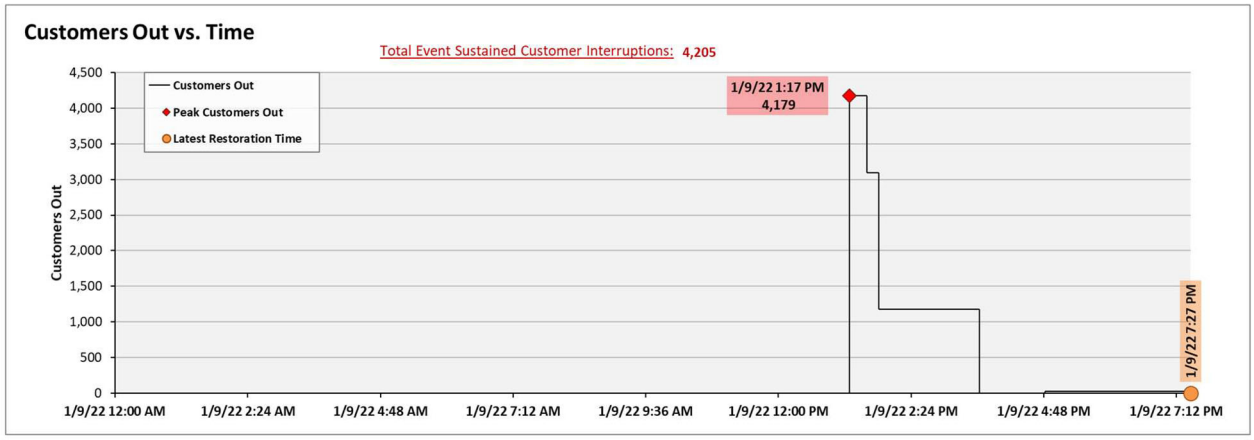
Estimate $	Labor	Contracts	Overhead	Total
Capital	$0	$0	$0	**$0**
Expense	$41,670	$7,022	$1,607	**$50,299**
Total	**$41,670**	**$7,022**	**$1,607**	**$50,299**

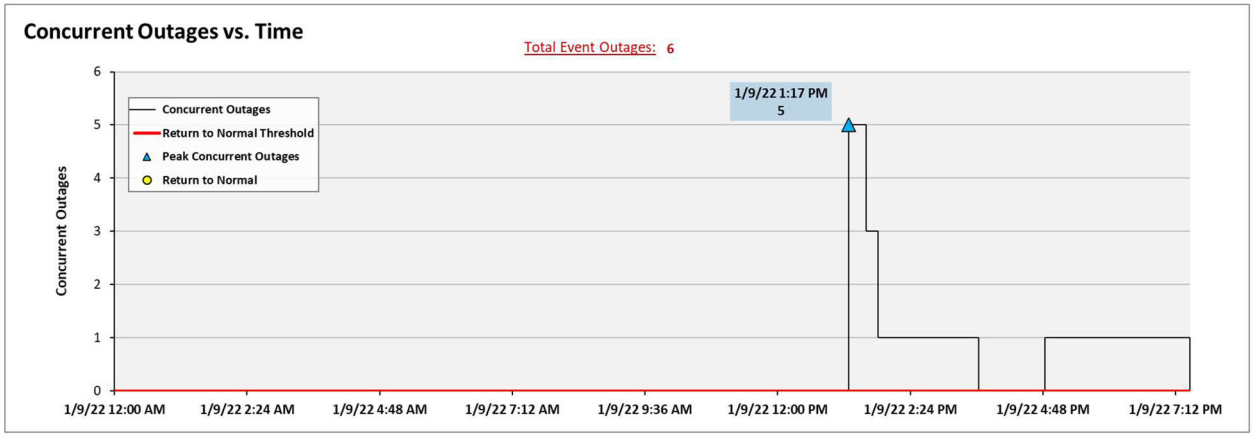
Major Event Declaration

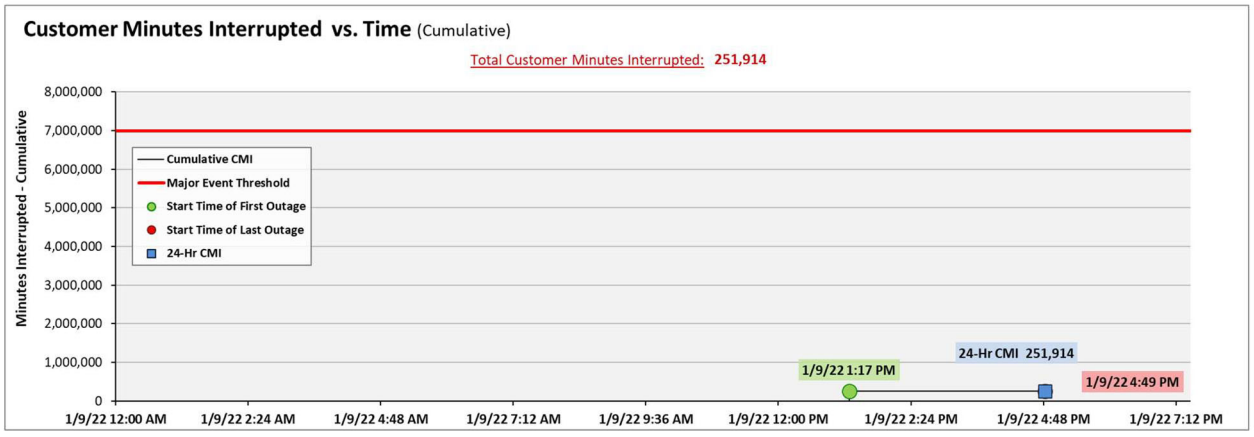
Pacific Power is requesting designation of this event and its consequences to be classified as a "Major Event" for exclusion from underlying network performance reporting. This major event exceeded the company's current Washington system average interruption frequency index- driven (SAIFI) threshold of 10% total operating area customers served sustained interruptions (4,205 customers were interrupted out of 28,298 Walla Walla operating area customers, or 15% 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 may have been utilized during the event, thus the data presented here effectively understates the resources, including cost, involved in restoring the system to normal.

