



WASHINGTON SERVICE QUALITY REVIEW

January 1 – December 31, 2023

Annual Report

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EXECUTIVE SUMMARY

During January 1 through December 31, 2023, Pacific Power delivered reliable service to its Washington customers. The level of performance outperformed 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 level it delivers ranks high when compared across the industry.

The Company's service reliability can be impacted by uncontrollable public interference events, such as car-hit-pole accidents and dig-in incidents, and by significant events that exceed the normal underlying level of interruptions yet 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 2023 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, elevated 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 certain instances, the Company has extended existing standards. In other cases, particularly where industry norms are absent, the Company has created its own 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 Guarantees¹

<u>Customer Guarantee 1:</u> 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.
<u>Customer Guarantee 2:</u> Appointments	The Company will keep mutually agreed upon appointments which will be scheduled within a two-hour time window.
<u>Customer Guarantee 3:</u> 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.
<u>Customer Guarantee 4:</u> 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.
<u>Customer Guarantee 5:</u> 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.
<u>Customer Guarantee 6:</u> 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.
<u>Customer Guarantee 7:</u> 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 with Rule 25 and relevant exemptions.

¹ See Rules for a complete description of terms and conditions for the Customer Guarantee Program.

1.2 Pacific Power Performance Standards²

<u>Network Performance Standard 1:</u> Improve System Average Interruption Duration Index (SAIDI)	The Company will maintain SAIDI commitment target.
<u>Network Performance Standard 2:</u> Improve System Average Interruption Frequency Index (SAIFI)	The Company will maintain SAIFI commitment target.
<u>Network Performance Standard 3:</u> 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.
<u>Network Performance Standard 4:</u> 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.
<u>Customer Service Performance Standard 5:</u> 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.
<u>Customer Service Performance Standard 6:</u> 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 ³ ; 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, and 4 apply to underlying performance days, excluding those classified as Major Events.

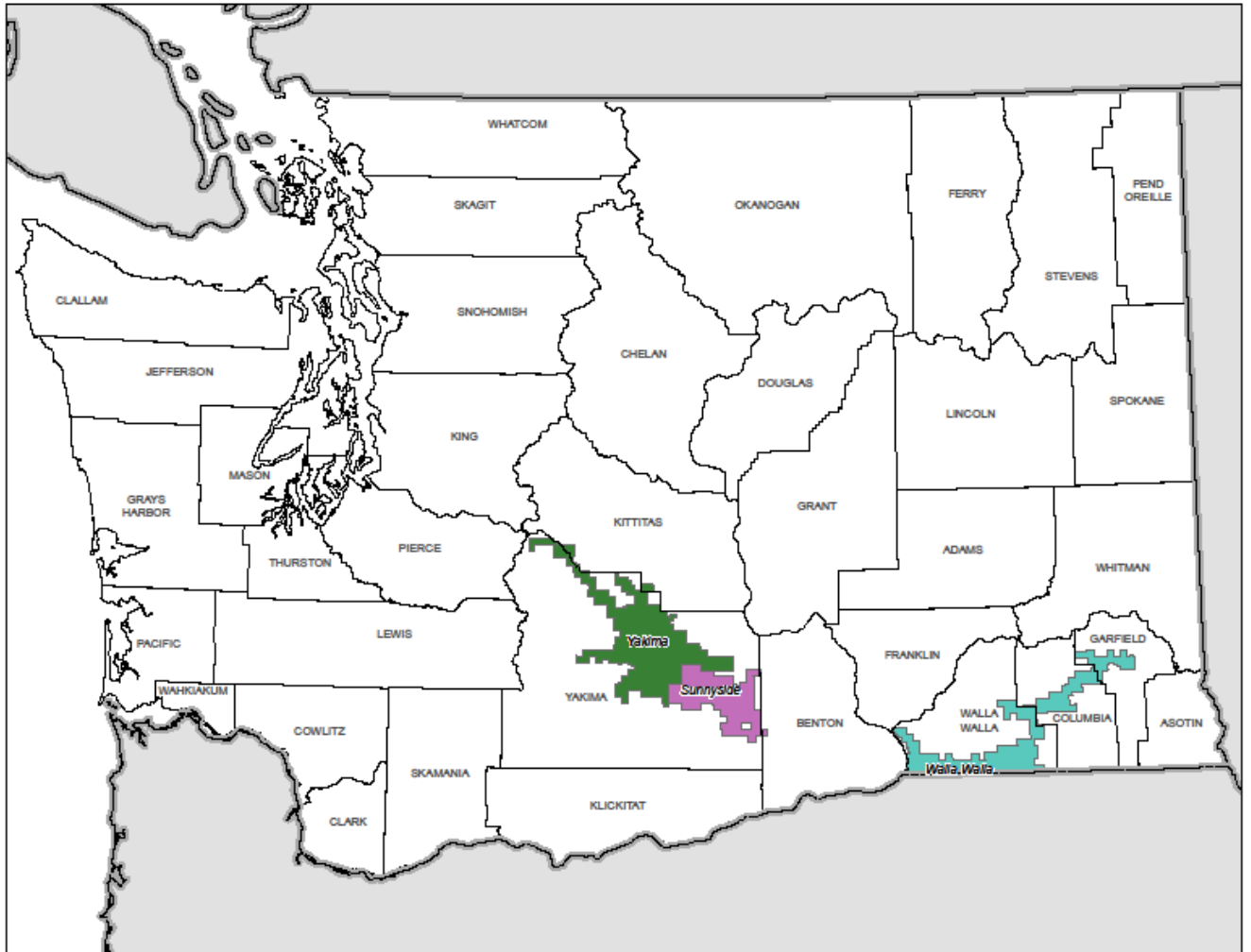
² The Company committed to Service Standards Programs that expired on 12/31/2011; during the program, all elements committed to were delivered successfully. By terms of the commitment any changes to the program required the approval of the Commission. The Company has proposed no changes to the program and continues currently 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.

³ 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 territory⁴, colored by operating area.



⁴ 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



customer*guarantees*

January to December 2023

Washington

Description	2023				2022			
	Events	Failures	% Success	Paid	Events	Failures	% Success	Paid
CG1 Restoring Supply	95,279	0	100.00%	\$0	94,300	0	100.00%	\$0
CG2 Appointments	1,999	11	99.45%	\$550	2,122	4	99.81%	\$200
CG3 Switching on Power	769	1	99.87%	\$50	499	5	99.00%	\$250
CG4 Estimates	218	1	99.54%	\$50	223	0	100.00%	\$0
CG5 Respond to Billing Inquiries	469	9	98.08%	\$450	255	1	99.61%	\$50
CG6 Respond to Meter Problems	189	5	97.35%	\$250	116	2	98.28%	\$100
CG7 Notification of Planned Interruptions	11,033	6	99.95%	\$300	16,612	5	99.97%	\$250
	109,956	33	99.97%	\$1,650	114,127	17	99.99%	\$850

Note: 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 77 minutes was much better than the approved SAIDI baseline of 150 minutes, while the year’s “Major Events Excluded as Reported” SAIFI performance of 0.606 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 Performance⁵

Year	Major Events Included ⁶		SAIDI Based Major Events Excluded 2.5 beta		SAIFI Based Major Events Excluded 10% Op Area ⁷		SAIDI & SAIFI-Based Major Events Excluded as Reported (2.5 beta effective 2005)		Normalized Historic Performance ⁸		5 Year Rolling Average Performance	
	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
2023	79	0.635	79	0.635	77	0.606	77	0.606	77	0.606	90	0.663

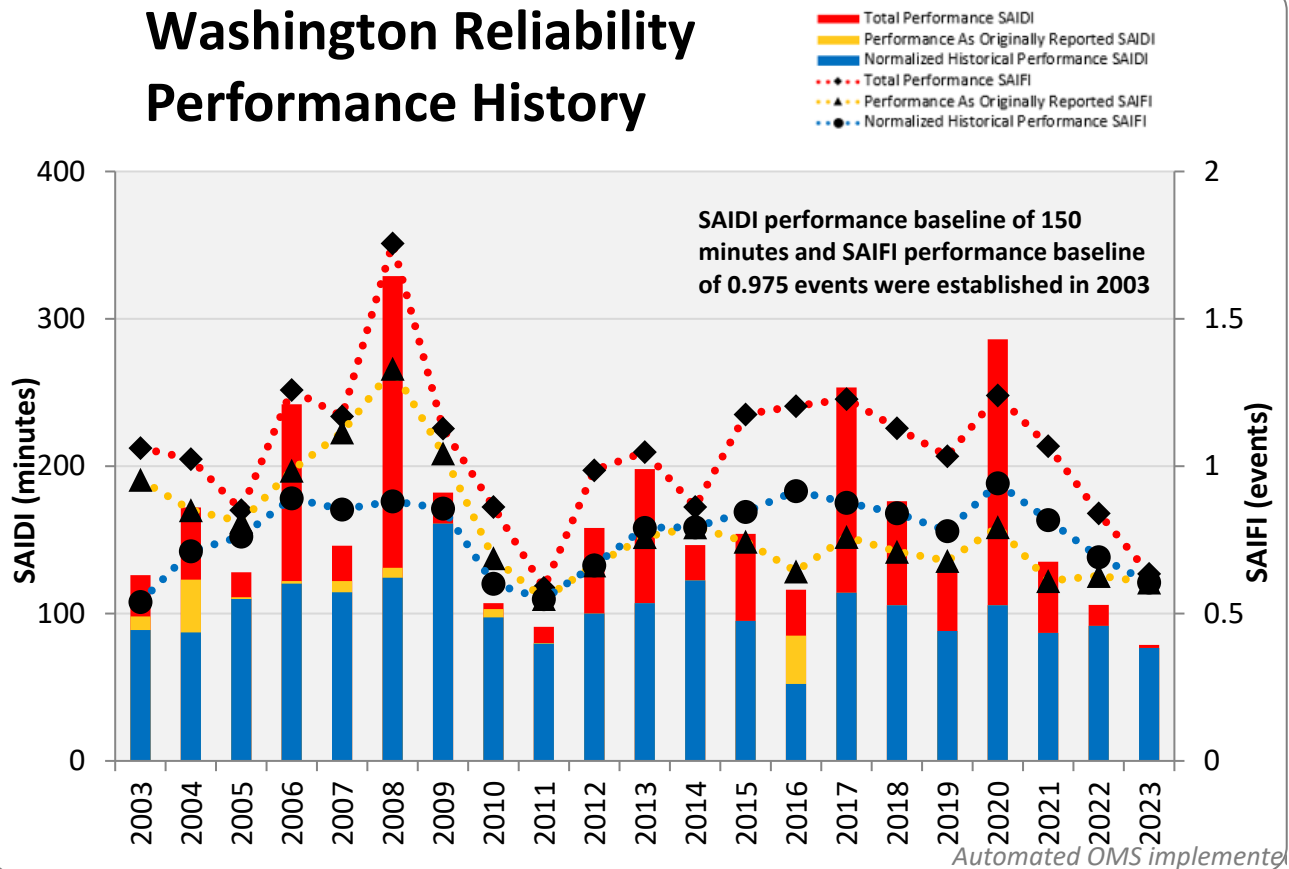
⁵ SAIDI performance baseline of 150 minutes and SAIFI performance baseline of 0.975 events. Performance baselines were established in June 2003. See page 3 of Reporting Plan.

⁶ Customer requested and pre-arranged outages are not reported in these metrics.

⁷ 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.

⁸ Normalized performance is the result of applying both SAIDI and SAIFI-based major events to establish underlying performance.

Washington Reliability Performance History



3.2 System Average Interruption Duration Index (SAIDI)

In 2023, 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 event⁹ is defined using statistical methods as outlined in IEEE 1366-2022 while the second, a SAIFI-based major event is defined in the Company’s reporting plan. During the year, zero SAIDI-based major events and one SAIFI-based¹⁰ major event was recorded. The events designate 2.06 minutes to be separated from underlying reporting metrics. Copies of the Company’s filed major events are included in the Appendix of this report.

2023 Major Events			
Date	Cause	SAIDI	SAIFI
* September 20, 2023	Lightning	2.06	0.029
SAIDI Based Major Event Total		0	0
* SAIFI Based Major Event Total		2.06	0.029
TOTAL		2.06	0.029

During the period, there were eight significant event days.¹¹ For 2023, a significant event day is one that exceeds 2.05 SAIDI minutes in each 24-hour period. These eight days account for 24 SAIDI minutes and 0.134 SAIFI events, representing 37% of the underlying SAIDI and 31% of the underlying SAIFI.

SIGNIFICANT EVENT DAYS					
DATE	PRIMARY CAUSE	SAIDI	SAIFI	% Underlying SAIDI (77 min)	% Underlying SAIFI (0.61 events)
May 19, 2023	Equipment Failure	3.79	0.022	5%	4%
May 21, 2023	Wildlife Interference	2.57	0.009	3%	1%
July 10, 2023	Wildlife Interference	2.40	0.014	3%	2%
July 17, 2023	Equipment Failure	3.04	0.008	4%	1%
August 7, 2023	Loss of Transmission	2.75	0.026	4%	4%
August 21, 2023	Vegetation – non-preventable	2.92	0.008	4%	1%
September 18, 2023	Wildlife Interference	4.44	0.018	6%	3%
September 20, 2023	Lightning	2.08	0.029	3%	5%
TOTAL		24	0.134	37%	31%

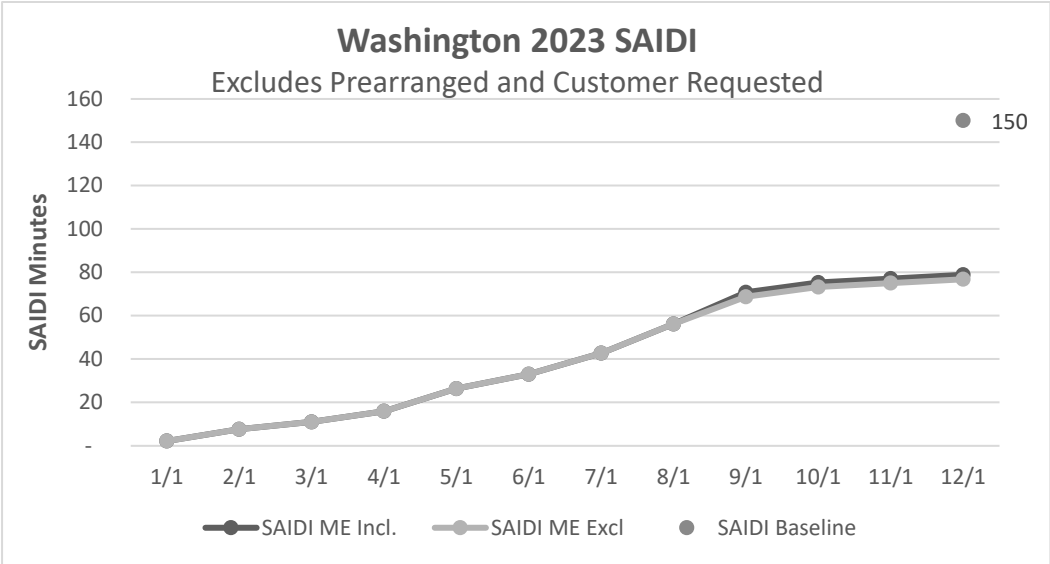
During 2023, outage duration, or SAIDI, was better than baseline.

