PACIFIC POWER
A DIVISION OF PACIFICORP

825 NE Multnomah, Suite 2000
Portland, Oregon 97232

April 29, 2016

VIA ELECTRONIC FILING
AND OVERNIGHT DELIVERY

Steven V. King
Executive Director and Secretary
Washington Utilities and Transportation Commission
1300 S. Evergreen Park Drive SW
P.O. Box 47250
Olympia, WA 98504-7250

RE: 2015 Electric Service Reliability Report

Pacific Power & Light Company (Pacific Power or Company), a division of PacifiCorp, submits its 2015 Electric Service Reliability Report in compliance with WAC 480-100-393 and WAC 480-100-398. This report conforms to the modified electric reliability monitoring and reporting plan filed in Docket No. UE-110634 and accepted by the Washington Utilities and Transportation Commission in its letter dated April 28, 2011.

PacifiCorp respectfully requests that all data requests regarding this matter be addressed to:

By Email (preferred): datarequest@pacificorp.com

By regular mail: Data Request Response Center
PacifiCorp
825 NE Multnomah Street, Suite 2000
Portland, OR 97232

Please direct informal questions to Ariel Son, Regulatory Project Manager, at (503) 813-5410.

Sincerely,

R. Bryce Dalley /AS
R. Bryce Dalley
Vice President, Regulation

Enclosures

PACIFIC POWER
A DIVISION OF PACIFICORP

WASHINGTON SERVICE QUALITY REVIEW

January 1 – December 31, 2015

Annual Report

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EXECUTIVE SUMMARY

During January 1 through December 31, 2015, Pacific Power or Company 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 2015 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 Great Concern, shown in Section 3.6.

1 Service Standards Program Summary

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

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

1.1 Pacific Power Customer Guarantees

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

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.

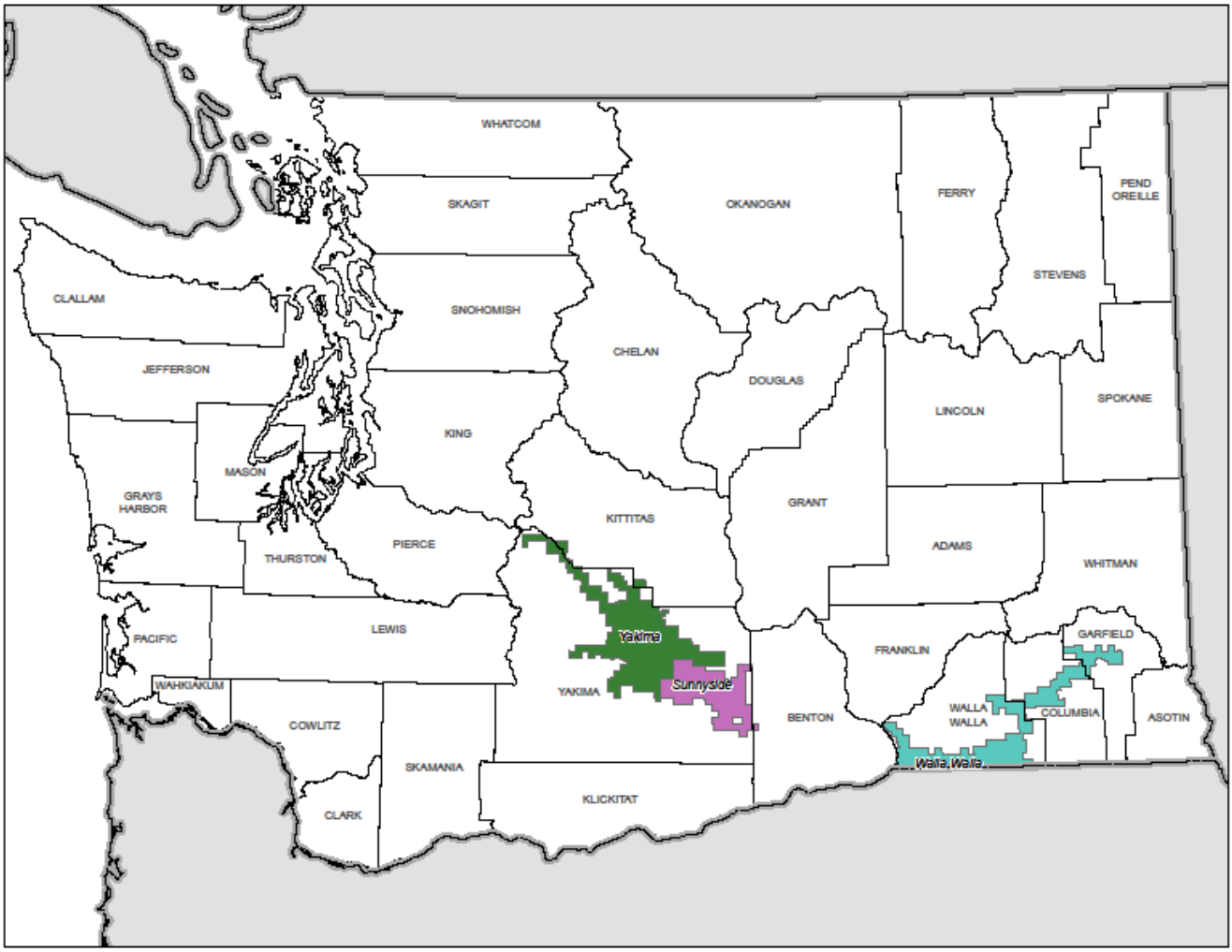
[1] The Company committed to Service Standards Programs that expired on 12/31/2011; during the program all elements committed to were delivered successfully. By terms of the commitment any changes to the program required the approval of the Commission. The Company has proposed no changes to the program, 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, colored by operating area.



2 CUSTOMER GUARANTEES SUMMARY

PACIFIC POWER A DIVISION OF PACIFICORP customer*guarantees*

January to December 2015
Washington

	Description	2015 Events	2015 Failures	2015 % Success	2015 Paid	2014 Events	2014 Failures	2014 % Success	2014 Paid
CG1	Restoring Supply	102,186	0	100%	$0	108,354	0	100%	$0
CG2	Appointments	1,873	4	99.79%	$200	1,734	4	99.77%	$200
CG3	Switching on Power	3,252	2	99.94%	$100	3,167	4	99.87%	$200
CG4	Estimates	283	0	100%	$0	269	3	98.88%	$150
CG5	Respond to Billing Inquiries	266	1	99.62%	$50	330	0	100%	$0
CG6	Respond to Meter Problems	165	0	100%	$0	216	0	100%	$0
CG7	Notification of Planned Interruptions	3,044	5	99.84%	$250	1,561	3	99.81%	$150
		111,069	**12**	**99.9%**	**$600**	**115,631**	**14**	**99.9%**	**$700**

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

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

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

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

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

3 RELIABILITY PERFORMANCE

During the reporting period, the Company's reliability compared favorably to its baseline performance level as established in 2003. The year's "Major Events Excluded As Reported" SAIDI performance of 100 minutes was much better than the approved SAIDI baseline of 150 minutes, while the year's "Major Events Excluded As Reported" SAIFI performance of 0.845 events was also much better than the approved SAIFI baseline of 0.975 events. Various reliability metrics are shown below providing a historical perspective, including an additional 5-year rolling average metric.