Event Detail







SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

Report to the Washington Utilities and Transportation

Electric Service Reliability - Major Event Report

Event Date:	February 18-19, 2022
Date Submitted:	May 5, 2023
Primary Affected Locations:	Walla Walla
Primary Cause:	Loss of Supply
Exclude from Reporting Status:	Yes
Report Prepared by:	Tia Solis
Report Approved by:	Kevin Benson

Event Description and Restoration Summary

Event Outage Summary	
# Interruptions (sustained)	7
Total Customers Interrupted (sustained)	3,140
Total Customer Minutes Lost	64,379
State Event SAIDI	0.47 Minutes
CAIDI	21
Major Event Start	2/18/22 12:00 AM
Major Event End	2/19/22 12:00 AM

At 2:16 p.m. on February 18, 2022, Walla Walla, Washington, experienced a SAIFI-based major event due to a loss of supply outage. The event occurred after a car hit a pole affecting Mill Creek Substation causing transmission loss. This caused additional circuits to lose transmission. The fault tripped 5W120 circuit breaker which resulted in a loss of supply to distribution-fed substations Dayton and Waitsburg (via PacifiCorp 12.47kV distribution lines). Figure 1 below is a graphical representation of the affected network by duration of outages. Pacific Power immediately took quick actions to restore customers via alternate feeds.

Four substations lost feed to six distribution circuits serving a total of 3,140 customers. Power was restored within a total of fourteen hours. Mill Creek had the most customer minutes lost totaling 36,318. There were two circuits at Dayton Substation that had transmission loss resulting from Mill Creek Substation. Those two circuits lost a total of 17,814 customer minutes.

To date, there have been no commission or company complaints concerning this major event.