⁹ During calendar year 2023, the calculated threshold for a major event was 9.94 SAIDI Minutes.

¹⁰ The SAIFI-based major event occurred in Walla Walla, WA.

¹¹ The Company established a variable of 1.75 times the standard deviation of its natural log SAIDI results to identify significant event days. Typically, the cause of these events traces back to weather, although they may also be the result of significant transmission system events.

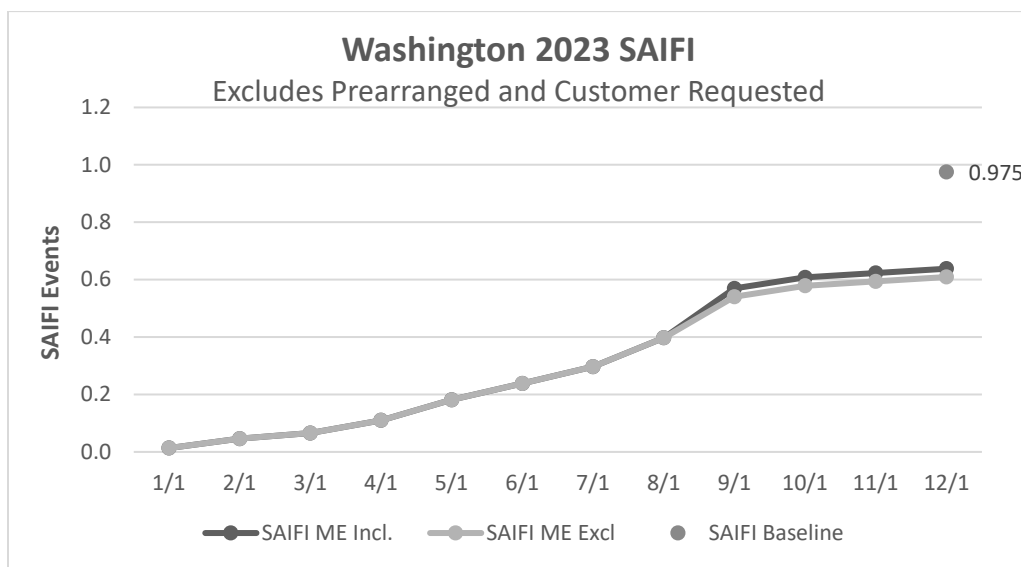
January 1 through December 31, 2023	
2023 SAIDI Internal Goal = 87.5	SAIDI Actual
Total Performance	79
SAIDI-based Major Events Excluded	0
SAIFI-based Major Events Excluded	2
Reported (Major Events Excluded)	77



3.3 System Average Interruption Frequency Index (SAIFI)

During 2023 outage frequency or SAIFI was better than baseline.

January 1 through December 31, 2023	
2023 SAIFI Internal Goal = 0.8	SAIFI Actual
Total Performance	0.635
SAIDI-based Major Events Excluded	0
SAIFI-based Major Events Excluded	0.029
Reported (Major Events Excluded)	0.606



3.4 Operating Area Metrics

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

January 1 – December 31, 2023	Sunnyside			Walla Walla			Yakima		
	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
Including Major Events	87	0.655	133	67	0.803	84	87	0.634	137
SAIDI-based Major Events	-	-	-	-	-	-	-	-	-
SAIFI-based Major Events	-	-	-	9	0.130	71	-	-	-
Reported Major Events Excluded	87	0.655	133	58	0.672	86	87	0.634	137

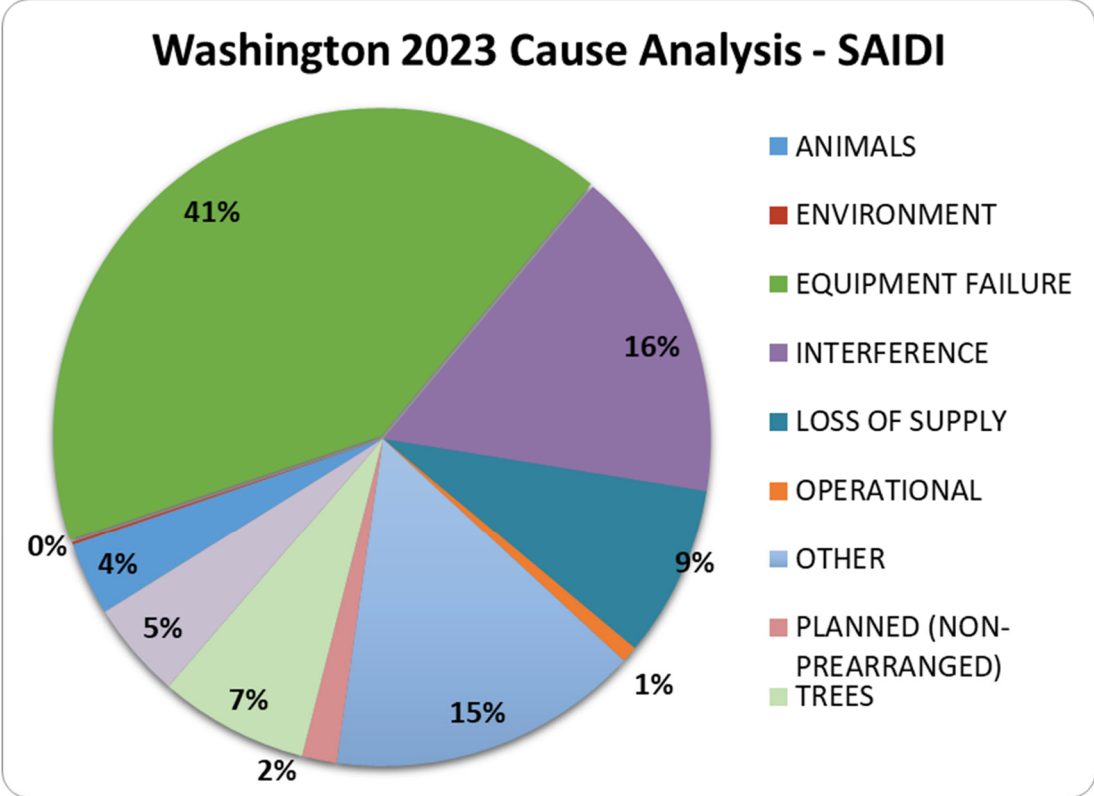
2023 CUSTOMER COUNTS	
SUNNYSIDE	24,793
WALLA WALLA	28,161
YAKIMA	83,433
WASHINGTON STATE	136,387

3.5 Cause Code Analysis

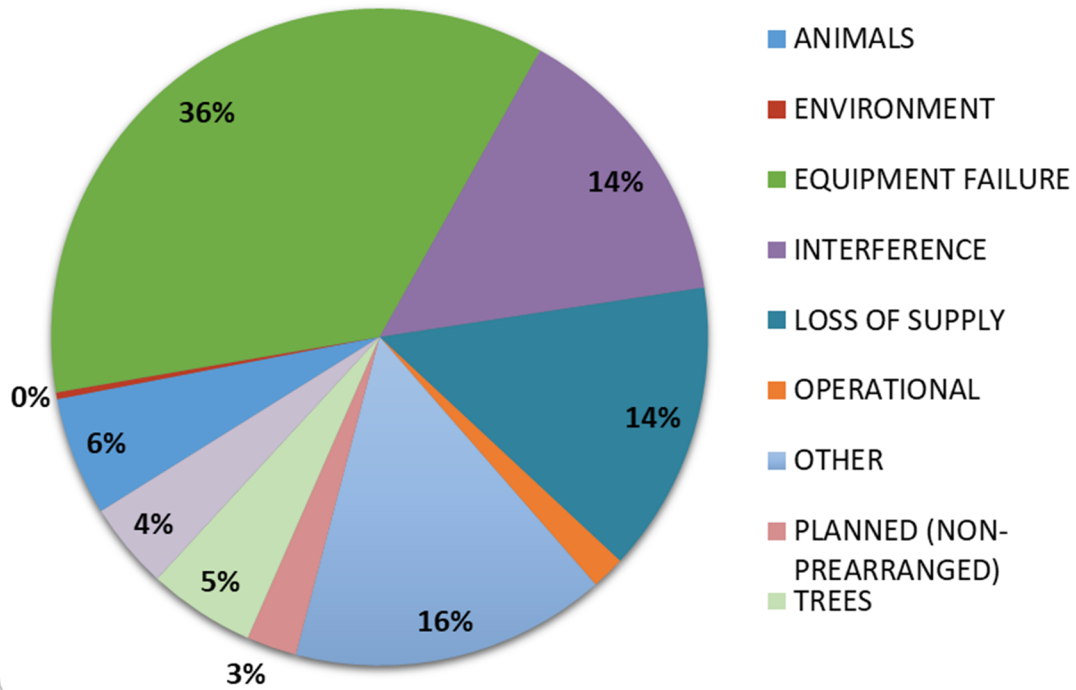
Outage incidents are categorized by cause codes, and customer minutes lost (CML) relates to average outage duration (SAIDI). Sustained incidents are related to average outage frequency (SAIFI). Some outages, like “Loss of Supply,” are infrequent but have high duration, while others are more frequent but shorter in duration. The pie charts depict the percentage breakdown of each cause category, and a cause category table provides definitions and examples. Historical cause codes summarize annual SAIDI and SAIFI performance.

Washington Cause Analysis - Underlying 1/1 - 12/31/2023					
Direct Cause	Customer Minutes Lost for Incident	Customers in Incident Sustained	Sustained Incident Count	SAIDI	SAIFI
ANIMALS	91,742	880	137	0.67	0.01
BIRD MORTALITY (NON-PROTECTED SPECIES)	183,409	1,719	108	1.34	0.01
BIRD MORTALITY (PROTECTED SPECIES) (BMTS)	33952.799	953	6	0.25	0.01
BIRD NEST (BMTS)	421	4	4	0.00	0.00
BIRD SUSPECTED, NO MORTALITY	69,416	1284	25	0.51	0.01
ANIMALS	378,940	4,840	280	2.78	0.04
CONDENSATION / MOISTURE	1,074	3	1	0.01	0.00
FIRE/SMOKE (NOT DUE TO FAULTS)	12,281	271	4	0.09	0.00
ENVIRONMENT	13,354	274	5	0.10	0.00
B/O EQUIPMENT	1,275,338	10,109	424	9.35	0.07
DETERIORATION OR ROTTING	1,741,622	10,042	352	12.77	0.07
NEARBY FAULT	26,768	798	7	0.20	0.01
OVERLOAD	85,248	621	42	0.63	0.00
POLE FIRE	1,176,516	8,066	100	8.63	0.06
EQUIPMENT FAILURE	4,305,492	29,636	925	31.57	0.22
DIG-IN (NON-PACIFICORP PERSONNEL)	60,242	186	8	0.44	0.00
OTHER INTERFERING OBJECT	254,415	3792	21	1.87	0.03
OTHER UTILITY/CONTRACTOR	29,272	241	9	0.21	0.00
VANDALISM OR THEFT	21676.783	112	3	0.16	0.00
VEHICLE ACCIDENT	1,359,963	7,618	70	9.97	0.06
INTERFERENCE	1,725,568	11,949	111	12.65	0.09
LOSS OF SUBSTATION	503,270	2,913	4	3.69	0.02
LOSS OF TRANSMISSION LINE	386,140	8,942	21	2.83	0.07
LOSS OF SUPPLY	889,410	11,855	25	6.52	0.09
FAULTY INSTALL	32669	182	1	0.24	0.00

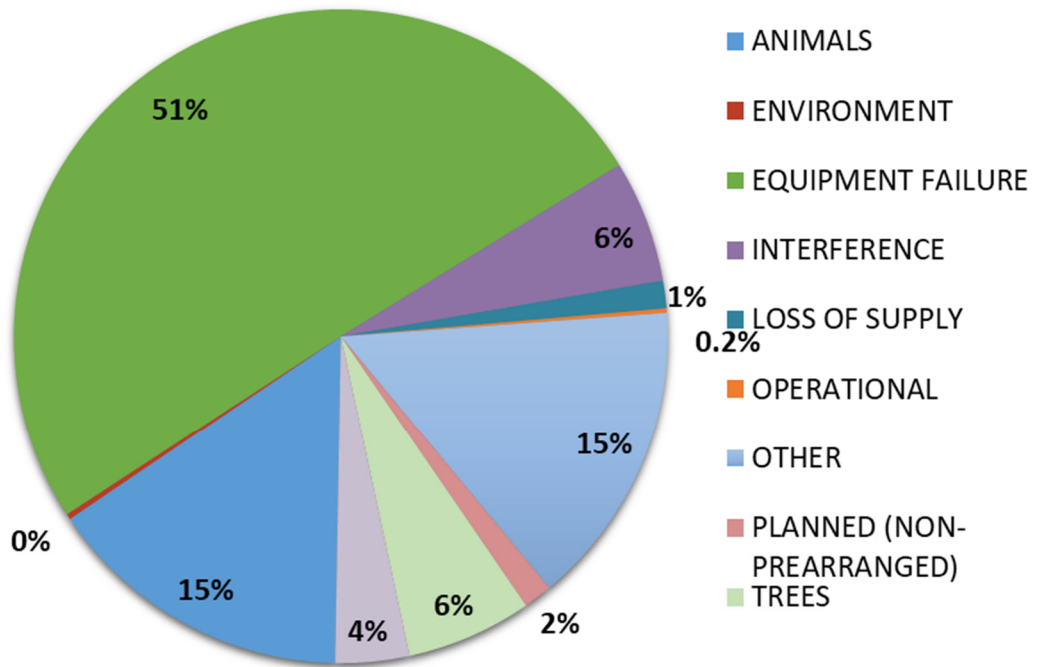
Washington Cause Analysis - Underlying 1/1 - 12/31/2023					
Direct Cause	Customer Minutes Lost for Incident	Customers in Incident Sustained	Sustained Incident Count	SAIDI	SAIFI
IMPROPER PROTECTIVE COORDINATION	138	1	1	0.00	0.00
INCORRECT RECORDS	120.75	1	1	0.00	0.00
INTERNAL CONTRACTOR	51,157	1,181	1	0.38	0.01
OPERATIONAL	84,084	1,365	4	0.62	0.01
OTHER, KNOWN CAUSE	411,688	2,017	60	3.02	0.01
UNKNOWN	1,197,893	10,830	218	8.78	0.08
OTHER	1,609,581	12,847	278	11.80	0.09
CONSTRUCTION	149	1	1	0.00	0.00
CUSTOMER NOTICE GIVEN	1,414,016	11033	680	10.37	0.08
CUSTOMER REQUESTED	654	17	4	0.00	0.00
EMERGENCY DAMAGE REPAIR	738,452	6944	66	5.41	0.05
ENERGY EMERGENCY INTERRUPTION	51,092	276	2	0.37	0.00
INTENTIONAL TO CLEAR TROUBLE	127,519	1,760	24	0.93	0.01
PLANNED NOTICE EXEMPT	555,599	5649	19	4.07	0.04
PLANNED	2,887,479	25,680	796	21.17	0.19
TREE - NON-PREVENTABLE	703,126	3822	105	5.16	0.03
TREE - TRIMMABLE	67,418	533	9	0.49	0.00
TREES	770,544	4,355	114	5.65	0.03
FREEZING FOG & FROST	75.983	1	1	0.00	0.00
ICE	1,530	3	2	0.01	0.00
LIGHTNING	22,280	167	26	0.16	0.00
SNOW, SLEET AND BLIZZARD	171,422	656	21	1.26	0.00
WIND	303,014	2,701	17	2.22	0.02
WEATHER	498,322	3,528	67	3.65	0.03
Washington Including Prearranged	13,162,776	106,329	2,605	96.51	0.78
Washington Prearranged	2,708,868	23,644	770	19.86	0.17
Washington Underlying Results	10,453,908	82,685	1,835	76.65	0.61