3.1 Multi-Year Historical Performance

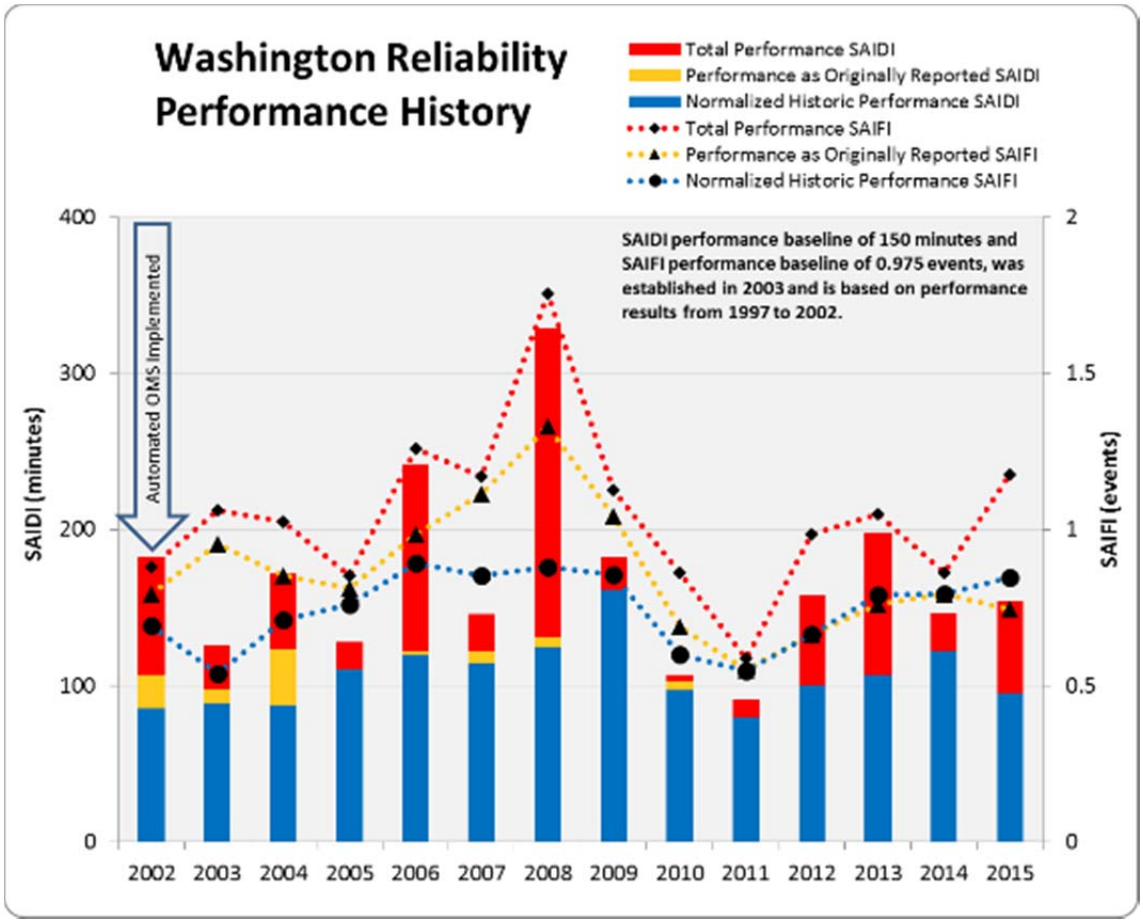
	Major Events Included[1]		SAIDI Based Major Events Excluded 2.5 beta		SAIFI Based Major Events Excluded 10% Op Area[2]		SAIDI & SAIFI-Based Major Events Excluded As Reported (2.5 beta effective 2005)		Normalized Historic Performance[3]		5 Year Rolling Average Performance	
Year	SAIDI	SAIFI	SAIDI	SAIFI	SAIDI	SAIFI	SAIDI	SAIFI	SAIDI	SAIFI	SAIDI	SAIFI
2002	183	0.881	86	0.691	109	0.726	107	0.795	86	0.691	99	0.741
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	112	0.750
2015	154	1.176	100	0.845	149	1.075	95	0.744	95	0.845	101	0.700

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

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

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

[4]Performance baselines were established in June 2003 based on performance between 1997 and 2002. See page 3 of Reporting Plan. SAIDI performance baseline of 150 minutes and SAIFI performance baseline of 0.975 events.


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

3.2 System Average Interruption Duration Index (SAIDI)

In 2015, 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[1] 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, four SAIDI-based and one SAIFI-based[2] major events were recorded. The events designate 59 minutes to be excluded from underlying reporting metrics. Copies of the Company's filed major events are included in the Appendix of this report.

2015 Major Events			
Date	**Cause**	**SAIDI**	**SAIFI**
June 29, 2015	Loss of transmission	14.8	0.201
* October 5, 2015	Loss of transmission	5.1	0.101
November 17-18, 2015	Wind and rain storm	13.4	0.050
November 25-26, 2015	Windstorm	15.2	0.034
December 12-13, 2015	Weather	10.1	0.047
	TOTAL	**58.6**	**0.432**

* SAIFI Based Major event

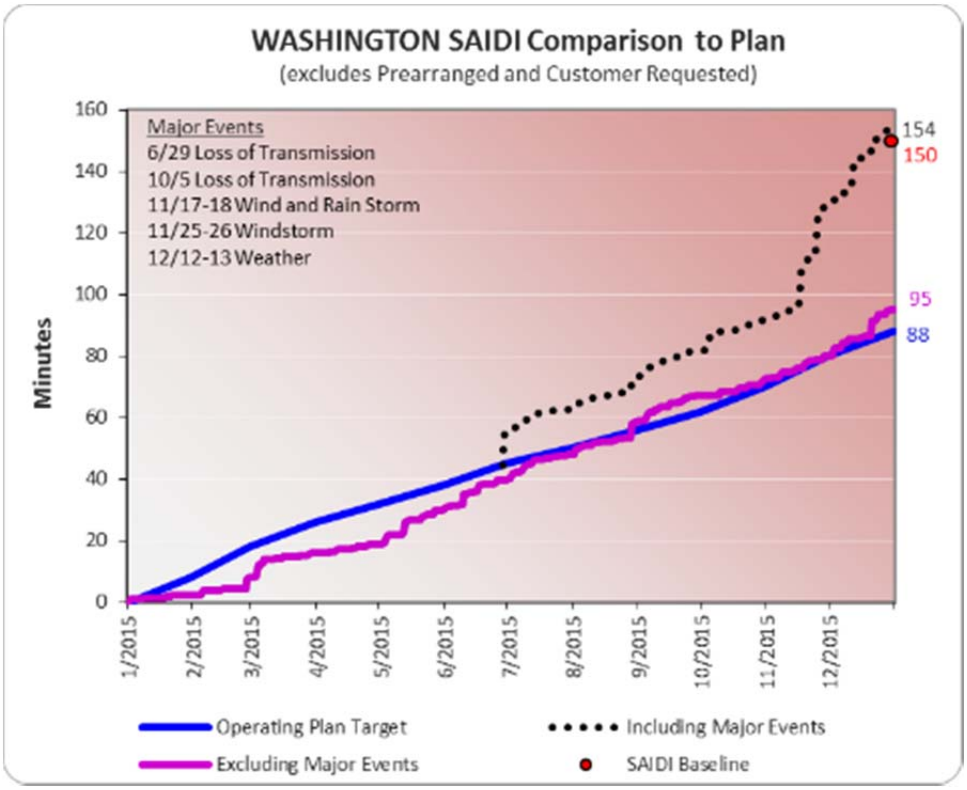
During the period, there were nine significant event days[3] (daily underlying SAIDI of 2.12 minutes or more). These nine days account for 30 SAIDI minutes and 0.187 SAIFI events, representing 31% of the underlying SAIDI and 25% of the underlying SAIFI.