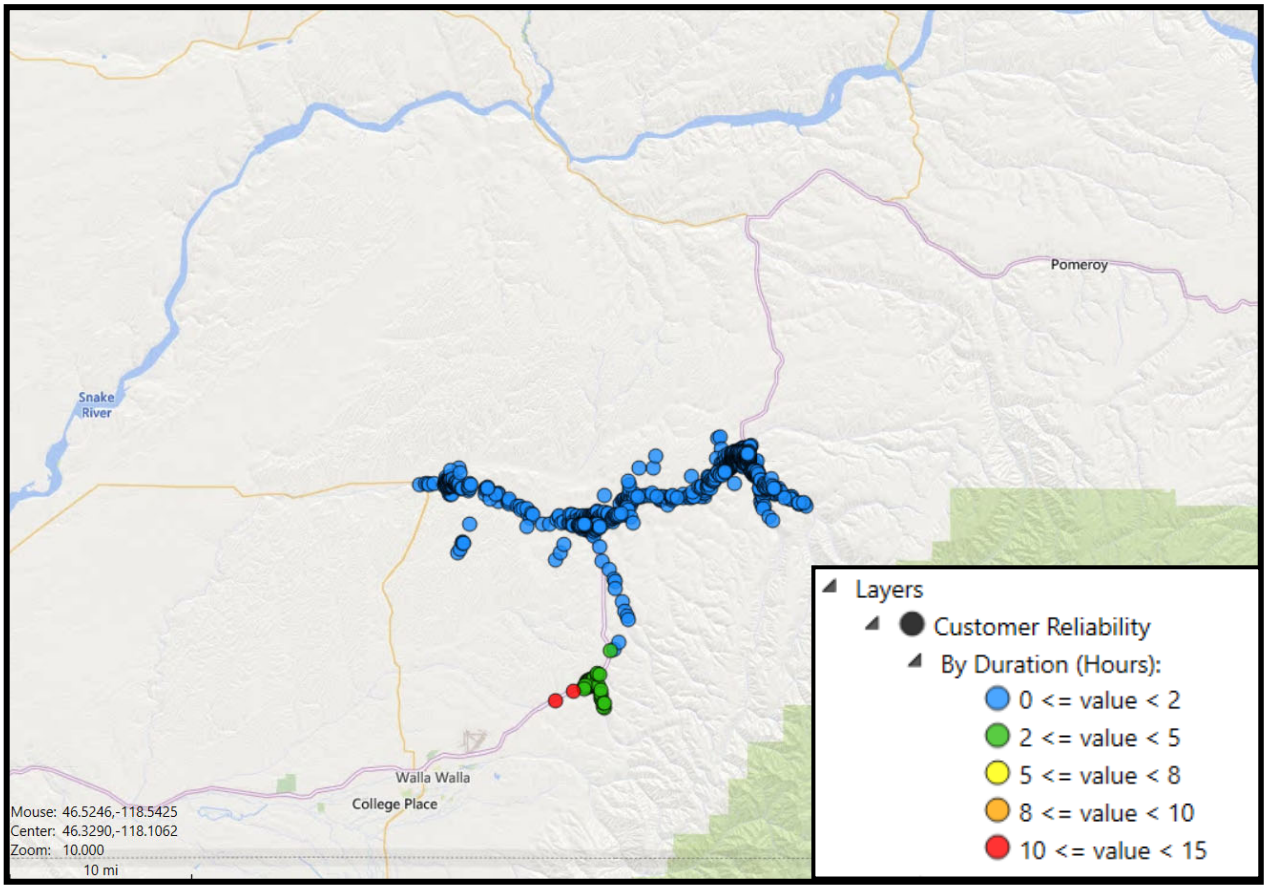


Figure 1. Major event outages.

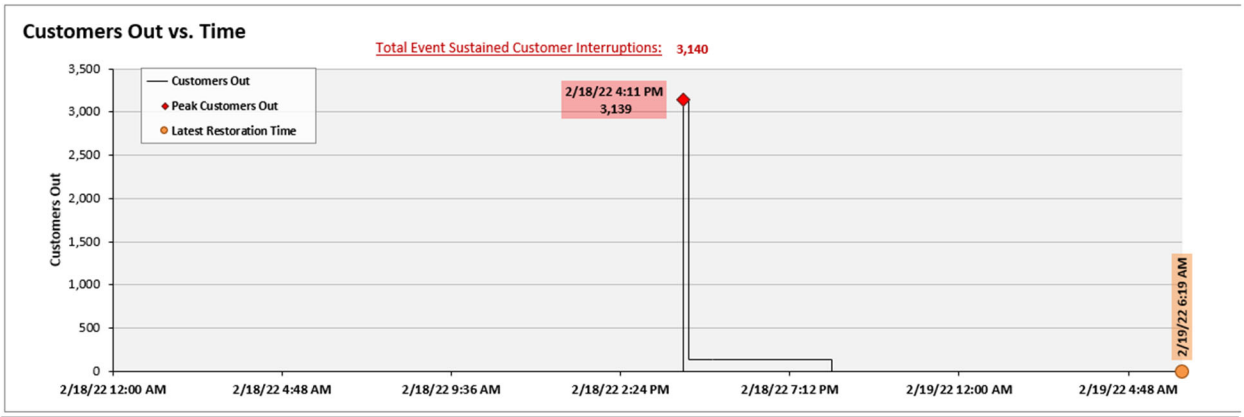
Restoration Intervals

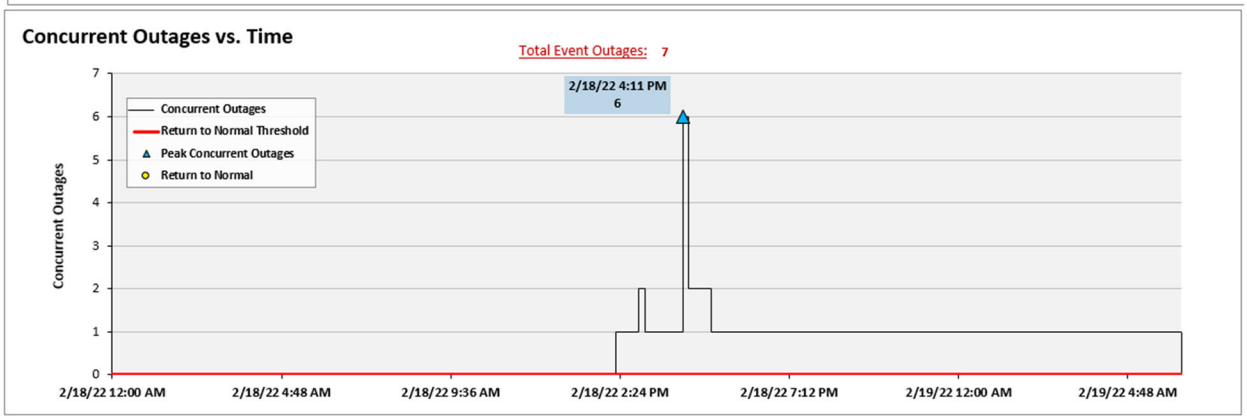
Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.
3,140	3,006	134	0