Washington 2023 Cause Analysis - SAIFI

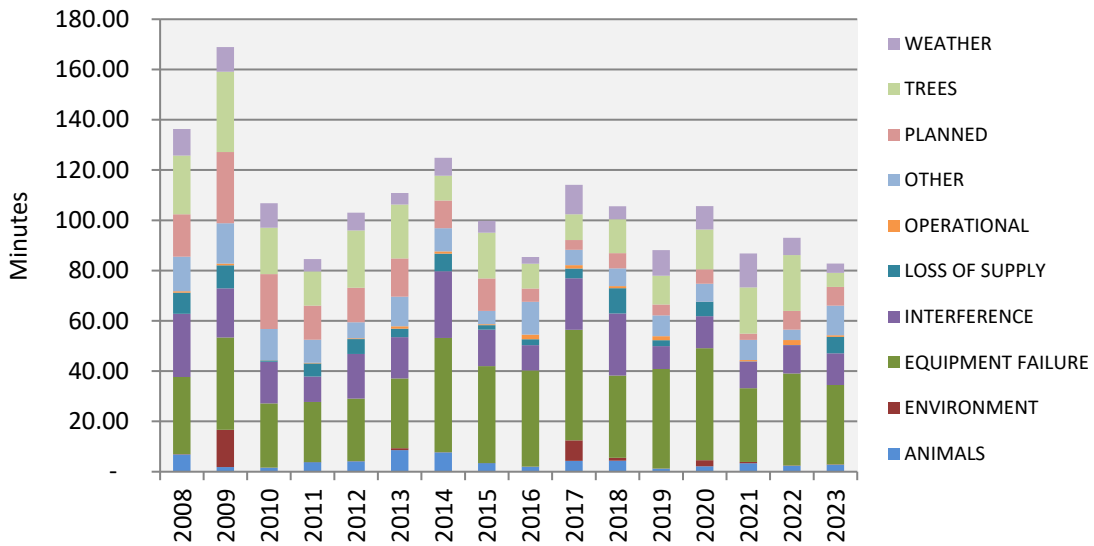


Washington 2023 Cause Analysis - Incidents

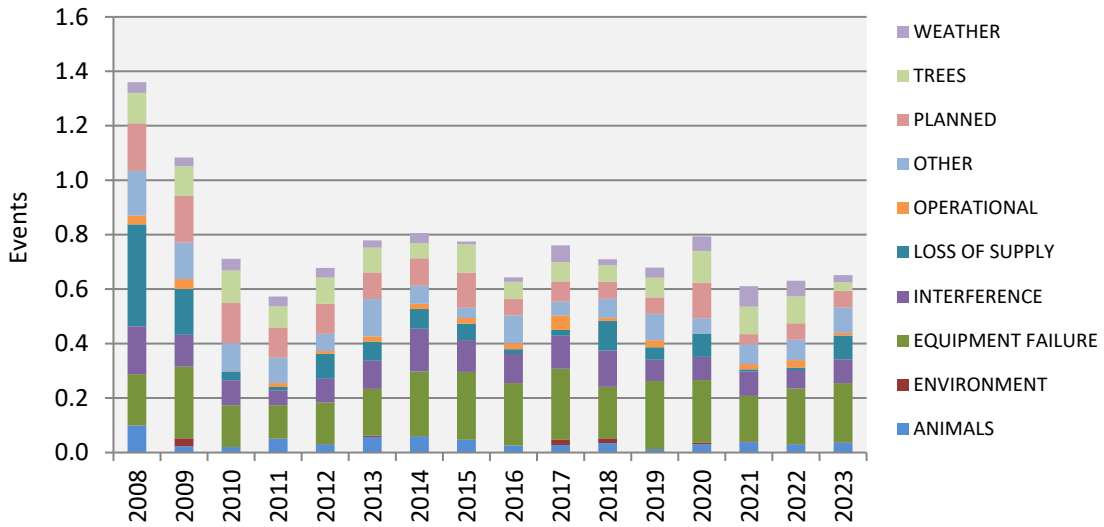


Direct Cause Category	Category Definition & Example/Direct Cause
Animals	Any problem nest that requires removal, relocation, trimming, etc.; any birds, squirrels, or other animals, whether remains found.
	<ul style="list-style-type: none"> • Animal (Animals) • Bird Mortality (Non-protected species) • 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).
	<ul style="list-style-type: none"> • 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).
	<ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • Tree-non-preventable • Tree-Trimable • Tree-Tree felled by Logger
Weather	Wind (excluding windborne material); snow, sleet or blizzard, ice, freezing fog, frost, lightning.
	<ul style="list-style-type: none"> • Extreme Cold/Heat • Freezing Fog & Frost • Wind • Lightning • Rain • Snow, Sleet, Ice and Blizzard

Washington Cause History - SAIDI



Washington Cause History - SAIFI



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 recent years, 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
NACHES PLANT	HAY	5Y131	Identified as a worst performing circuit. 5Y131 is undergoing a project that will increase fusing and improve protection coordination to better isolate faults.	115
PROSPECT POINT	RESER ROAD	5W16	Identified as a worst performing circuit. No projects identified at this time.	80
WILEY	TAMPICO	5Y380	Identified as a worst performing circuit and a circuit that is in a disadvantaged community. No projects identified at this time.	113
WILEY	STEIN	5Y164	Identified as a worst performing circuit. No projects identified at this time.	96
TOPPENISH	BUENA	5Y244	Identified as a worst performing circuit. No projects identified at this time.	143

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 12/31/2023
PROGRAM YEAR 2024		
Pahtoe 5Y690	99	100
Airport 5Y338	94	112
West Rural 5Y243	68	7
Prescott 5W305	65	49
Harrah 5Y202	56	29
GOAL MET! TARGET SCORE = 61	76	59
PROGRAM YEAR 2023		
Fraley 5Y246	33	50
Jefferson 5Y352	97	886
Windward 4W22	79	104
East Valley 5Y441	109	74
Nile 4Y1	385	298
TARGET SCORE = 112	141	282
PROGRAM YEAR 2022		
Freeway 5Y356	22	13
Mall 5Y466	31	2
Sheller 5Y314	43	6
Touchet 5W124	73	63
Twelfth Ave. 5Y197	13	71
TARGET SCORE = 29	36	31
PROGRAM YEAR 2021		
Donald 5Y330	117	43
Nikola 5Y435	65	33
Pippin 5Y860	78	35
Stone Creek 5W19	63	32
Waneta 5Y316	67	98
GOAL MET! TARGET SCORE = 63	78	48
PROGRAM YEAR 2020		
Bonneview 5Y302	44	33
Cannery 5W323	50	40
Gibson Rd 5Y601	126	6
Peach 5Y498	34	8
Satus 5Y205	80	55
GOAL MET! TARGET SCORE = 53	69	28
PROGRAM YEAR 2019		

WASHINGTON WORST PERFORMING CIRCUITS	BASELINE	Performance 12/31/2023
GRANGER 5Y357	114	41
HAY 5Y131	191	115
MABTON EXPR 5Y174	113	31
WESLEY 5Y218	135	100
ZILLAH 5Y245	280	19
GOAL MET! TARGET SCORE = 133	167	61
PROGRAM YEAR 2018		
Dazet 5Y434		19
Green Park 5W116	53	36
Harrah 5Y202	113	29
Orion 5Y577	89	10
Reser Road 5W16	50	80
GOAL MET! TARGET SCORE = 57	67	35
PROGRAM YEAR 2017		
GURLEY 5Y358 (circuit split into 5Y850 and 5Y854)	119	
5Y850	119	9
5Y854	119	119
BOYER 5W118	48	36
FERNDALE 5W106	88	52
NILE 4Y1	301	298
4 TH St. 5Y468	91	48
GOAL MET! TARGET SCORE = 104	129	94
PROGRAM YEAR 2016		
DRAPER 5Y156	162	43
PINE STREET (BOWMAN) 5W150	26	39
RUSSEL CREEK 5W121	23	31
TAUMARSON FEEDER 5W50	29	40
VAN BELLE 5Y312	149	72
GOAL MET! TARGET SCORE = 62	78	45

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 2023 = 71% ¹²					
January	February	March	April	May	June
64%	71%	58%	80%	45%	82%
July	August	September	October	November	December
72%	79%	93%	76%	69%	83%

3.9 Telephone Service and Response to Commission Complaints

COMMITMENT	GOAL	PERFORMANCE
PS5-Answer calls within 30 seconds	80%	76% ¹³
PS6a) Respond to commission complaints within 3 days ¹⁴	95%	100%
PS6b) Respond to commission complaints regarding service disconnects within 4 hours	95%	100%
PS6c) Resolve commission complaints within 30 days	95%	100%

¹² The Company missed its target of 80%, reaching 71% for the year. This shortfall was primarily due to substantial disruptions in equipment failure (lines down) in July and August and wildlife interference in May and September. While these disruptions were not classified as major events, they significantly hindered the ability of the company to meet its goal.

¹³ Despite staffing challenges stemming from labor dynamics during the COVID-19 pandemic, Pacific Power has consistently improved its PS5 performance. With continued efforts to achieve its PS5 target, the Company has seen a steady improvement in performance, achieving a 75% performance level by mid-2023, and 76% at year-end. The current PS5 performance stands at 78.43% through Q1 2024 with a target of 80% by year-end. These efforts demonstrate resilience and commitment to the goal, even in challenging times.

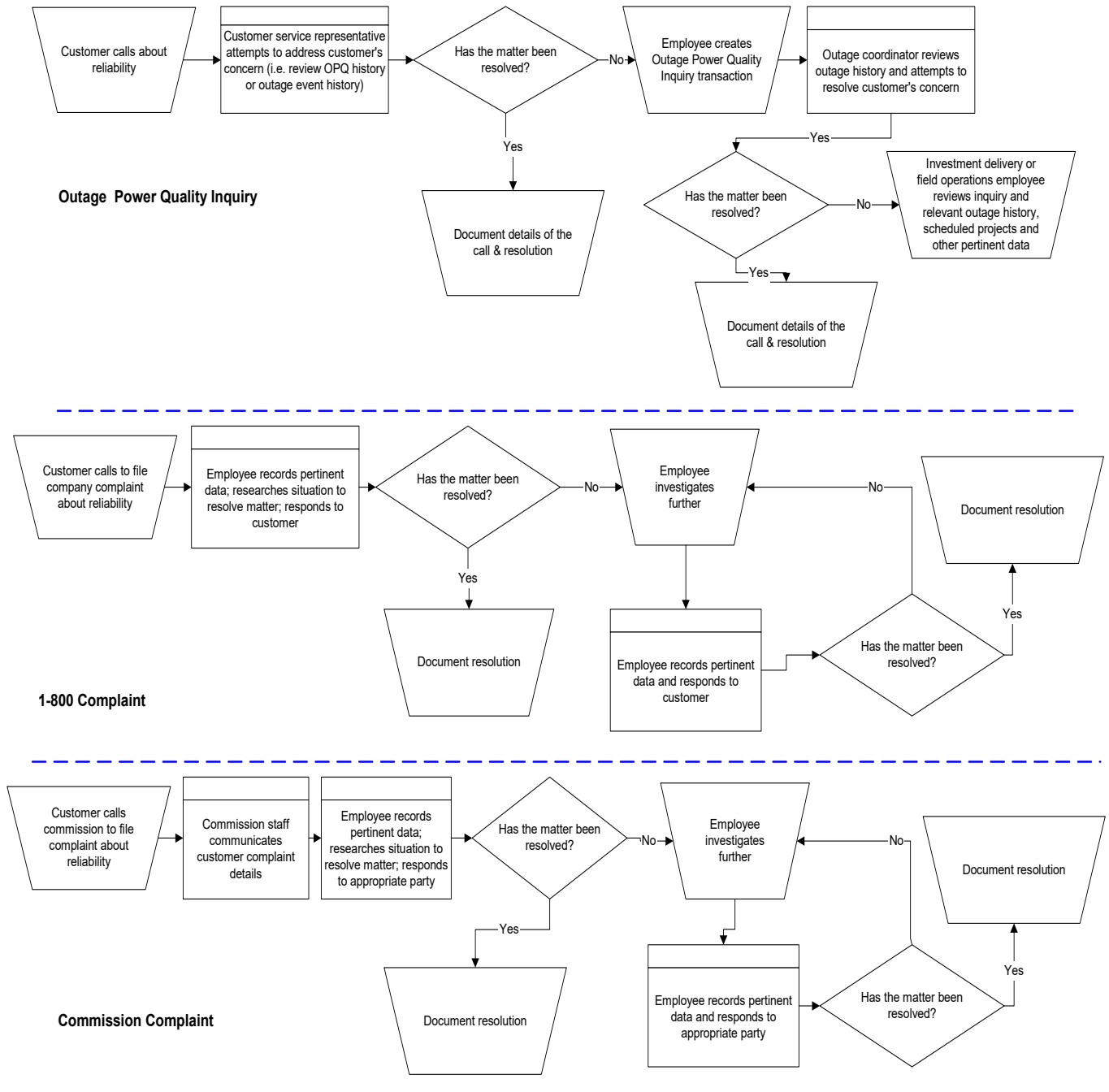
¹⁴ Although the Performance Standard indicates that complaints will be responded to within 3 days, the Company acknowledges and adheres to the requirements set forth in WAC 480-100-173(3)(a).