2015 SIGNIFICANT EVENT DAYS					
DATE	**PRIMARY CAUSE**	**SAIDI**	**SAIFI**	**% Underlying SAIDI (95 min)**	**% Underlying SAIFI (0.744 events)**
February 27, 2015	Several pole fires	3.3	0.037	3%	5%
March 4, 2015	Windblown line down	3.6	0.021	4%	3%
May 4, 2015	Suspected relay failure	2.4	0.012	2%	2%
May 13, 2015	Multiple events, including pole fires, vehicle accident and tree interference	3.6	0.031	4%	4%
June 10, 2015	Trees took down wire	3.4	0.024	4%	3%
August 29, 2015	Windstorm/trees	4.4	0.020	5%	3%
September 5, 2015	Pole fires	2.2	0.009	2%	1%
December 3, 2015	Equipment failure and vehicle accident	2.2	0.018	2%	2%
December 21, 2015	Weather/trees/pole fires	4.9	0.016	5%	2%
	TOTAL	**29.9**	**0.187**	**31%**	**25%**

[1] During calendar 2015, the calculated threshold for a major event was 9.46 SAIDI Minutes; for 2016, it will be 9.74 SAIDI minutes.
[2] The SAIFI-based major event combines Sunnyside and Yakima operational areas.
[3] On a trial basis, the Company established a variable of 1.75 times the standard deviation of its natural log SAIDI results to identify significant event days; generally they are triggered by weather, however may also be the result of significant transmission system events.

Through 2015, outage duration, or SAIDI was well below baseline.

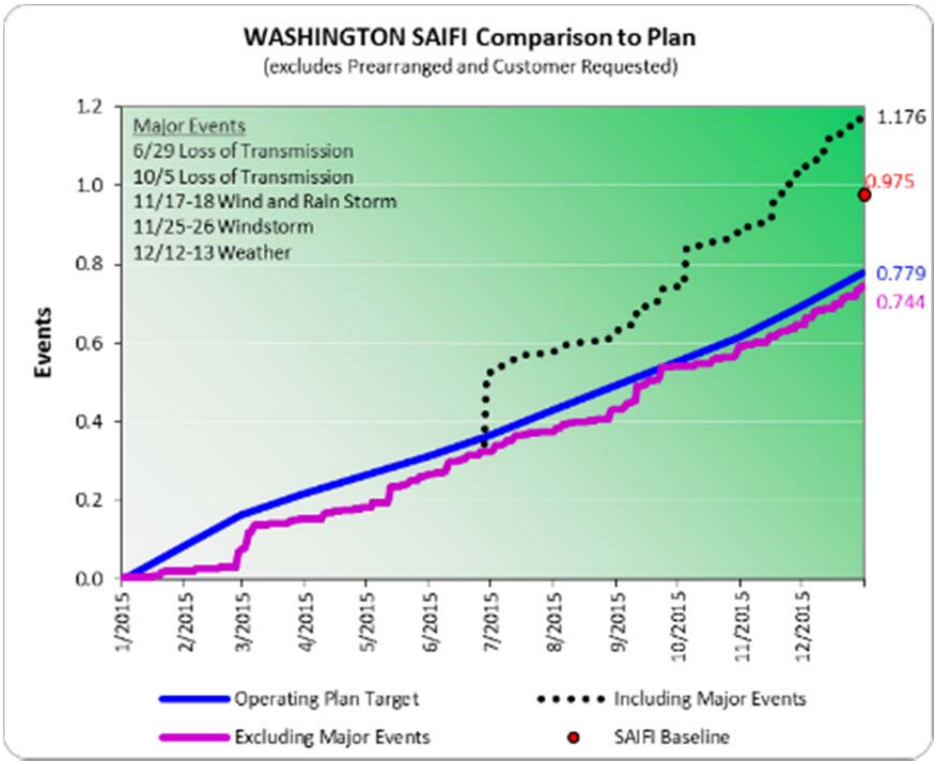
January 1 through December 31, 2015	
2015 SAIDI Goal = 88	**SAIDI Actual**
Total Performance	154
SAIDI-based Major Events Excluded	54
SAIFI-based Major Events Excluded	5
Reported Major Events Excluded	**95**



3.3 System Average Interruption Frequency Index (SAIFI)

Through 2015 outage frequency or SAIFI was better than baseline.

January 1 through December 31, 2015	
2015 SAIFI Goal = 0.779	**SAIFI Actual**
Total Performance	1.176
SAIDI-based Major Events Excluded	0.331
SAIFI-based Major Events Excluded	0.101
Reported Major Events Excluded	**0.744**



3.4 Operating Area Metrics

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

January 1 – December 31, 2015	Including Major Events			Excluding SAIDI-based Major Events			Reported Major Events Excluded		
	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
SUNNYSIDE	153	1.123	136	119	1.010	118	119	1.010	118
WALLA WALLA	145	0.972	149	110	0.816	135	110	0.816	135
YAKIMA	168	1.358	124	100	0.895	111	91	0.729	125

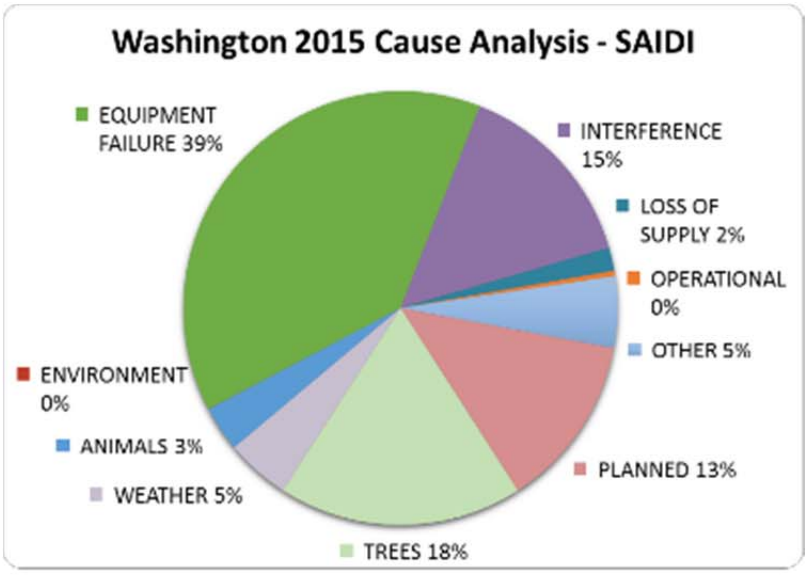
2015 Sunnyside Customer Count: 25,181
2015 Walla Walla Customer Count: 28,719
2015 Yakima Customer Count: 83,410