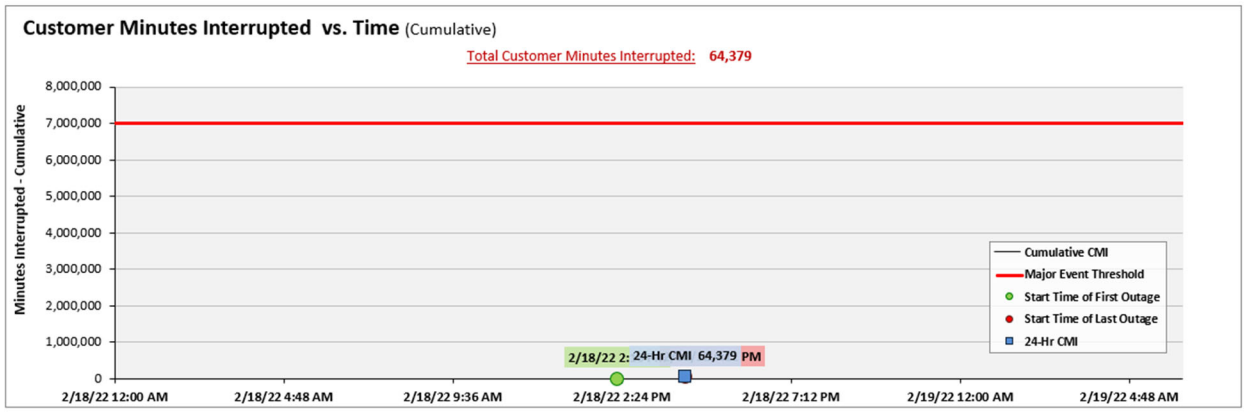
Major Event Declaration

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 (3,140 customers were interrupted out of 28,298 Walla Walla operating area customers, or 11% of the operating area customers) simultaneously in a 24-hour period.

Event Detail







SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

Report to the Washington Utilities and Transportation Commission

Electric Service Reliability - Major Event Report

Event Date:	April 11-12, 2022
Date Submitted:	May 5, 2023
Primary Affected Locations:	Sunnyside and Yakima
Primary Cause:	Storm
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer/Tia Solis
Report Approved by:	Kevin Benson

Event Description and Restoration Summary

Event Outage Summary	
# Interruptions (sustained)	70
Total Customers Interrupted (sustained)	8,727
Total Customer Minutes Lost	1,493,591
State Event SAIDI	10.83 Minutes
CAIDI	171
Major Event Start	4/11/22 4:38 AM
Major Event End	4/12/22 3:56 AM

On the morning of April 11, 2022, a storm bringing high winds and snow began affecting services in the Yakima and Sunnyside service areas. During the event, 70 sustained outages across the two service territories affecting more than 8,700 customers. Over the course of the morning, the outages continued to grow, where in the first six hours of the event 35 separate outage events were recorded, affecting 2,792 customers.

During the event, six contract crews were brought in to assist with the restoration process. The crews found damaged equipment and pole fires due to the heavy accumulation of wet snow. Repairs included putting conductors back up, tightening sag, replacing damaged transformers and crossarms, patrolling lines, and re-energizing once it was verified no addition line damage occurred. In addition to the high volume of outage events spread across the two districts crews experienced low visibility due to heavy rain and snow, often traveling on roads covered with high water and slick wet snow. These factors slowed restoration times as crew located damaged equipment which often affected several portions of the circuit.

During the major event 91% of all customer minutes lost and 94% of all customers out were the result of damaged equipment which resulted from wind, heavy rain, and snow. As evidenced by the large volume of customers out in combination with the small accumulation of customer minutes lost, crews focused restoration activities on restoring outages which impacted larger numbers of

customers and then addressed the outages which occurred downstream of those larger events. Sustained outages durations during the major event ranged from 17 minutes to 21 hours 14 minutes with an average restoration duration of seven hours and 39 minutes. The map in figure 1 shows the duration and location of customer outages during the event period.

To date, there have been no commission or company complaints concerning this major event.