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 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**

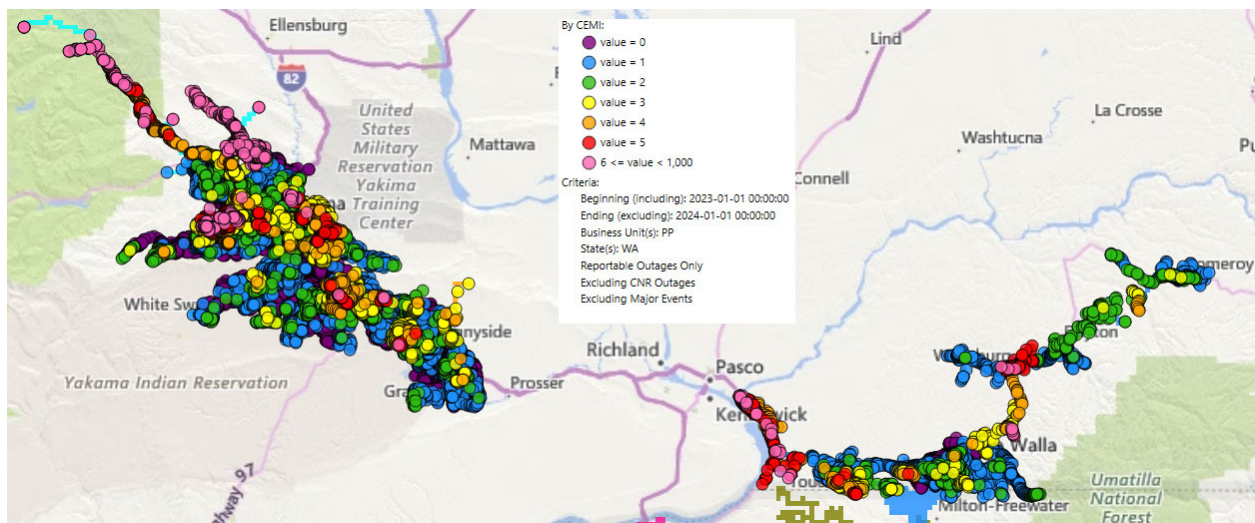
Received	Complaint Type	Site Address	Site ID	Sub- Complaint type	Summary
11/29/2023	Reliability and Restoration	4007 Logan Pl	510126475	Frequency of Outages	Customer was concerned with the number of power outages experienced. A two-year outage history showed two planned and two unplanned outages in the past 24 months. The local manager spoke to the customer and provided the reliability plans for 2024. The customer was satisfied with this information and the complaint was closed.
12/14/2023	Reliability and Restoration	731 Wellner Rd	847655539	Duration of Outage	Customer was concerned about a 10-hour power outage they experienced and felt the outage was preventable. The Commission was advised the outage was caused by a pole fire and lasted approximately 8 hours and 43 minutes.

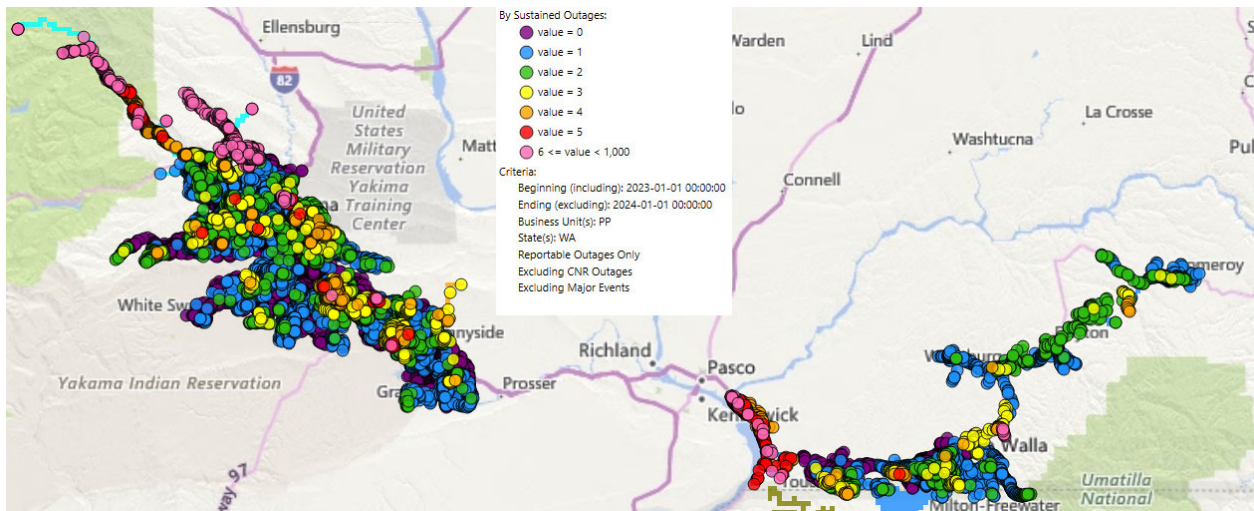
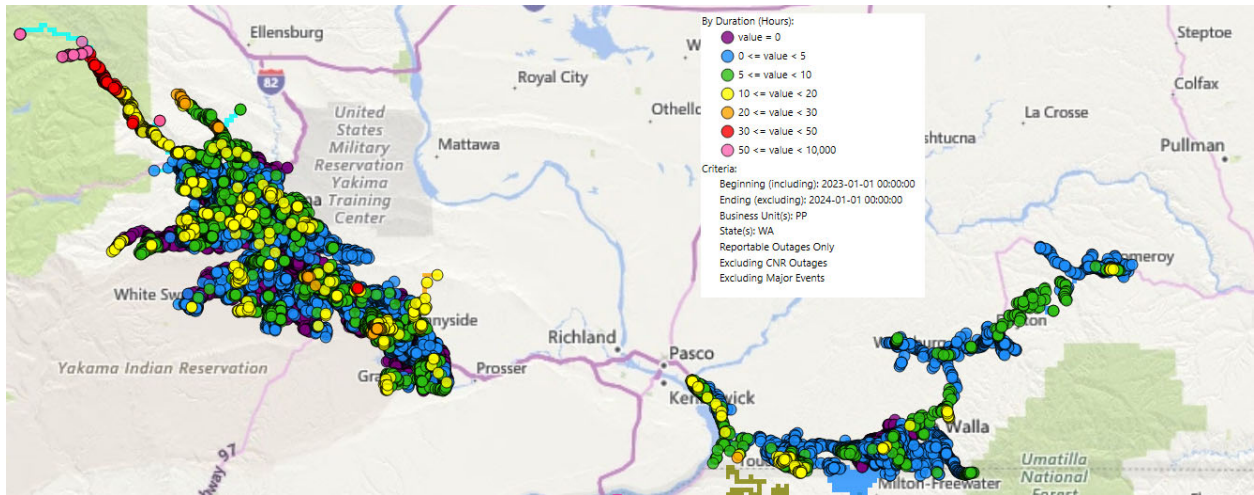
5 WASHINGTON RELIABILITY RESULTS DURING 2023

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.

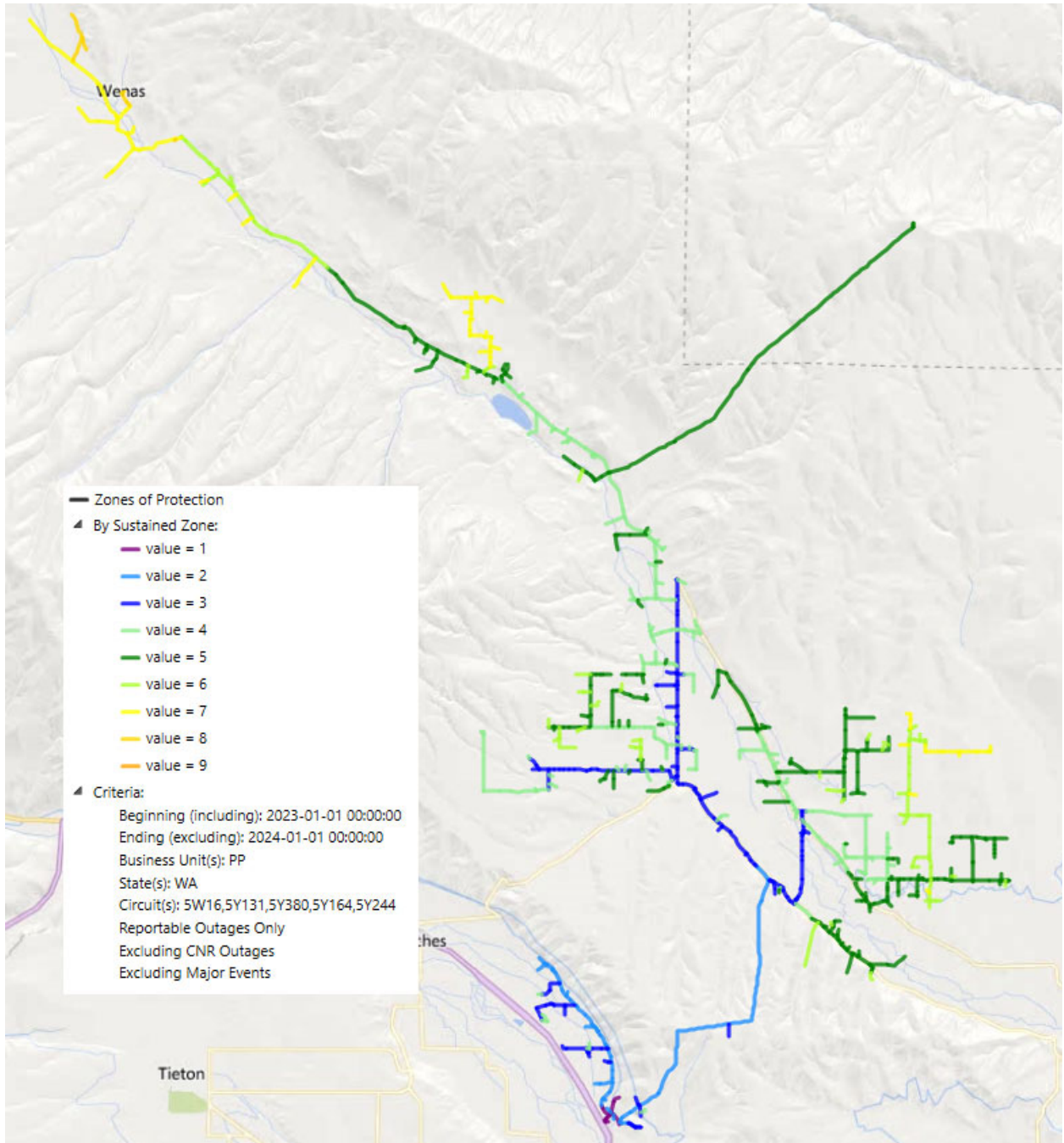
There are a few things the reader should note. First, this depiction exceeds the requirements of the reporting rule, although it is helpful to the Company in selecting areas of reliability concern. Second, in line with reporting rules, sustained interruptions are shown. This measure shows how many sustained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