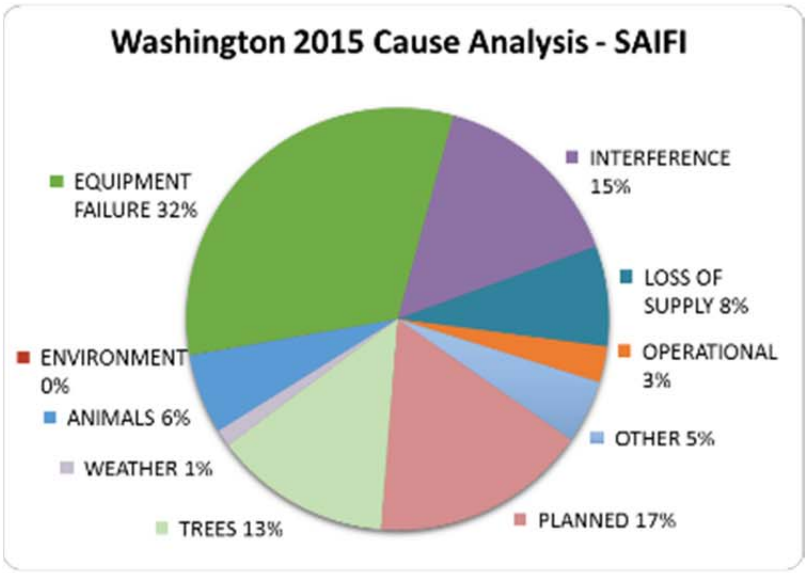
3.5 Cause Code Analysis

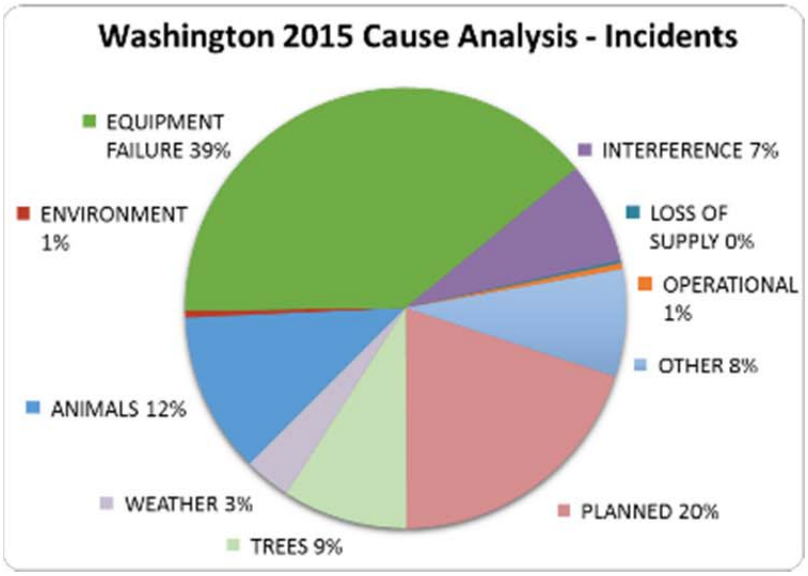
The table and charts below break out the number of outage incidents, customer minutes lost (CML), and sustained interruptions by cause code. CML is directly related to SAIDI (average outage duration); Sustained Interruptions is directly related to SAIFI (average outage frequency). Certain types of outages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

Washington Cause Analysis - Underlying 01/01/2015 - 12/31/2015					
Direct Cause	**Customer Minutes Lost for Incident**	**Customers in Incident Sustained**	**Sustained Incident Count**	**SAIDI**	**SAIFI**
ANIMALS	286,323	4,700	146	2.09	0.034
BIRD MORTALITY (NON-PROTECTED SPECIES)	67,557	593	111	0.49	0.004
BIRD MORTALITY (PROTECTED SPECIES) (BMTS)	4,629	37	6	0.03	0.000
BIRD NEST (BMTS)	457	3	3	0.00	0.000
BIRD SUSPECTED, NO MORTALITY	102,696	1,159	21	0.75	0.008
ANIMALS	**461,662**	**6,492**	**287**	**3.36**	**0.047**
CONTAMINATION	807	8	3	0.01	0.000
FIRE/SMOKE (NOT DUE TO FAULTS)	581	7	8	0.00	0.000
FLOODING	242	1	1	0.00	0.000
ENVIRONMENT	**1,630**	**16**	**12**	**0.01**	**0.000**
B/O EQUIPMENT	1,517,023	10,104	352	11.05	0.074
DETERIORATION OR ROTTING	1,982,545	9,747	511	14.44	0.071
OVERLOAD	1,972	21	5	0.01	0.000
POLE FIRE	1,769,686	13,990	84	12.89	0.102
RELAYS, BREAKERS, SWITCHES	0	-	-	-	0.000
STRUCTURES, INSULATORS, CONDUCTOR	0	-	4	-	0.000
EQUIPMENT FAILURE	**5,271,227**	**33,862**	**956**	**38.39**	**0.247**
DIG-IN (NON-PACIFICORP PERSONNEL)	27,327	62	17	0.20	0.000
OTHER INTERFERING OBJECT	20,665	43	12	0.15	0.000
OTHER UTILITY/CONTRACTOR	179,014	3,021	17	1.30	0.022
VANDALISM OR THEFT	67,114	268	13	0.49	0.002
VEHICLE ACCIDENT	1,687,404	12,633	122	12.29	0.092
INTERFERENCE	**1,981,525**	**16,027**	**181**	**14.43**	**0.117**
LOSS OF SUBSTATION	163,679	6,904	4	1.19	0.050
LOSS OF TRANSMISSION LINE	72,978	1,231	1	0.53	0.009
LOSS OF SUPPLY	**236,657**	**8,135**	**5**	**1.72**	**0.059**
FAULTY INSTALL	110	2	2	0.00	0.000
INCORRECT RECORDS	305	4	4	0.00	0.000
INTERNAL CONTRACTOR	52,076	2,869	2	0.38	0.021
PACIFICORP EMPLOYEE - FIELD	2,017	36	3	0.01	0.000
UNSAFE SITUATION	0	-	-	-	0.000
OPERATIONAL	**54,508**	**2,911**	**11**	**0.40**	**0.021**
OTHER, KNOWN CAUSE	332,025	2,434	36	2.42	0.018
UNKNOWN	392,757	2,698	155	2.86	0.020
OTHER	**724,782**	**5,132**	**191**	**5.28**	**0.037**