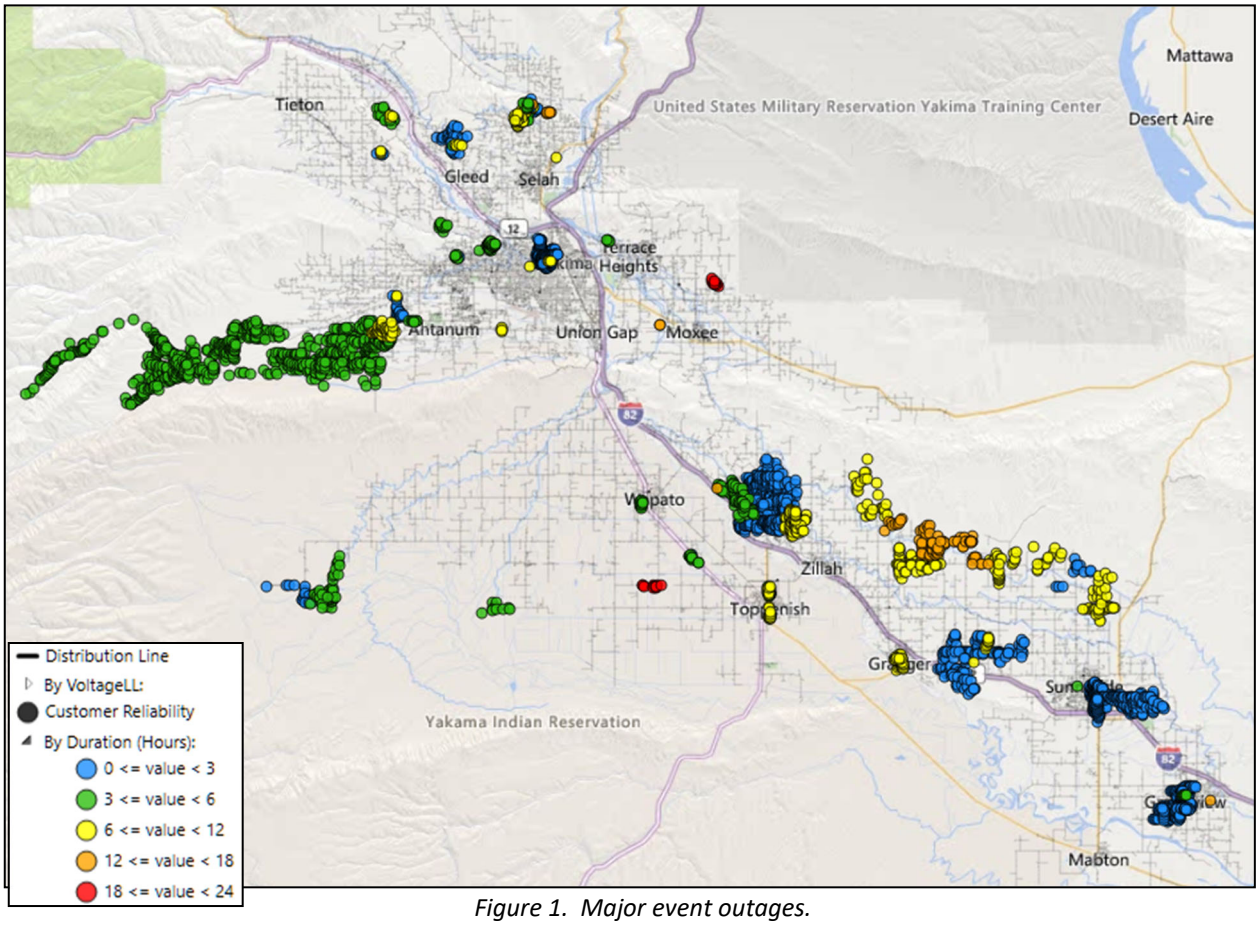


Figure 1. Major event outages.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.
8,727	5,891	2,836	0

Restoration Resources [15]

Personnel Resources			
Internal local crew members	19	Tree crewman	3
Internal local crew members	36	Warehouseman	4
# Support staff	5	**Total**	**67**

Resources			
Distribution Poles	11	Conductor line ft	2,690
Transformers	18	Crossarms	27
Insulators	123	Cutouts	53
Line fuses	107	Line Splices	311
Guy Wire	250	Pole Top Extensions	12

State Estimated Major Event Costs

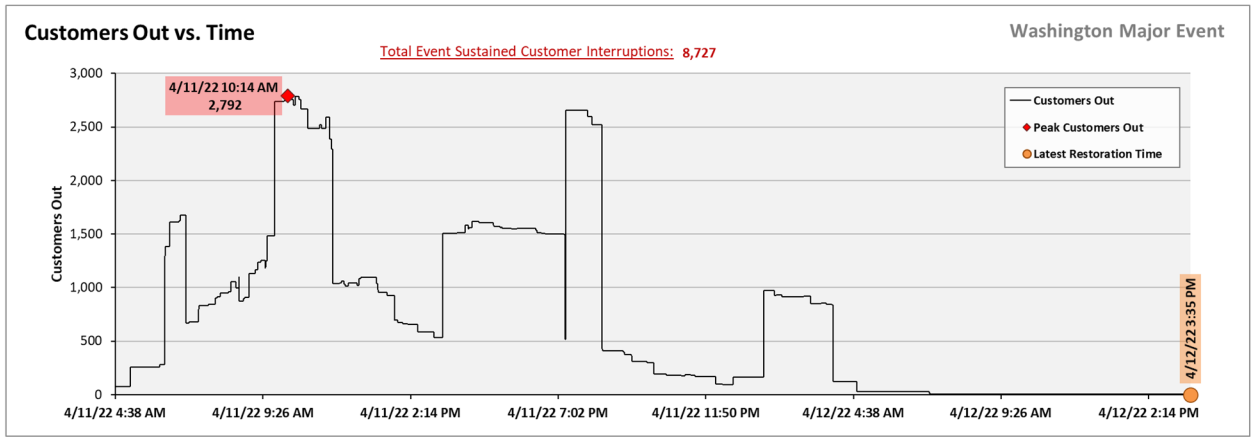
Estimate $	Labor	Contracts	Materials	Overhead	Total
Capital	$61,746	$94,887	$63,462	$14,466	**$234,561**
Expense	$76,887	$76,069	$25,953	$6,712	**$185,621**
Total	**$138,632**	**$170,957**	**$89,414**	**$21,178**	**$420,181**