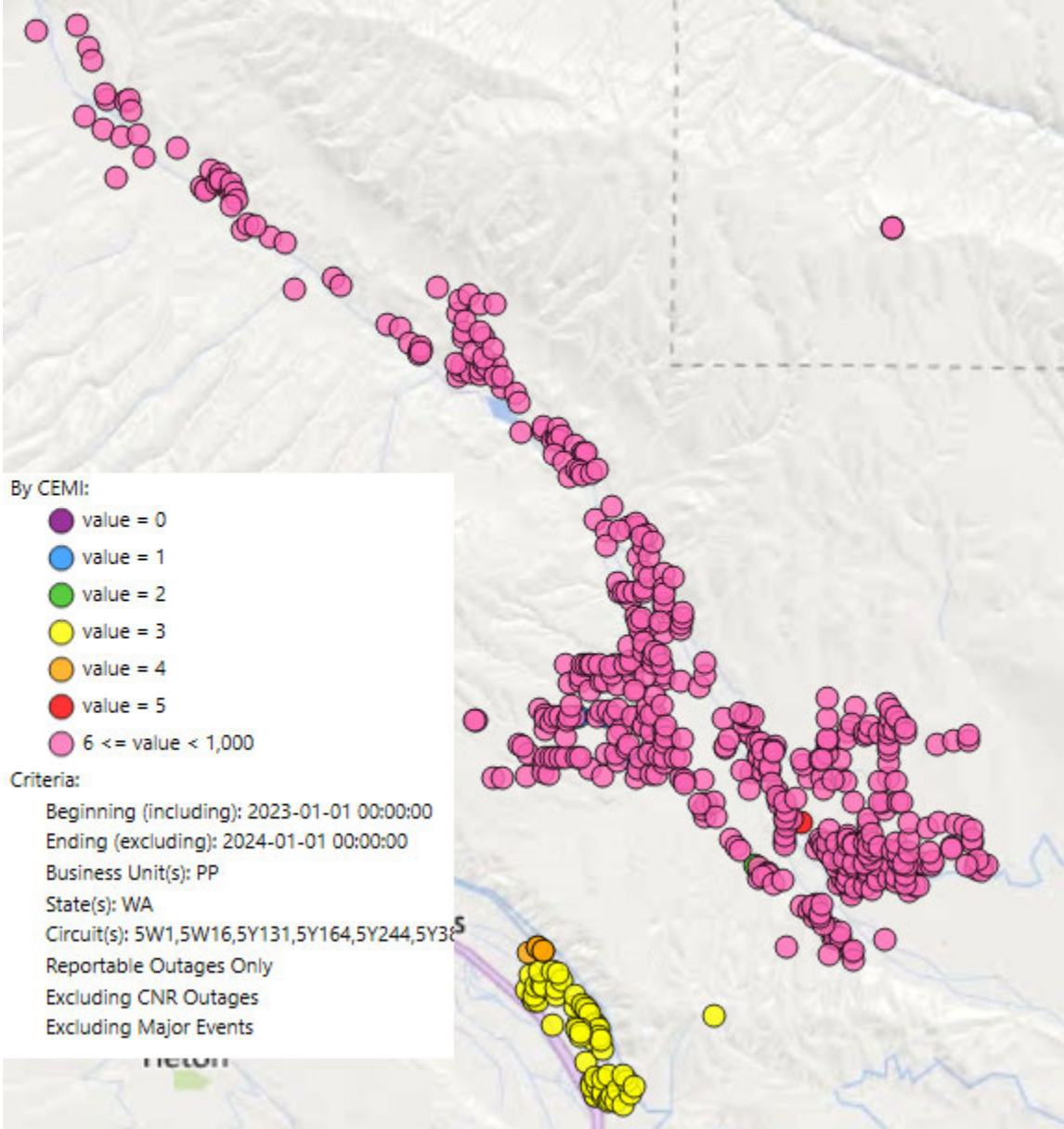
5.1 State Reliability

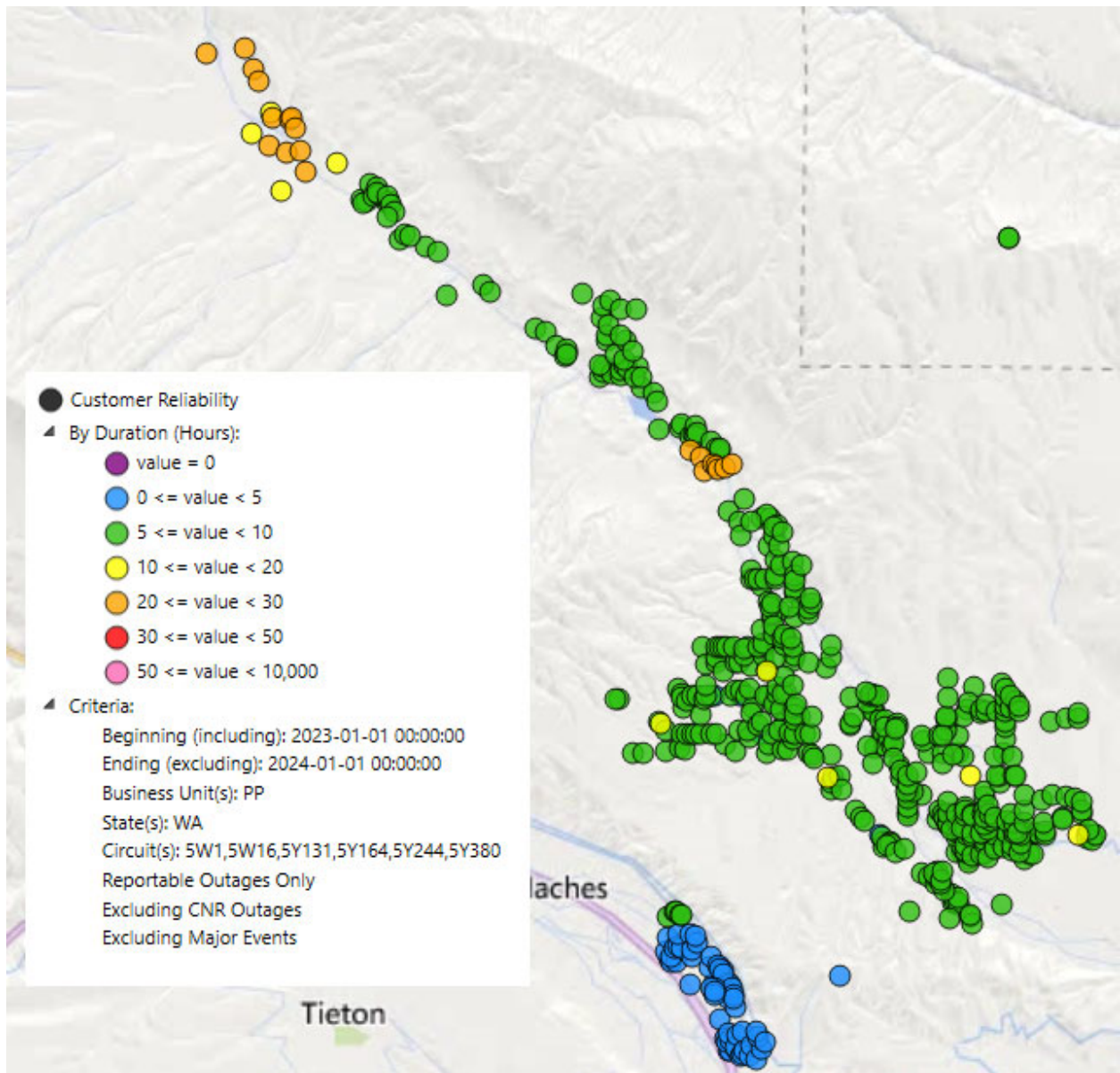




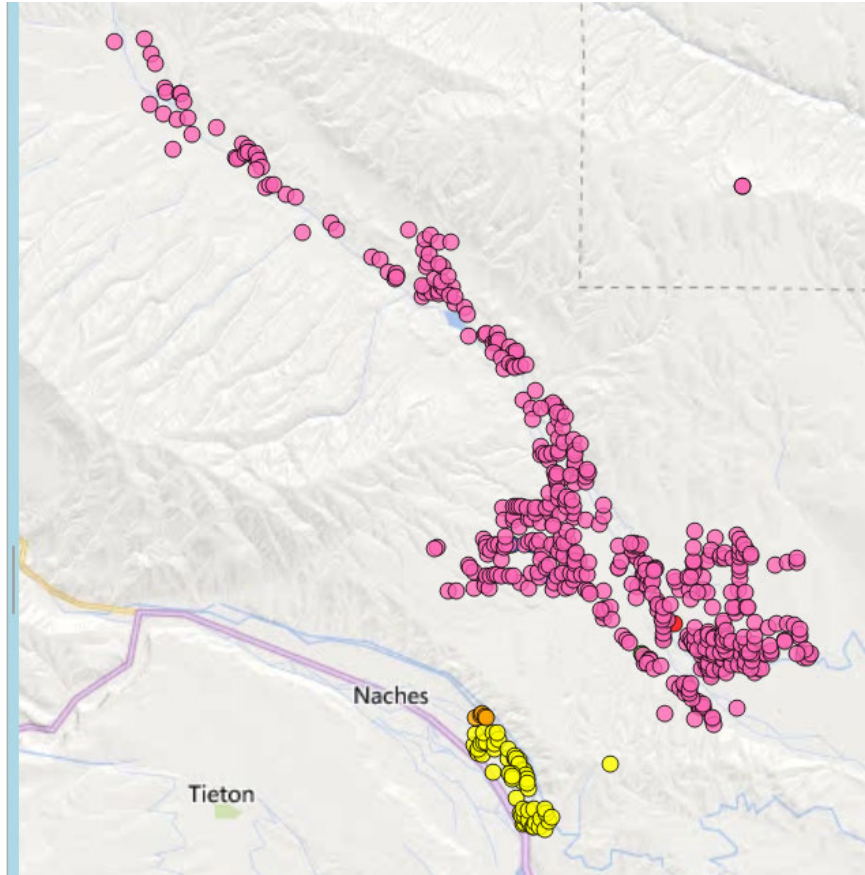
5.2 5Y131: Hay



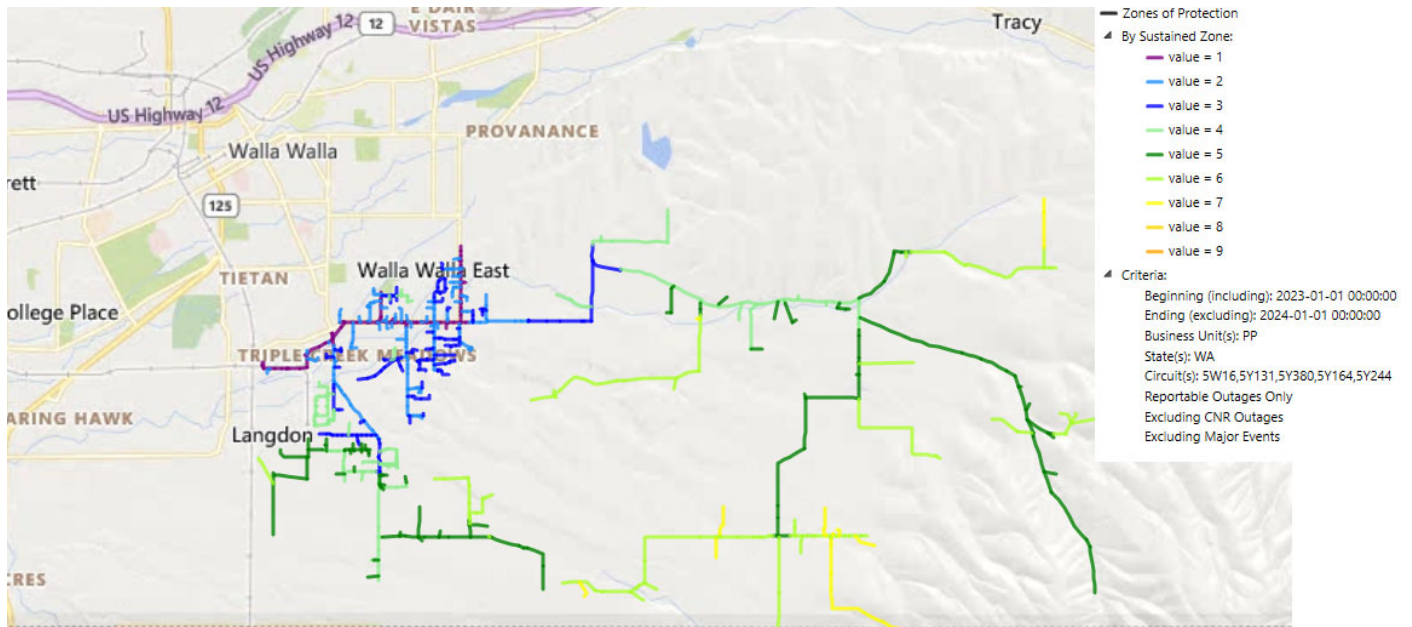


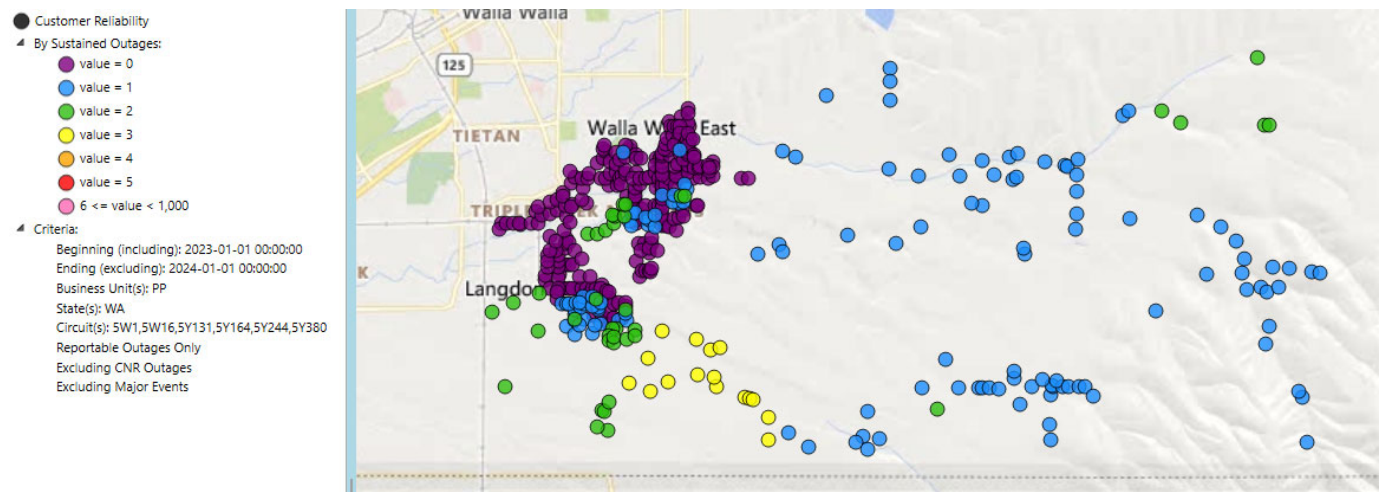
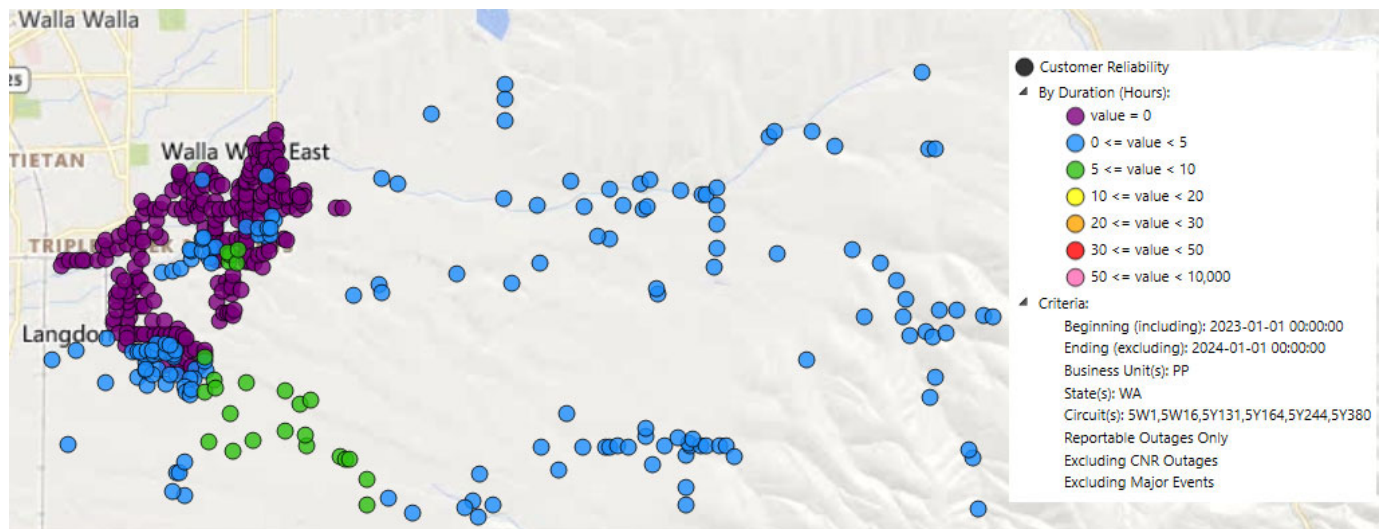
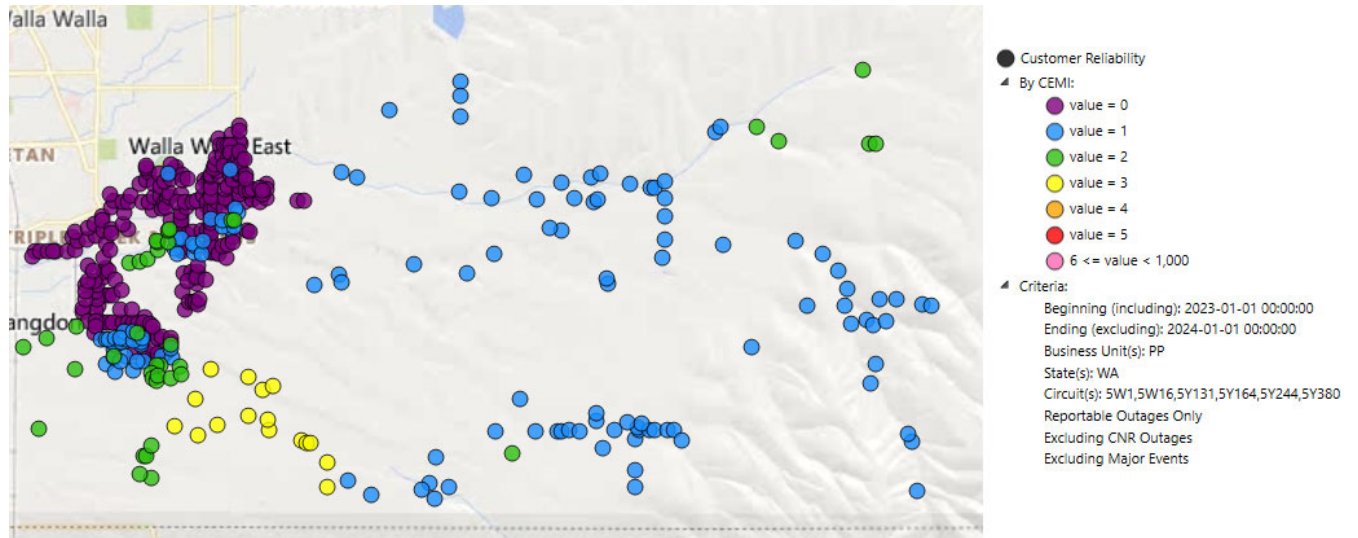