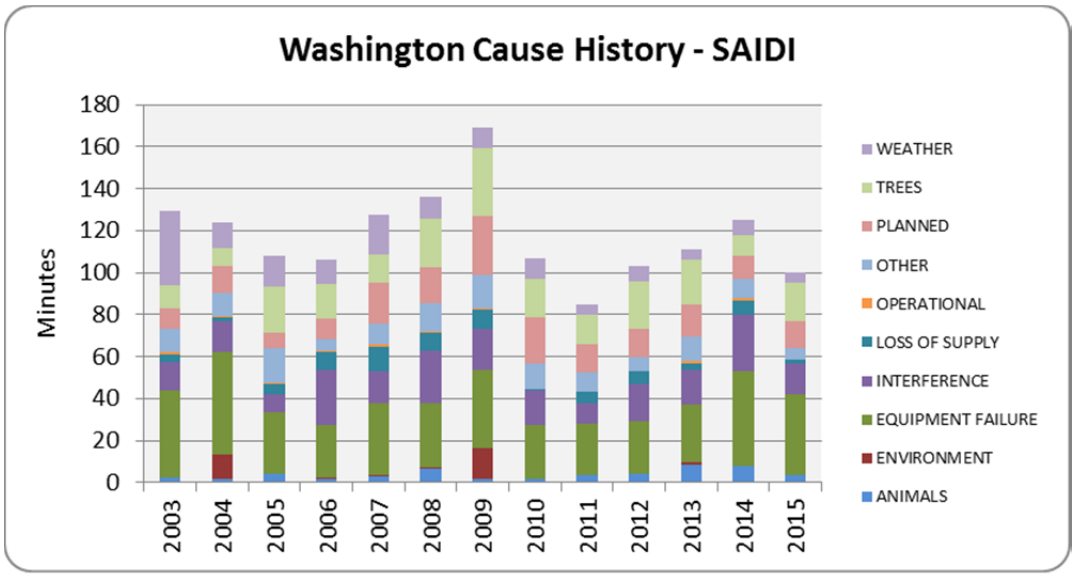
Direct Cause	Customer Minutes Lost for Incident	Customers in Incident Sustained	Sustained Incident Count	SAIDI	SAIFI
CONSTRUCTION	14,943	188	26	0.11	0.001
CUSTOMER NOTICE GIVEN	494,603	3,044	181	3.60	0.022
CUSTOMER REQUESTED	47,001	592	78	0.34	0.004
EMERGENCY DAMAGE REPAIR	1,176,722	11,935	159	8.57	0.087
ENERGY EMERGENCY INTERRUPTION	2,695	67	1	0.02	0.000
INTENTIONAL TO CLEAR TROUBLE	29,245	1,720	14	0.21	0.013
MAINTENANCE	0	-	21	-	0.000
PLANNED	**1,765,208**	**17,546**	**484**	**12.86**	**0.128**
TREE - NON-PREVENTABLE	2,121,663	12,091	176	15.45	0.088
TREE - TRIMMABLE	359,174	2,240	47	2.62	0.016
TREES	**2,480,837**	**14,331**	**223**	**18.07**	**0.104**
ICE	53,408	96	4	0.39	0.001
LIGHTNING	106,577	358	54	0.78	0.003
SNOW, SLEET AND BLIZZARD	332,262	262	3	2.42	0.002
WIND	157,475	654	22	1.15	0.005
WEATHER	**649,722**	**1,370**	**83**	**4.73**	**0.010**
Washington Including Prearranged	**13,627,758**	**105,822**	**2,433**	**99.25**	**0.771**
Washington Excluding Prearranged	**13,086,154**	**102,186**	**2,170**	**95.30**	**0.744**

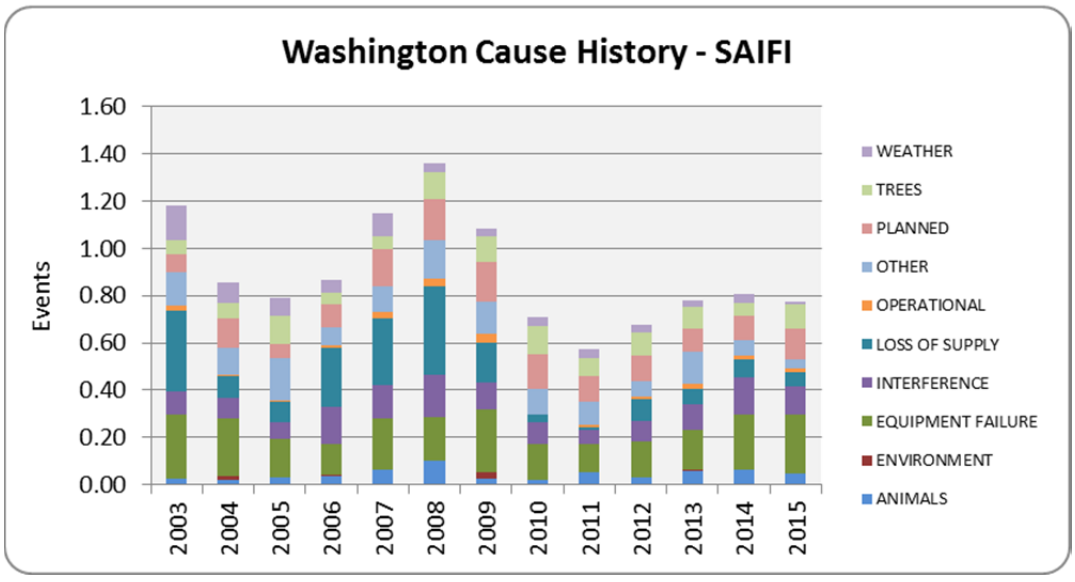

Washington 2015 Cause Analysis - SAIDI
EQUIPMENT FAILURE 39%
INTERFERENCE 15%
LOSS OF SUPPLY 2%
OPERATIONAL 0%
OTHER 5%
PLANNED 13%
TREES 18%
WEATHER 5%
ANIMALS 3%
ENVIRONMENT 0%


Washington 2015 Cause Analysis - SAIFI
EQUIPMENT FAILURE 32%
INTERFERENCE 15%
LOSS OF SUPPLY 8%
OPERATIONAL 3%
OTHER 5%
PLANNED 17%
TREES 13%
WEATHER 1%
ANIMALS 6%
ENVIRONMENT 0%


Washington 2015 Cause Analysis - Incidents
EQUIPMENT FAILURE 39%
INTERFERENCE 7%
LOSS OF SUPPLY 0%
OPERATIONAL 1%
OTHER 8%
PLANNED 20%
TREES 9%
WEATHER 3%
ANIMALS 12%
ENVIRONMENT 1%

Cause Category	Description and Examples
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).
Weather	Wind (excluding windborne material); snow, sleet or blizzard; ice; freezing fog; frost; lightning.
Equipment Failure	Structural deterioration due to age (incl. wood deterioration); 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 (i.e. broken conductor hits another line).
Interference	Willful damage, interference or theft; such as gun shots, rock throwing, etc.; customer, contractor or other utility dig-in; contact by outside utility, contractor or other third-party individual; vehicle accident, including car, truck, tractor, aircraft, manned balloon; other interfering object such as straw, shoes, string, balloon.
Animals and Birds	Any problem nest that requires removal, relocation, trimming, etc.; any birds, squirrels or other animals, whether or not remains found.
Operational	Accidental Contact by Pacific Power or Pacific Power'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.
Loss of Supply	Failure of supply from Generator or Transmission system; failure of distribution substation equipment.
Planned	Transmission requested, affects distribution sub and distribution circuits; company outage taken to make repairs after storm damage, car hit pole, etc.; construction work, regardless if notice is given; rolling blackouts.
Trees	Growing or falling trees.
Other	Cause Unknown.