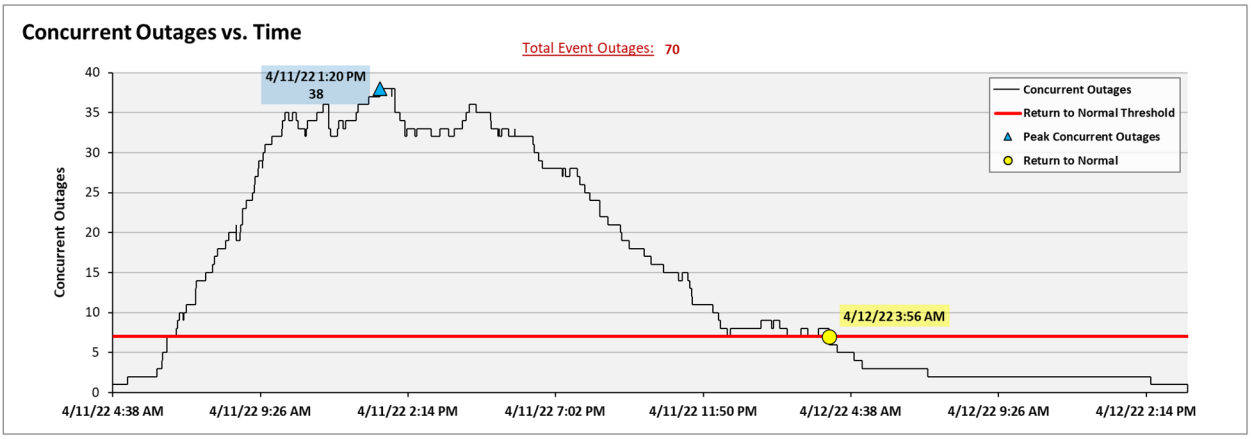
Major Event Declaration

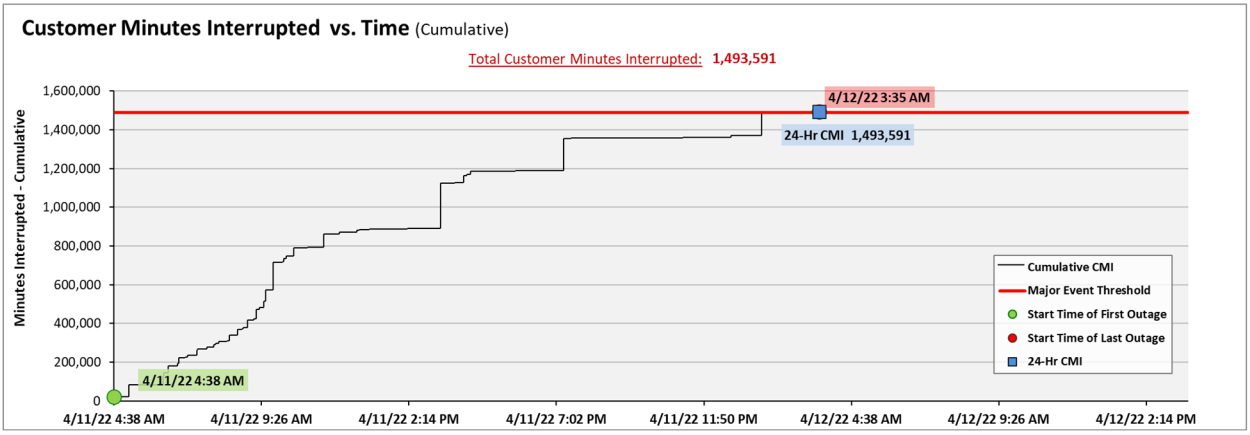
Pacific Power is requesting designation of this event and its consequences to be classified as a "Major Event" for exclusion from network performance reporting with the IEEE 1366-2003/2012. This major event exceeded the company's 2022 Washington threshold of 1,488,172 customer minutes lost (10.8 state SAIDI minutes) in a 24-hour period.

[15] 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 may have been utilized during the event, thus the data presented here effectively understates the resources, including cost, involved in restoring the system to normal.

Event Detail







SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

Report to the Washington Utilities and Transportation Commission

Electric Service Reliability - Major Event Report

Event Date:	August 10-11, 2022
Date Submitted:	May 5, 2023
Primary Affected Locations:	Walla Walla
Primary Cause:	Lightning
Exclude from Reporting Status:	Yes
Report Prepared by:	Tia Solis
Report Approved by:	Kevin Benson

Event Description and Restoration Summary

Event Outage Summary	
# Interruptions (sustained)	18
Total Customers Interrupted (sustained)	3,079
Total Customer Minutes Lost	81,760
State Event SAIDI	0.59 Minutes
CAIDI	27
Major Event Start	8/10/22 12:00 AM
Major Event End	8/11/22 12:00 AM

On the evening of August 10, 2022, Walla Walla, Washington, experienced a SAIFI-based major event due to a loss of supply outage. The event occurred after lightning occurred in the area resulting in loss of transmission due to trees, pole, and service wire down. Crews quickly responded to make repairs, removing debris, replacing transformers and service wire. This caused several circuits to lose transmission. Figure 1 below is a graphical representation of the affected network by duration of outages. Pacific Power immediately took quick actions to restore customers via alternate feeds.