- Customer Reliability
- ▲ By Sustained Outages:
 - value = 0
 - value = 1
 - value = 2
 - value = 3
 - value = 4
 - value = 5
 - 6 <= value < 1,000
- ▲ Criteria:
 - Beginning (including): 2023-01-01 00:00:00
 - Ending (excluding): 2024-01-01 00:00:00
 - Business Unit(s): PP
 - State(s): WA
 - Circuit(s): 5W1,5W16,5Y131,5Y164,5Y244,5Y380
 - Reportable Outages Only
 - Excluding CNR Outages
 - Excluding Major Events

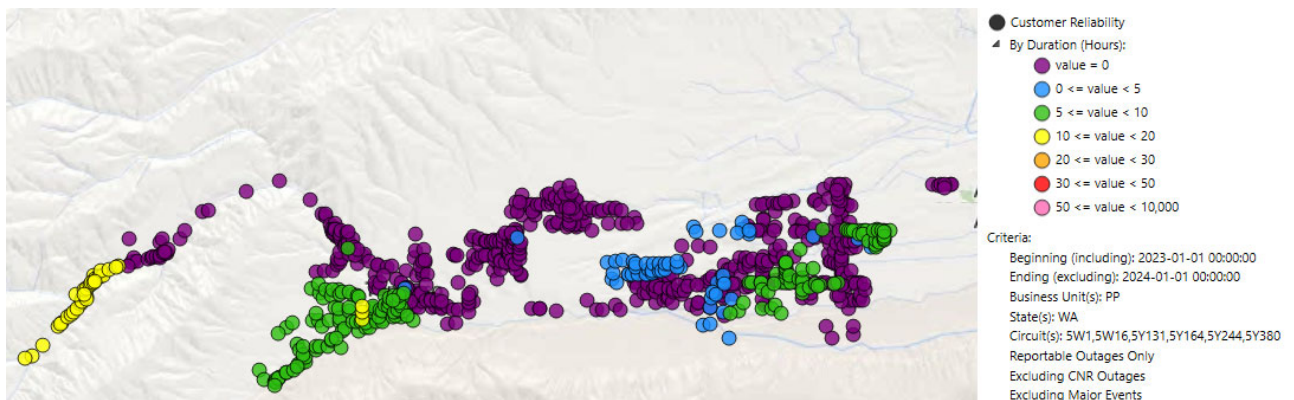
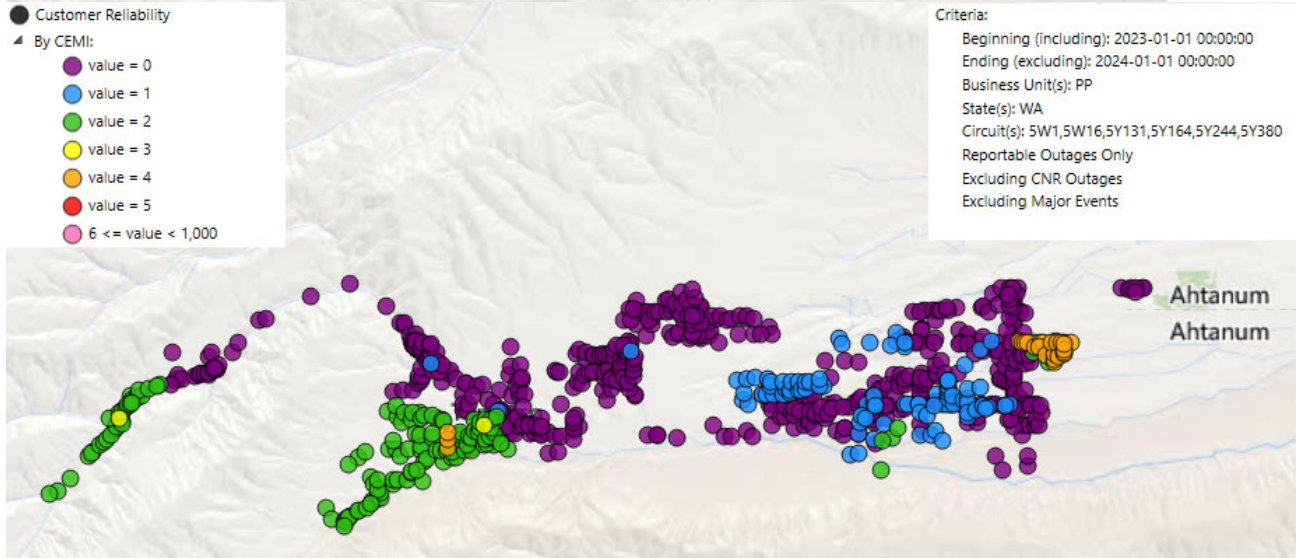
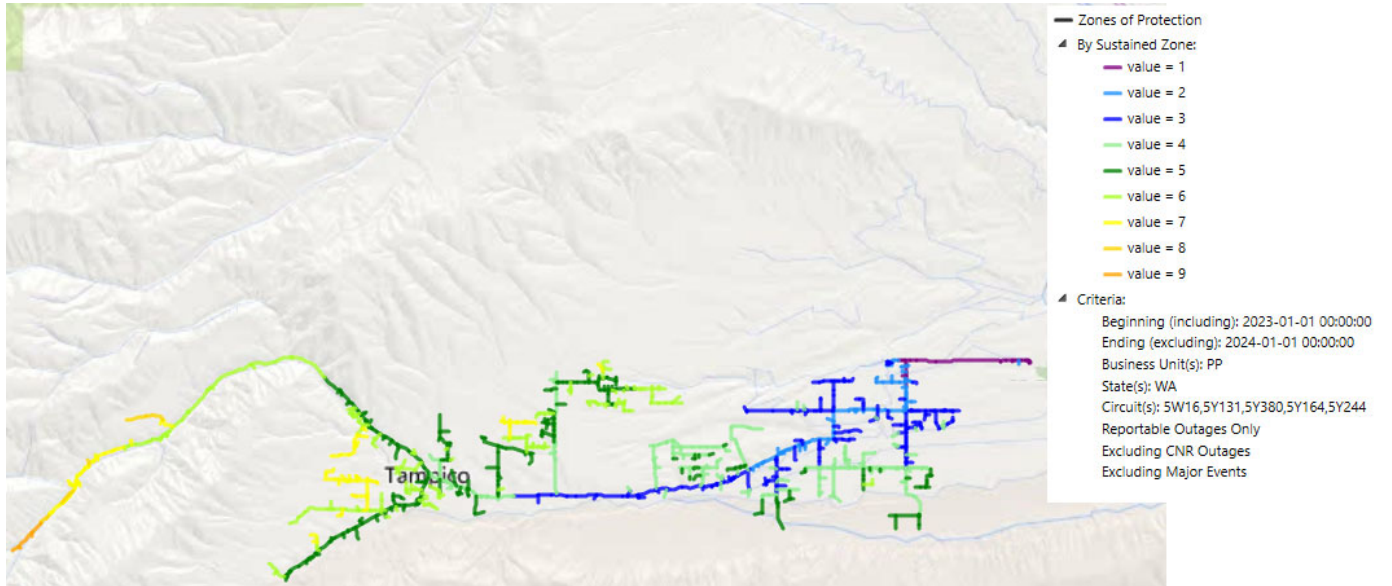


5.3 5W16: RESER ROAD

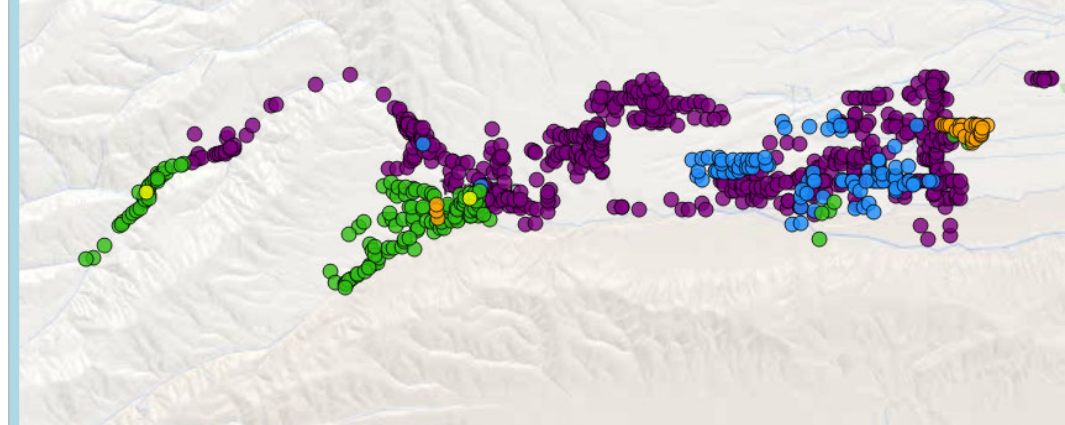




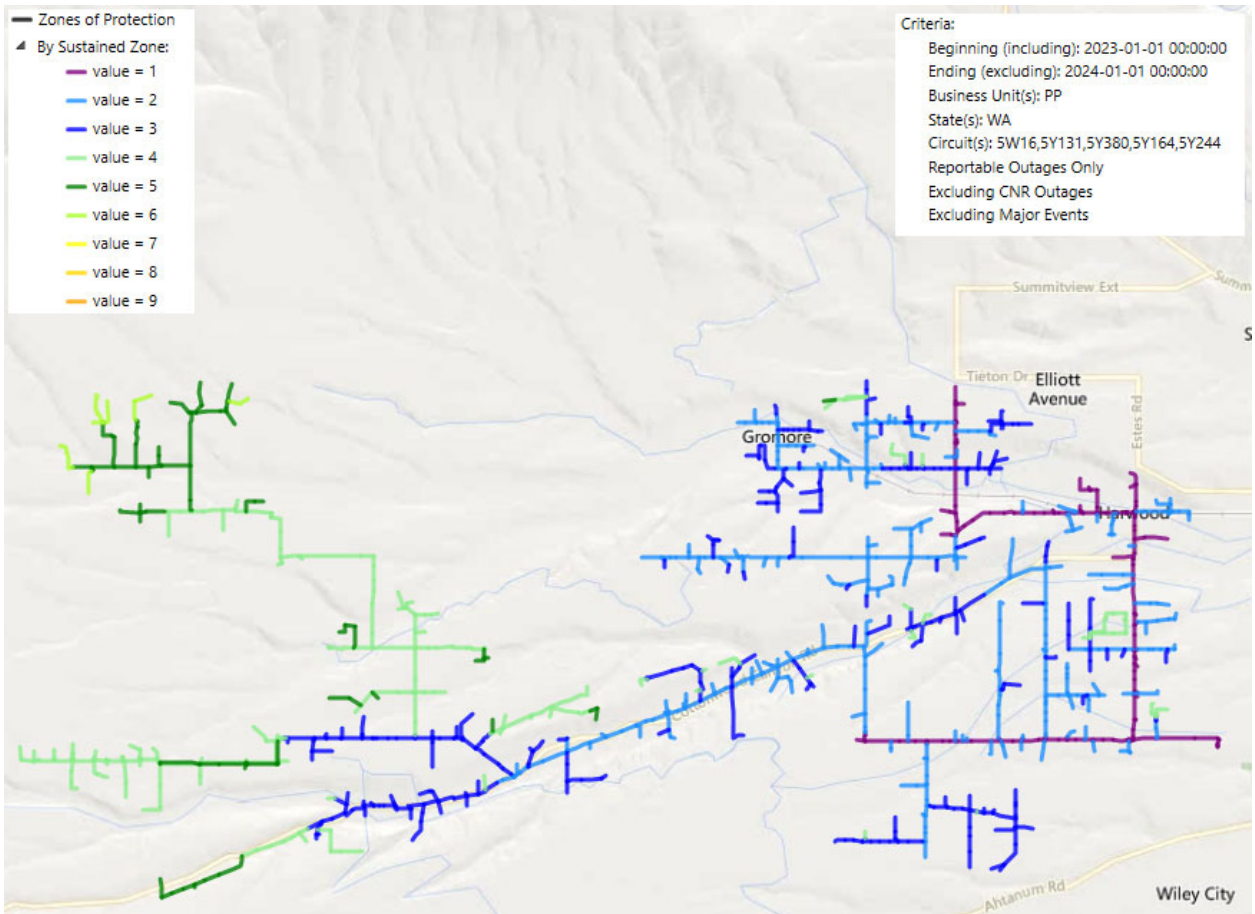
5.4 5Y380: Tampico

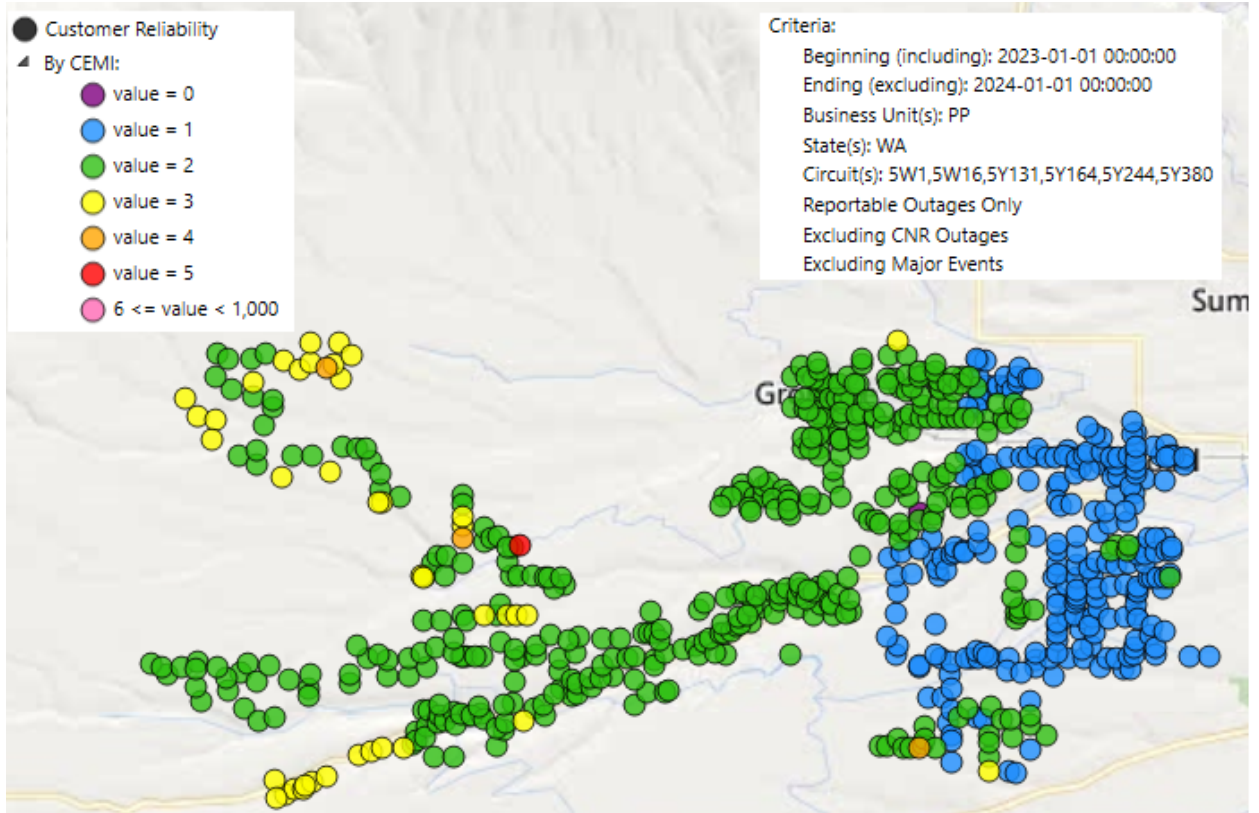


- Customer Reliability
- ▲ By Sustained Outages:
 - value = 0
 - value = 1
 - value = 2
 - value = 3
 - value = 4
 - value = 5
 - 6 <= value < 1,000
- ▲ Criteria:
 - Beginning (including): 2023-01-01 00:00:00
 - Ending (excluding): 2024-01-01 00:00:00
 - Business Unit(s): PP
 - State(s): WA
 - Circuit(s): 5W1,5W16,5Y131,5Y164,5Y244,5Y380
 - Reportable Outages Only
 - Excluding CNR Outages
 - Excluding Major Events