Washington Cause History - SAIDI
Minutes
180
160
140
120
100
80
60
40
20
0
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
WEATHER
TREES
PLANNED
OTHER
OPERATIONAL
LOSS OF SUPPLY
INTERFERENCE
EQUIPMENT FAILURE
ENVIRONMENT
ANIMALS


Washington Cause History - SAIFI
Events
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
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 customer exposure 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. The Company continues to pilot installation of new technologies which augment its reliability-centered toolset. Three new additions to the toolset include 1) fusesavers, which is a device that is able to operate with a single instantaneous trip prior to faulting permanently; 2) spacer cable, an insulated conductor installed in spacers employing a weak-link design philosophy, such that contact and strikes are not fault creating and 3) manual and remote faulted circuit indicators, which help diagnose the location of circuit's fault events for faster restoration after an event.

Further, the company continues to grow its ability to use reliability data strategically with the development and implementation of reliability-centered tools. It uses its web-based notification tool, which alerts when interrupting devices (such as substation breakers, line reclosers or fuses) have exceeded specific performance thresholds has helped to promptly focus field investigative activities; this new capability has delivered substantial improvements to customers. Enhancements to the datasets that drive the web notification enable association between inspection conditions and zones of protection for circuits, which allow for prioritization of specific conditions within protective zones close to the substation breaker. Further it has overhauled its geospatial reliability analysis tool, augmenting its functionality to better distinguish circuit details in light of reliability events, particularly in the area of underground cable fault and replacement history. The use of these tools results in maximum improvement for the efforts expended, improving reliability to customers at the best possible costs. Finally, the Company has established a Reliability Forum, which is a venue for identifying reliability-centered "best practices" which it can then advance throughout the organization. The Forum investigates specific outage events, evaluates good practices as well as better approaches, establishes specific action items and deliverables and treats the Forum product as a tool for sharing improved methods across the organization.

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 16 circuits in Section 3.7.

Substation	Circuit Name	Circuit	2016 Project	Baseline CPI99
Punkin Center	Gurley	5Y358	Reconfigure circuit, replace poles, install and relocate reclosers, complete tap-line fusing	119
Mill Creek (WA)	Boyer	5W118	Replace substation relay during 2017 (engineer in 2016); reconfigure zones of protection after relay has been replaced	48
Umapine	Ferndale	5W106	Substation relay evaluation and breaker repair	88
Tieton	Nile	4Y1	Install reclosing device and fault indicators, offset neutral downstream of Bumping River tap	301[1]
Union Gap	4th St.	5Y468	Install recloser, circuit coordination	91

[1] The Bumping River Tap is the targeted area for these improvements; the local performance as measured by the RPI (which is a customer specific metric analogous to the CPI) is 1215. In future reports both metrics will be provided.

3.7 Reduce CPI[1] for Worst Performing Circuits by 20%

On a routine basis, the company reviews circuits for performance. One of the measures that it uses is called circuit performance indicator (CPI), which is a blended weighting of key reliability metrics covering a three-year time frame. The higher the number, the poorer the blended performance the circuit is delivering. As part of the company's Performance Standards Program, it annually selects a set of Worst Performing Circuits for target improvement. The improvements are to be completed within two years of selection. Within five years of selection, the average performance is to be improved by at least 20% (as measured by comparing current performance against baseline performance). Program years 1-12 have previously met improvement targets so are no longer shown in the performance update below.

WASHINGTON WORST PERFORMING CIRCUITS	BASELINE	Performance 12/31/2015
PROGRAM YEAR 16		
DRAPER 5Y156	162	147
PINE STREET (BOWMAN) 5W150	26	30
RUSSEL CREEK 5W121	23	26
TAUMARSON FEEDER 5W50	29	29
VAN BELLE 5Y312	149	117
TARGET SCORE = 62	**78**	**70**
PROGRAM YEAR 15		
MEMORIAL 5W2	60	48
OCCIDENTAL 5Y382	35	25
TAMPICO 5Y380	100	84
10TH STREET 5Y437	77	77
GRAVEL 5Y99	63	89
TARGET SCORE =54	**67**	**65**
PROGRAM YEAR 14		
CITY 5W324	46	56
BONNEVIEW 5Y302	111	70
CHESTNUT 5Y458	119	29
SOUTH (WENAS) 5Y600	65	105
COUGAR 5Y658	113	66
GOAL MET! TARGET SCORE =73	**91**	**65**
PROGRAM YEAR 13		
DONALD 5Y330	57	66
FORNEY 5Y94	172	46
PRESCOTT 5W305	57	63
STEIN 5Y164	148	113
TERRACE HTS 5Y10	99	61
GOAL MET! TARGET SCORE =85	**107**	**70**

[1] The company has historically used CPI05 which includes transmission and major event outages to evaluate the effectiveness of the distribution improvements made. In other states the company serves it has found that the inclusion of these outages may direct resources in a manner not cost-effective, thus it has transitioned to the use of CPI99, which excludes transmission and major event outage impacts into the circuit ratings. The baseline and current performance statistics reflect this transition.

3.8 Restore Service to 80% of Customers within 3 Hours

The Company targets restoring power to 80% of its customers within 3 hours, during 2015 this target was met.

WASHINGTON RESTORATIONS WITHIN 3 HOURS					
January – December 2015 = 84%					
January	February	March	April	May	June
93%	92%	96%	88%	68%	75%
July	August	September	October	November	December
74%	65%	95%	88%	92%	78%

3.9 Telephone Service and Response to Commission Complaints

COMMITMENT	GOAL	PERFORMANCE
PS5-Answer calls within 30 seconds	80%	80%
PS6a) Respond to commission complaints within 3 days[1]	95%	100%
PS6b) Respond to commission complaints regarding service disconnects within 4 hours	95%	100%
PS6c) Resolve commission complaints within 30 days	95%	100%