Eight substations lost feed to thirteen distribution circuits serving a total of 3,079 customers. Power was restored to affected customers within seventeen hours. Waitsburg Substation had the most customer minutes lost totaling 41,209 across two circuits, 5W305 and 5W306.

To date, there have been no commission or company complaints concerning this major event.

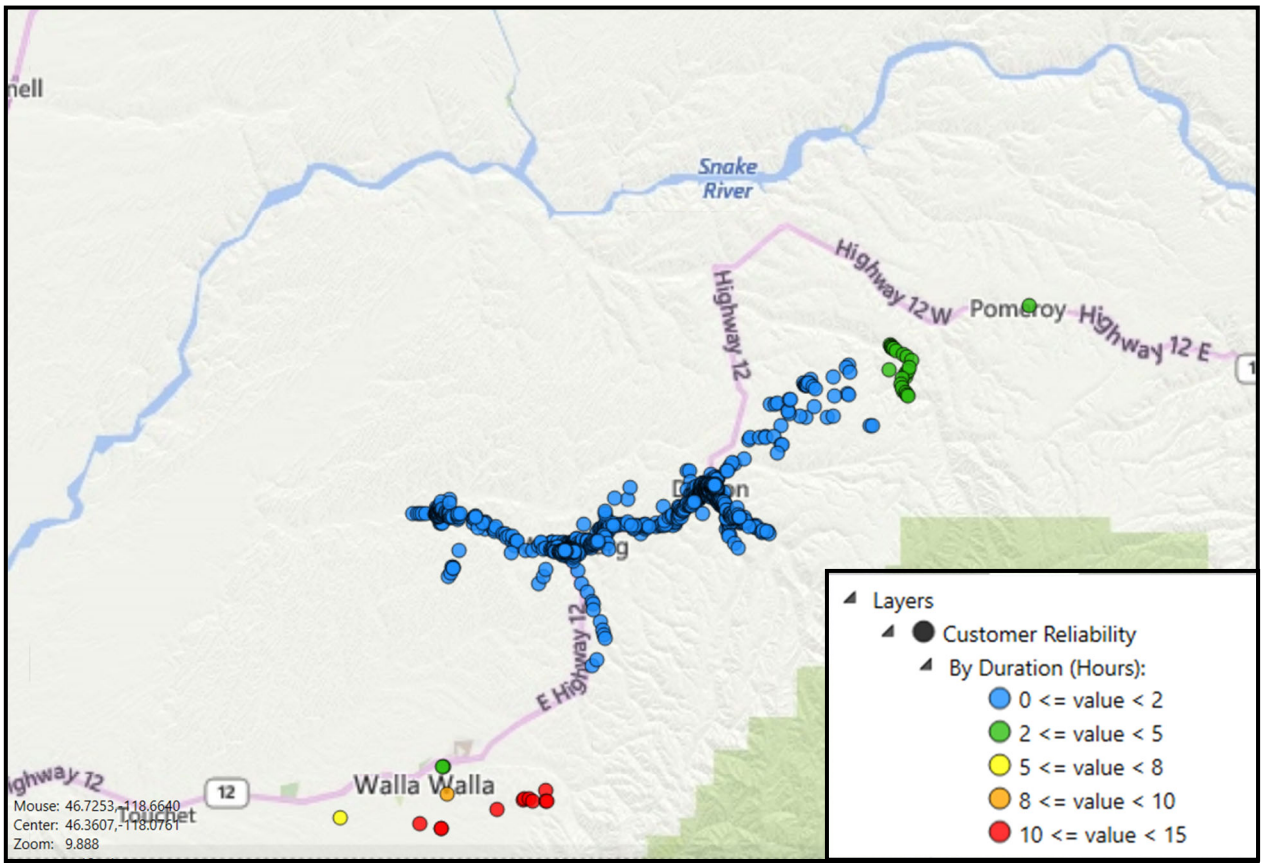


Figure 1. Major event outages.