5.5 5Y164: Stein

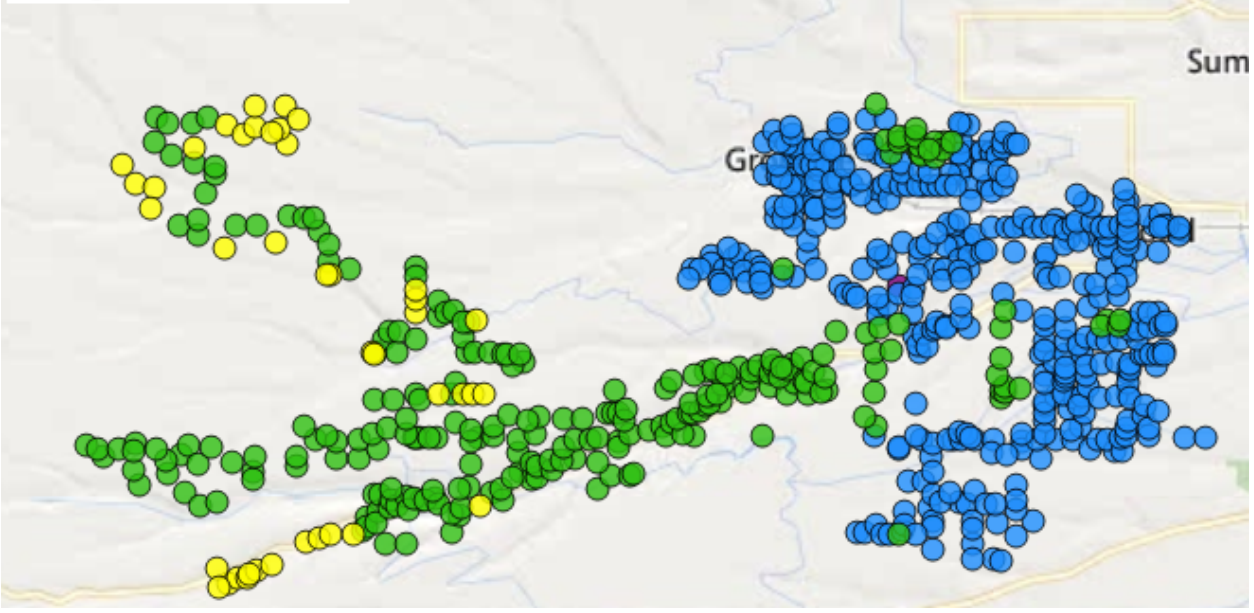




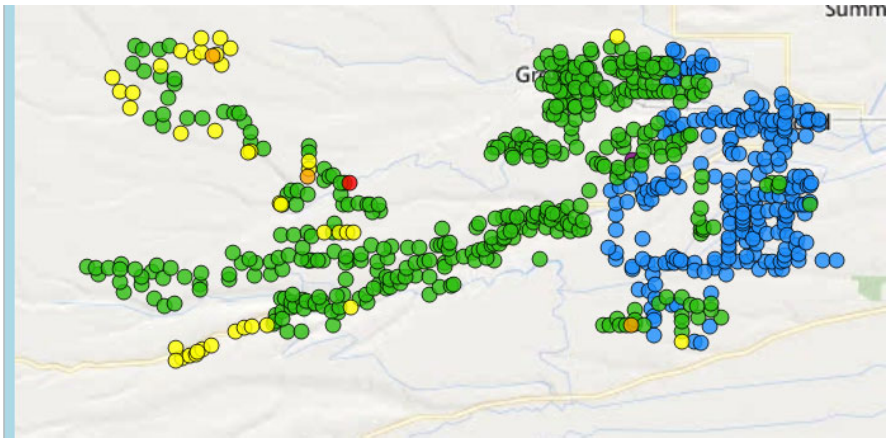
- Customer Reliability
- ▲ By Duration (Hours):
 - value = 0
 - 0 <= value < 5
 - 5 <= value < 10
 - 10 <= value < 20
 - 20 <= value < 30
 - 30 <= value < 50
 - 50 <= value < 10,000

Criteria:

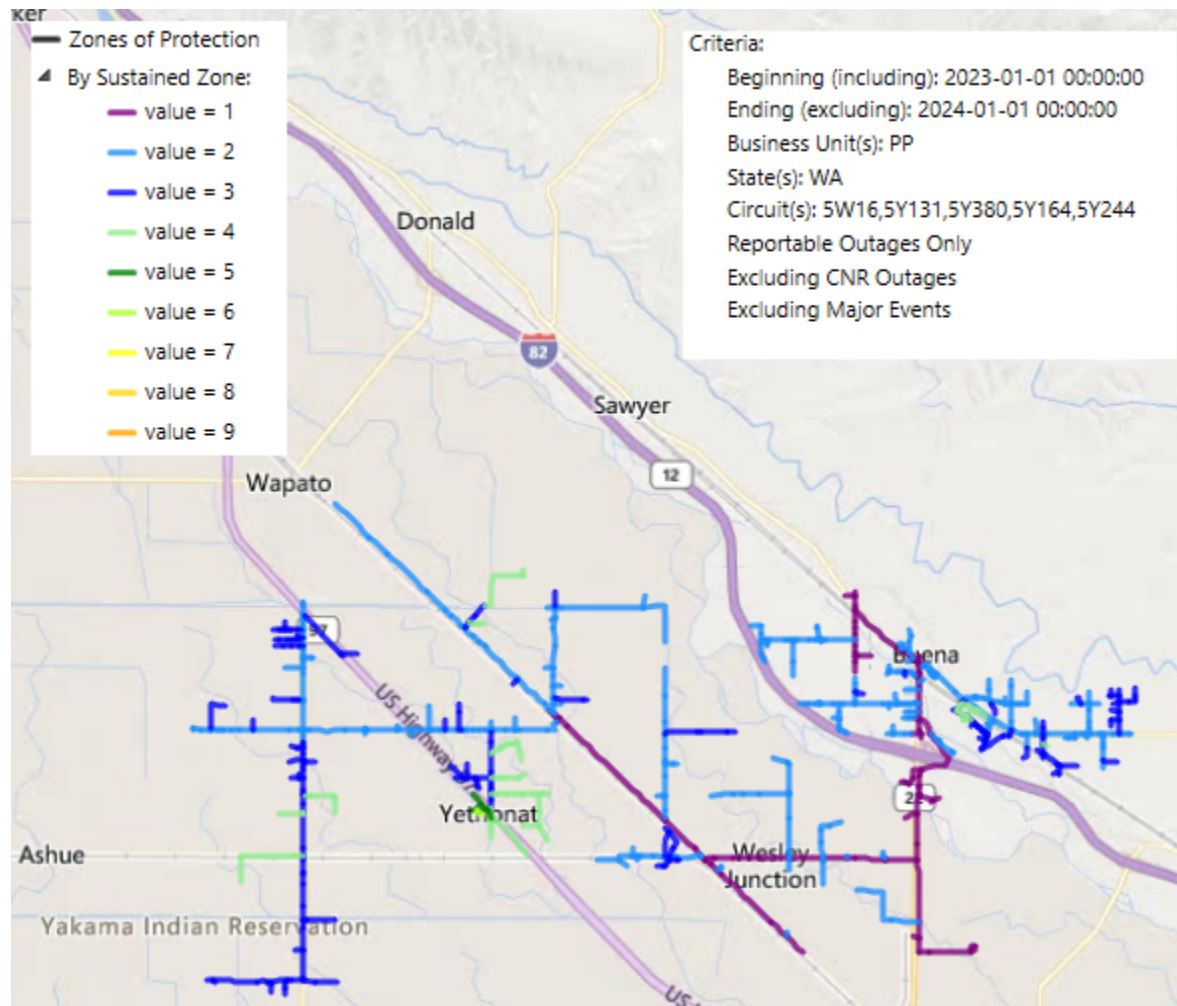
Beginning (including): 2023-01-01 00:00:00
 Ending (excluding): 2024-01-01 00:00:00
 Business Unit(s): PP
 State(s): WA
 Circuit(s): 5W1,5W16,5Y131,5Y164,5Y244,5Y380
 Reportable Outages Only
 Excluding CNR Outages
 Excluding Major Events

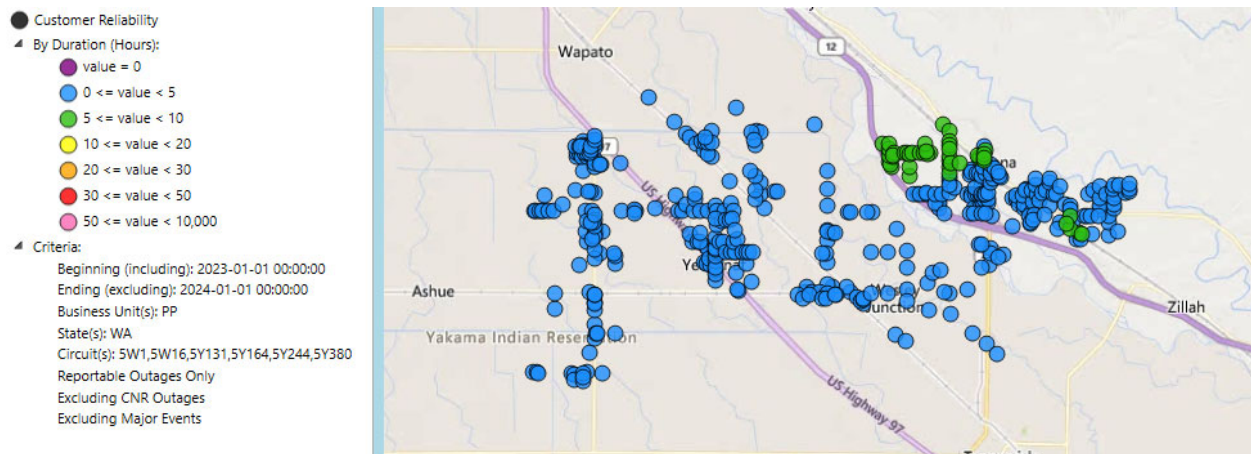
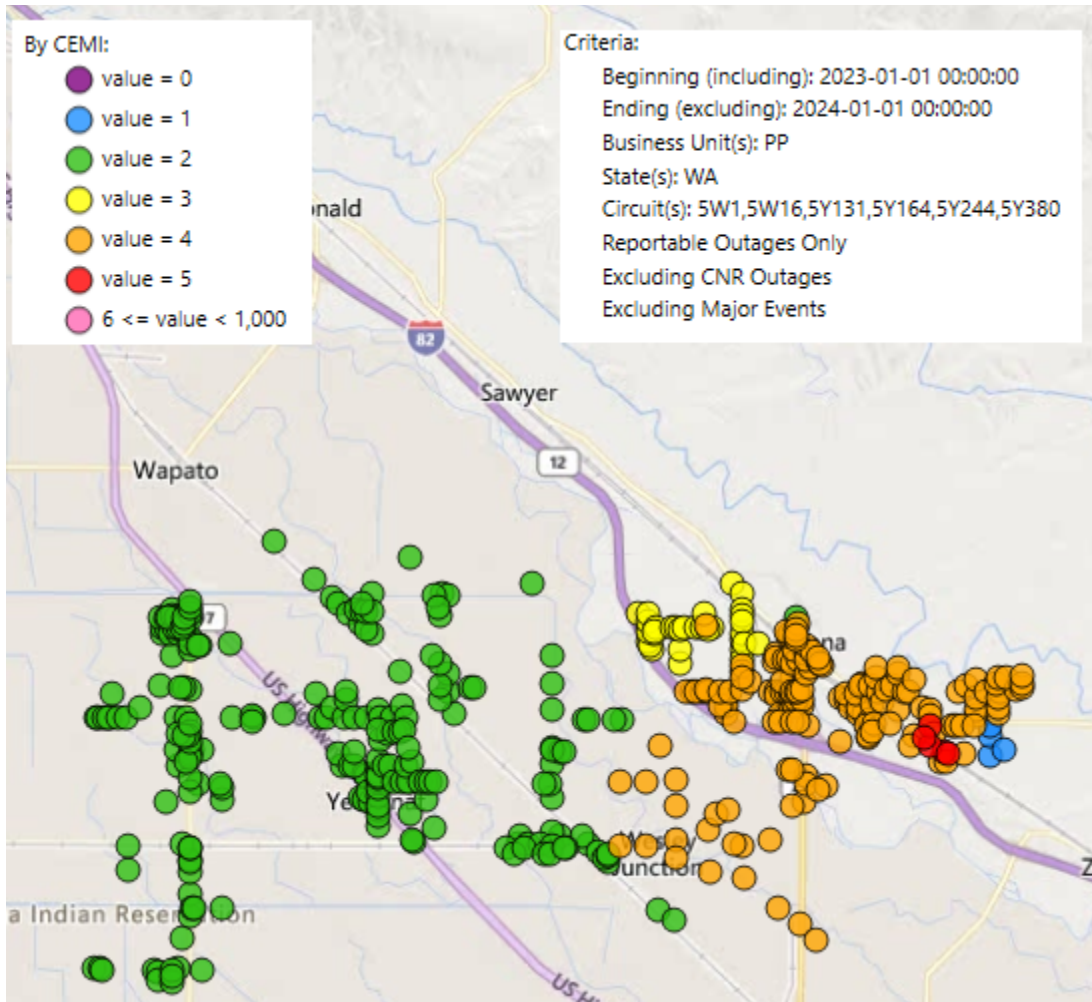