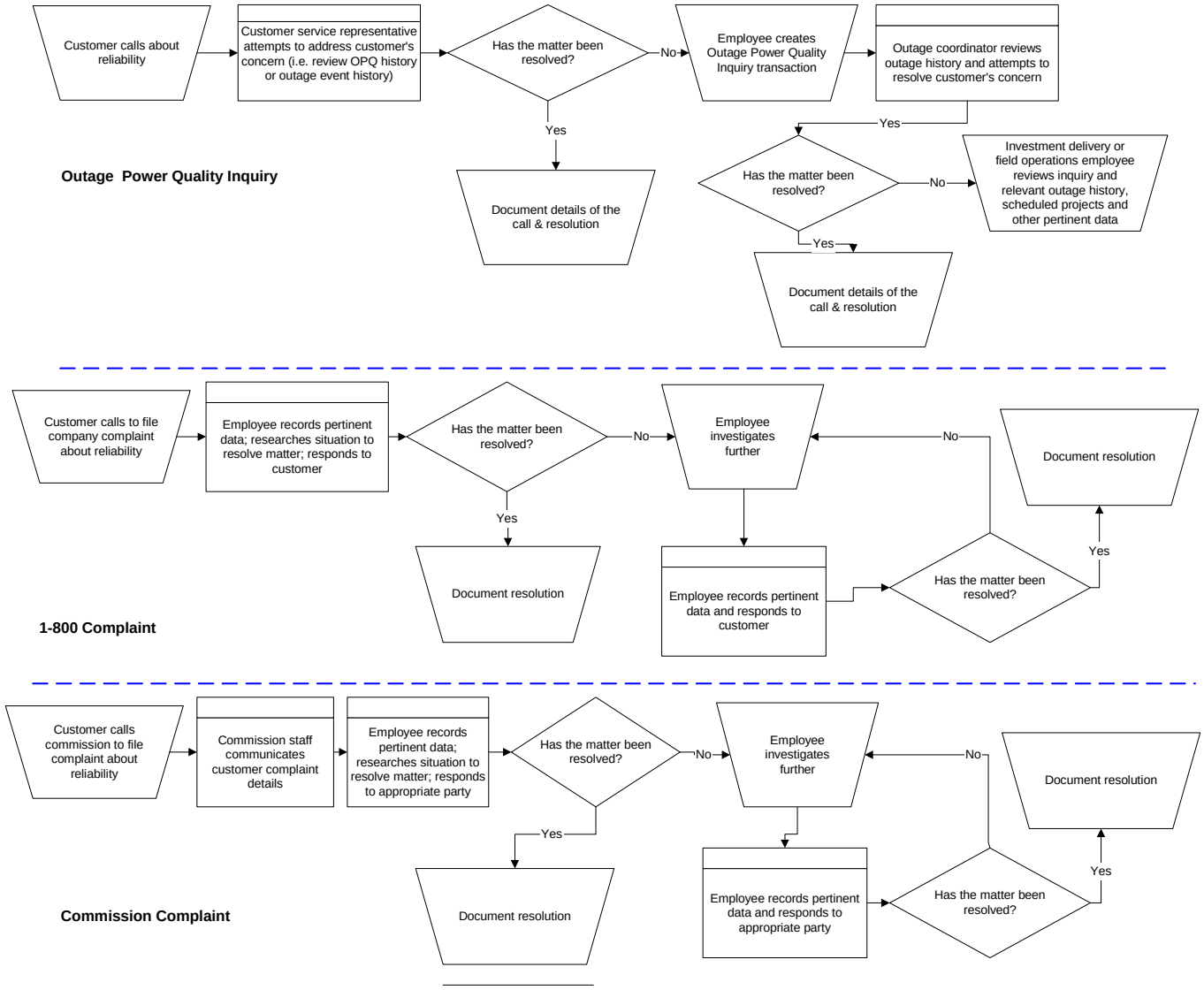
[1] Although the Performance Standard indicates that complaints will be responded to within 3 days, the Company acknowledges and adheres to the requirements set forth in 480-100-173(3)(a).

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

4.3 Customer Complaints Recorded During the Period

Listed below, by the recording source, are reliability-related customer complaints if any were received for Washington services during the reporting period.

- **Informal Complaints (1-800 Customer Advocacy Team)**

  There were two Informal Complaints received by the company in the reporting period.

Received	Complaint Type	Site ID	Site Address	Summary
07/27/2015	Frequency of Outages	645389299	408 W Pine Street, Unit 33 Union Gap, WA	One of two residents contacted company about the frequency of power outages to his neighborhood.
08/02/2015	Frequency of Outages	646987699	408 W Pine Street, Unit 44 Union Gap, WA	One of two residents contacted company about the frequency of power outages to his neighborhood.

- **Commission Complaints**

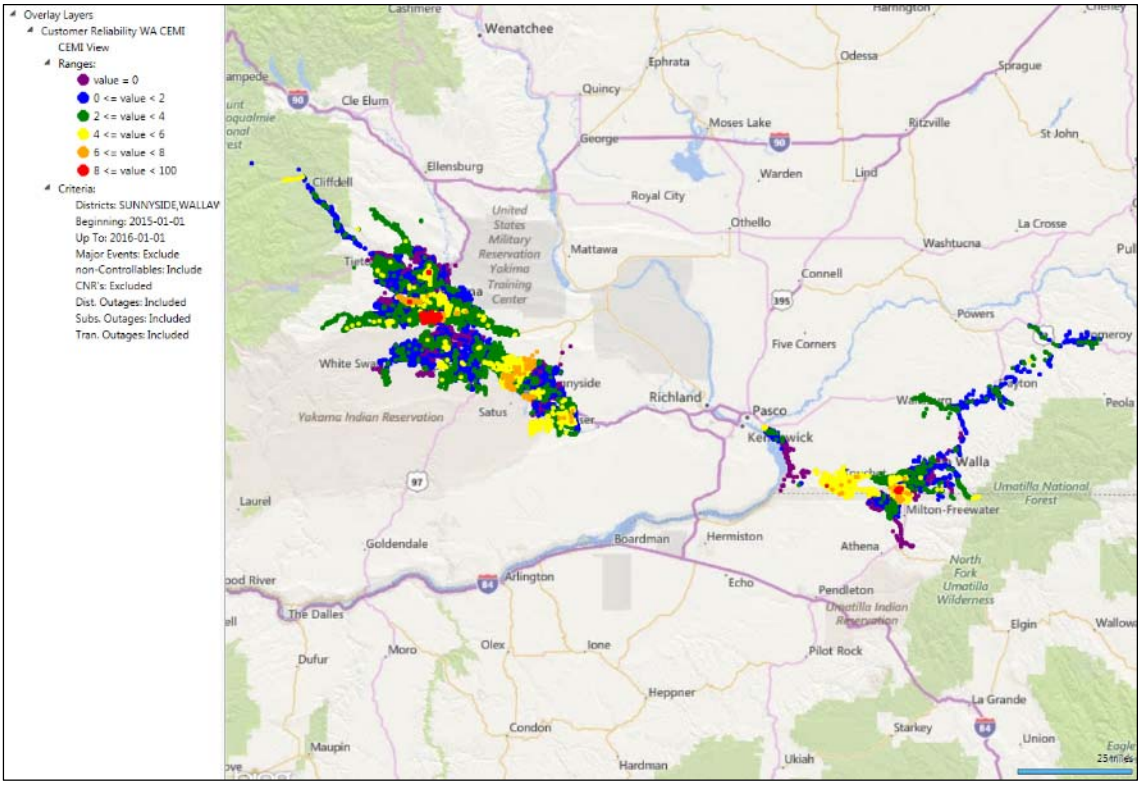
  There were seven Commission Complaints in the reporting period.