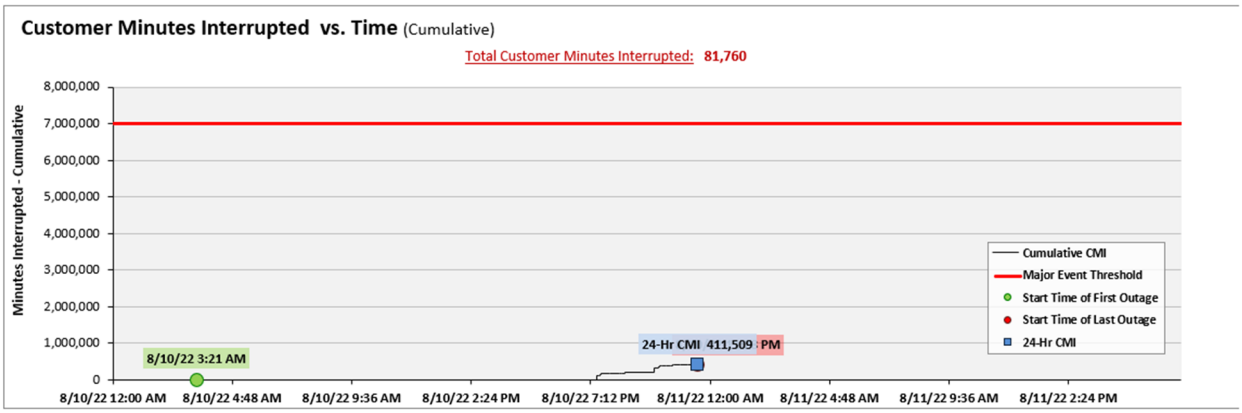
Restoration Intervals

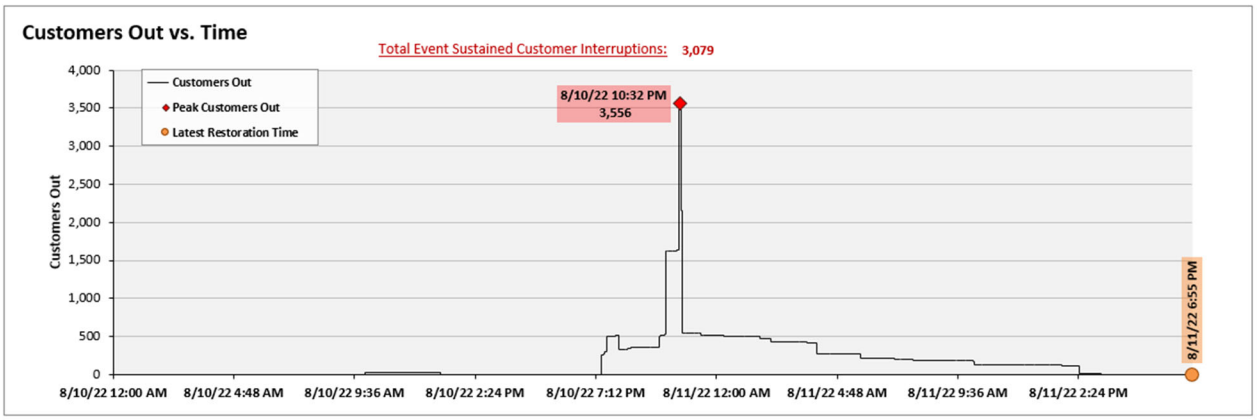
Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.
3,079	3,009	70	0

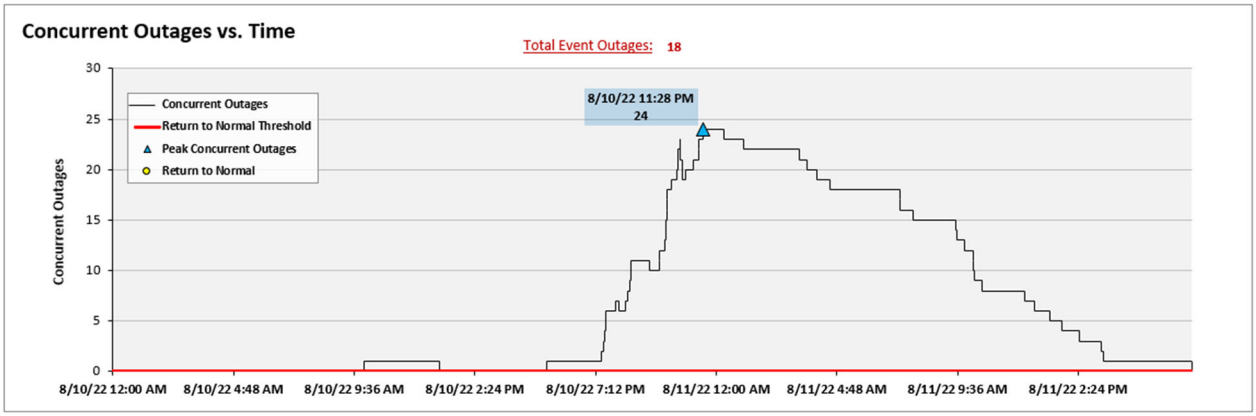
Major Event Declaration

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 (3,079 customers were interrupted out of 28,298 Walla Walla operating area customers, or 11% of the operating area customers) simultaneously in a 24-hour period.

Event Detail[16]







SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

[16] Pacific Power's Walla Walla operating area includes a portion of Northeastern Oregon. The charts include impacts to both Washington and Oregon and as such the numbers therein are inflated. The total values reflect impacts to Washington and the detailed numbers within the graph reflect both Washington and Oregon.