- Customer Reliability
- ▲ By Sustained Outages:
 - value = 0
 - value = 1
 - value = 2
 - value = 3
 - value = 4
 - value = 5
 - 6 <= value < 1,000
- ▲ Criteria:
 - Beginning (including): 2023-01-01 00:00:00
 - Ending (excluding): 2024-01-01 00:00:00
 - Business Unit(s): PP
 - State(s): WA
 - Circuit(s): 5W1,5W16,5Y131,5Y164,5Y244,5Y380
 - Reportable Outages Only
 - Excluding CNR Outages
 - Excluding Major Events

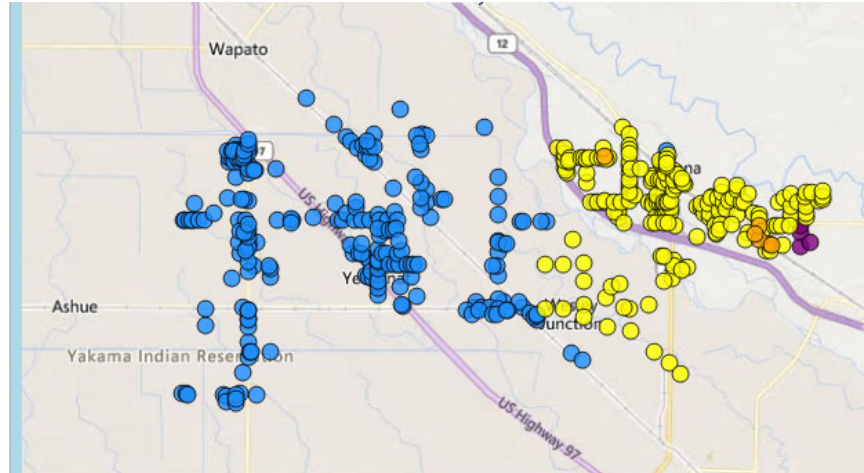


5.6 5Y244: Buena





- Customer Reliability
- ▾ By Sustained Outages:
 - value = 0
 - value = 1
 - value = 2
 - value = 3
 - value = 4
 - value = 5
 - 6 <= value < 1,000
- ▾ Criteria:
 - Beginning (including): 2023-01-01 00:00:00
 - Ending (excluding): 2024-01-01 00:00:00
 - Business Unit(s): PP
 - State(s): WA
 - Circuit(s): 5W1,5W16,5Y131,5Y164,5Y244,5Y380
 - Reportable Outages Only
 - Excluding CNR Outages
 - Excluding Major Events



APPENDIX A: Reliability Definitions

This section will define the various terms¹⁵ 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 1366-2022. 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 each 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

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 1366-2022. 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.

¹⁵ IEEE 1366-2022 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, if the interruption event did not result in a device experiencing a sustained interruption.

MAIFI_E

MAIFI_E (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 period, if 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:

$$\text{CPI} = \text{Index} * ((\text{SAIDI} * \text{WF} * \text{NF}) + (\text{SAIFI} * \text{WF} * \text{NF}) + (\text{MAIFI} * \text{WF} * \text{NF}) + (\text{Lockouts} * \text{WF} * \text{NF}))$$

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, $10.645 * ((3\text{-year SAIDI} * 0.30 * 0.029) + (3\text{-year SAIFI} * 0.30 * 2.439) + (3\text{-year MAIFI} * 0.20 * 0.70) + (3\text{-year breaker lockouts} * 0.20 * 2.00)) = \text{CPI Score}$

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 1366-2022.
- 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 because 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.

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: 2023 Major Event Filings

Report to the Washington Utilities and Transportation

Electric Service Reliability - Major Event Report

Event Date: September 20-21, 2023
Date Submitted: November 27, 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)	4
Total Customers Interrupted (sustained)	3,984
Total Customer Minutes Lost	281,634
State Event SAIDI	2.06 Minutes
CAIDI	71
Major Event Start	9/20/23 12:00 AM
Major Event End	9/21/23 12:00 AM

On the morning of September 20, 2023, Walla Walla, Washington experienced a SAIFI-based major event due to lightning. An area of low pressure moved into Oregon and Washington between September 19-20, allowing for a period of moderate rain to move from west to east across the service territory. This area of low pressure allowed for some minor instability to develop over southeastern Washington during the afternoon leading to the formation of isolated thunderstorms. Following the thunderstorms, crews found a recloser had fault amps and closed the device to restore customers. Later that evening, another outage occurred on distribution circuit 5W150 due to a bad cutout causing a pole fire. The circuit was carrying two loads at this time due to work on the substation.

Overall, three substations that feed three distribution circuits serving 3,984 customers were affected. Power was restored to affected customers within five hours. Bowman Substation had the most customer minutes lost totaling 237,707 across circuit 5W150. Figure 1 below is a graphical representation of the affected network by customer minutes lost.

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

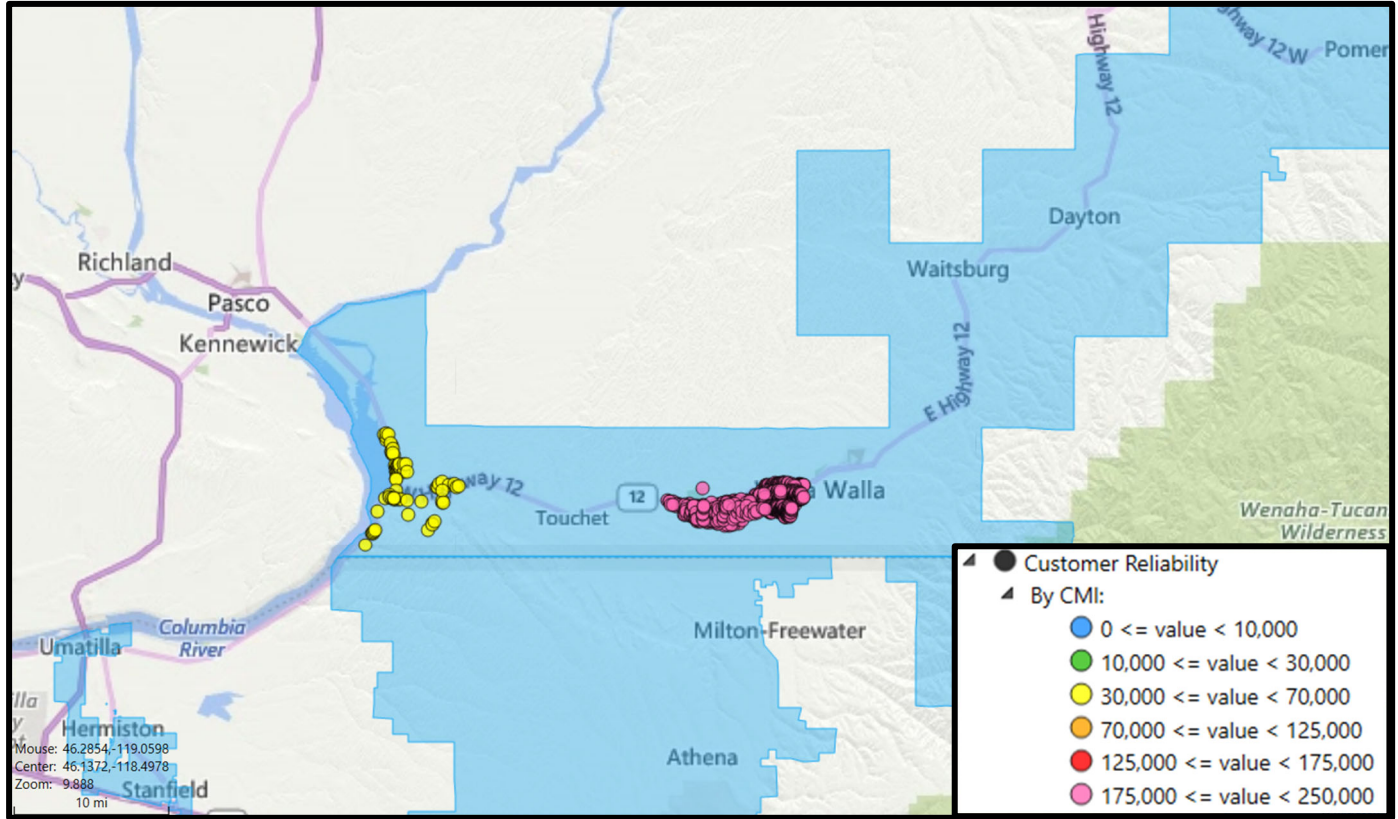


Figure 1. Major event outages.

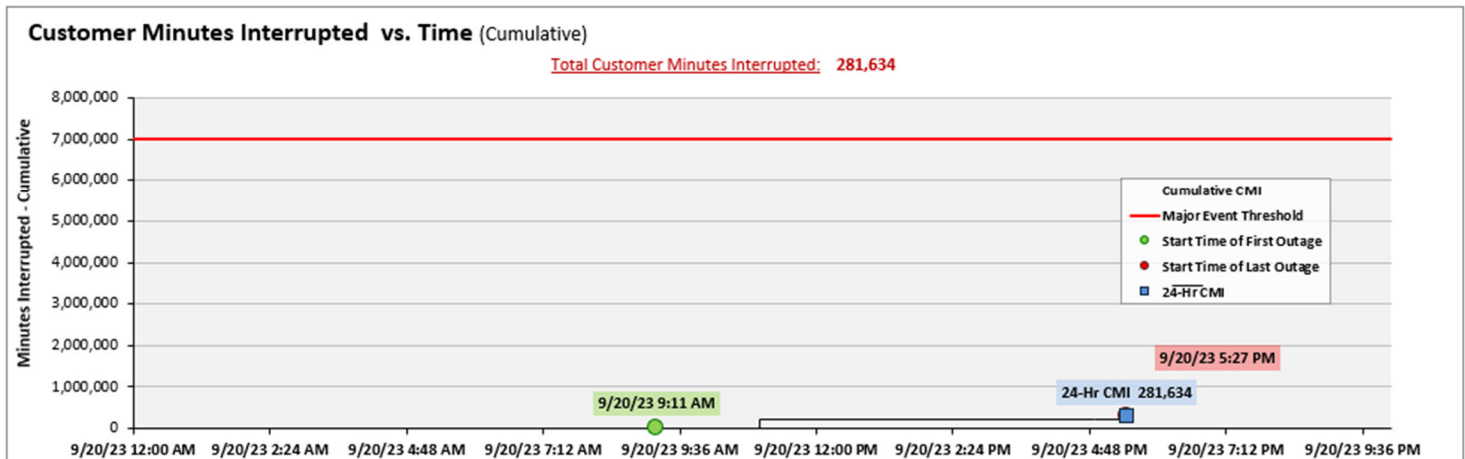
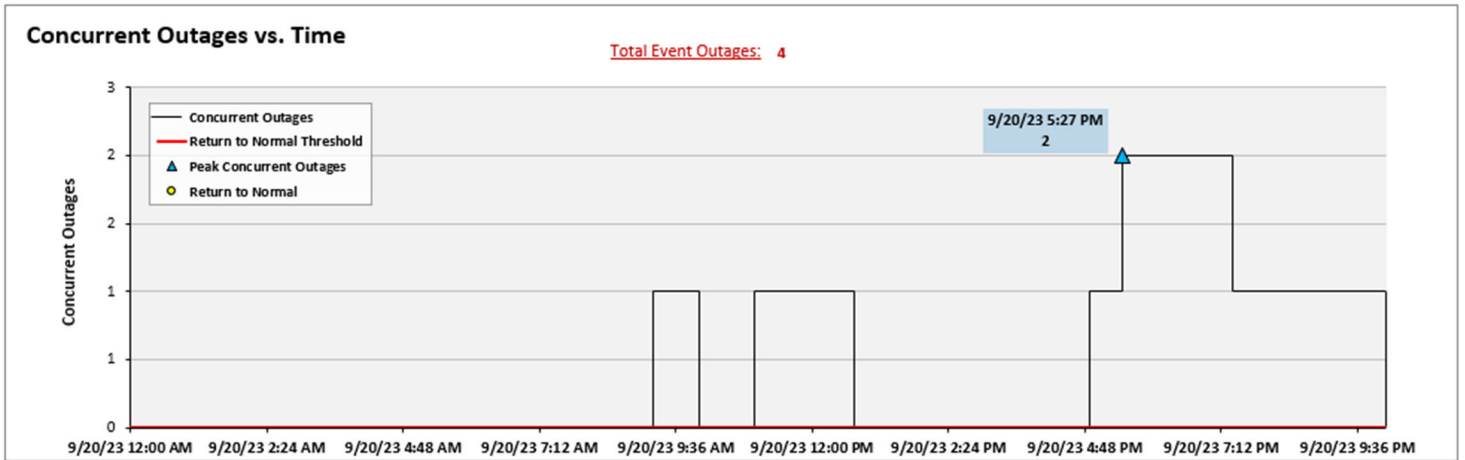
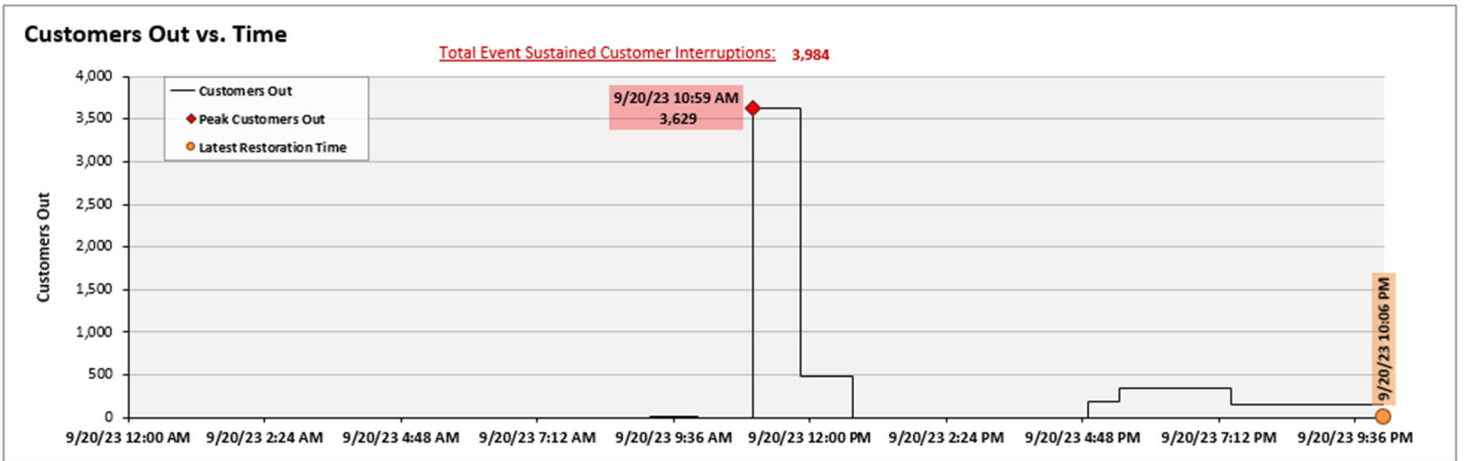
Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24-48 Hrs.
3,984	3,828	156	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 (3,984 customers were interrupted out of 28,161 Walla Walla operating area customers, or 14% of the operating area customers) simultaneously in a 24-hour period.

Event Detail¹⁶



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.