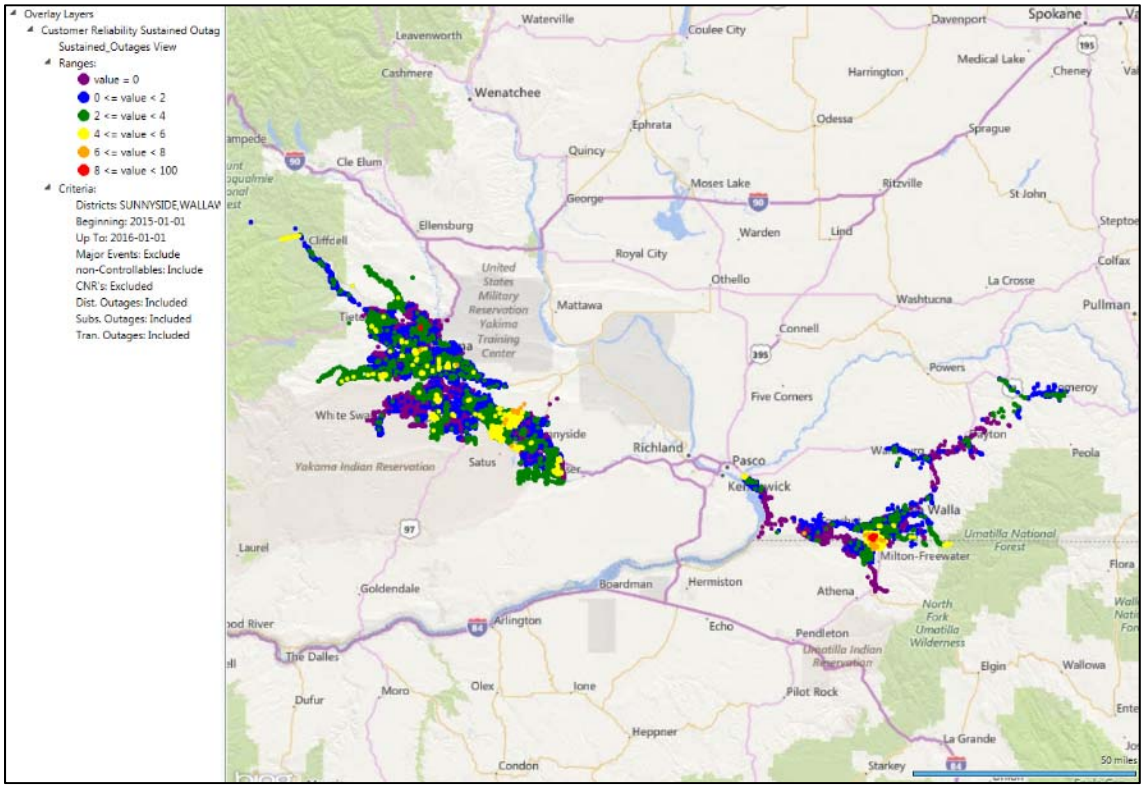
Received	Complaint Type	Site ID	Site Address	Summary
04/27/2015	Frequency of Outages	764460535	160 Kodiak Canyon Selah, WA	Complaint about the frequency of outages in his area.
06/04/2015	Frequency of Outages	944290099	140 Covey Run Selah, WA	Complaint about the frequency of outages in his area.
07/29/2015	Frequency of Outages	957675367	3010 Canberra Dr. IRRIG/5HP Walla Walla, WA	Complaint about the frequency of outages on an underground cable.
08/13/2015	Frequency of Outages	645389299	408 W Pine Street, Unit 38 Union Gap, WA	Complaint about the number of outages in a mobile home park.
09/02/2015	Frequency of Outages	11626141	1920 E Selah Road # RES Yakima, WA	Complaint about the frequency of outages on an underground cable.
05/28/2015	Momentary Outages	611621767	1338 Sturm Ave Walla Walla, WA	Complaint regarding the frequency of momentary outages.
11/09/2015	Planned Outage	50987185	205 2nd Ave Zillah, WA	School district concerned how planned outage scheduled during school hours will impact the school.

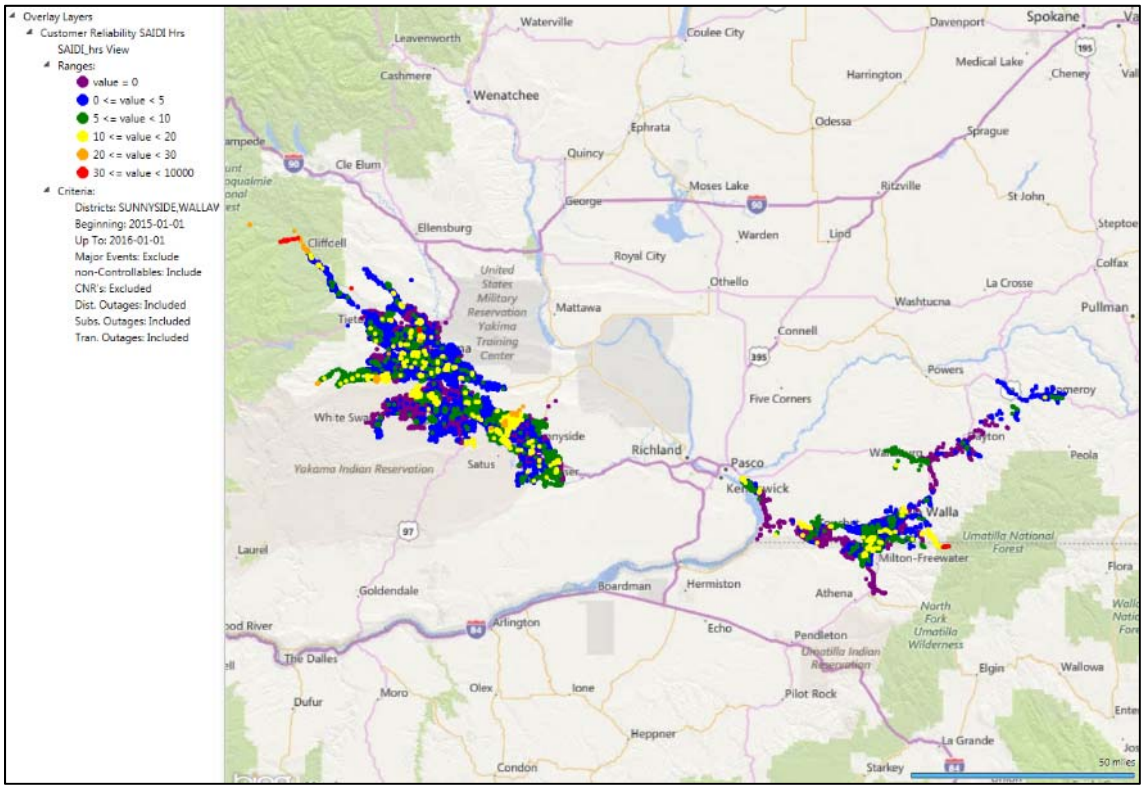
5 WASHINGTON RELIABILITY RESULTS DURING 2015

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

5.1 State Reliability






Overlay Layers
Customer Reliability SAIDI Hrs
SAIDI_hrs View
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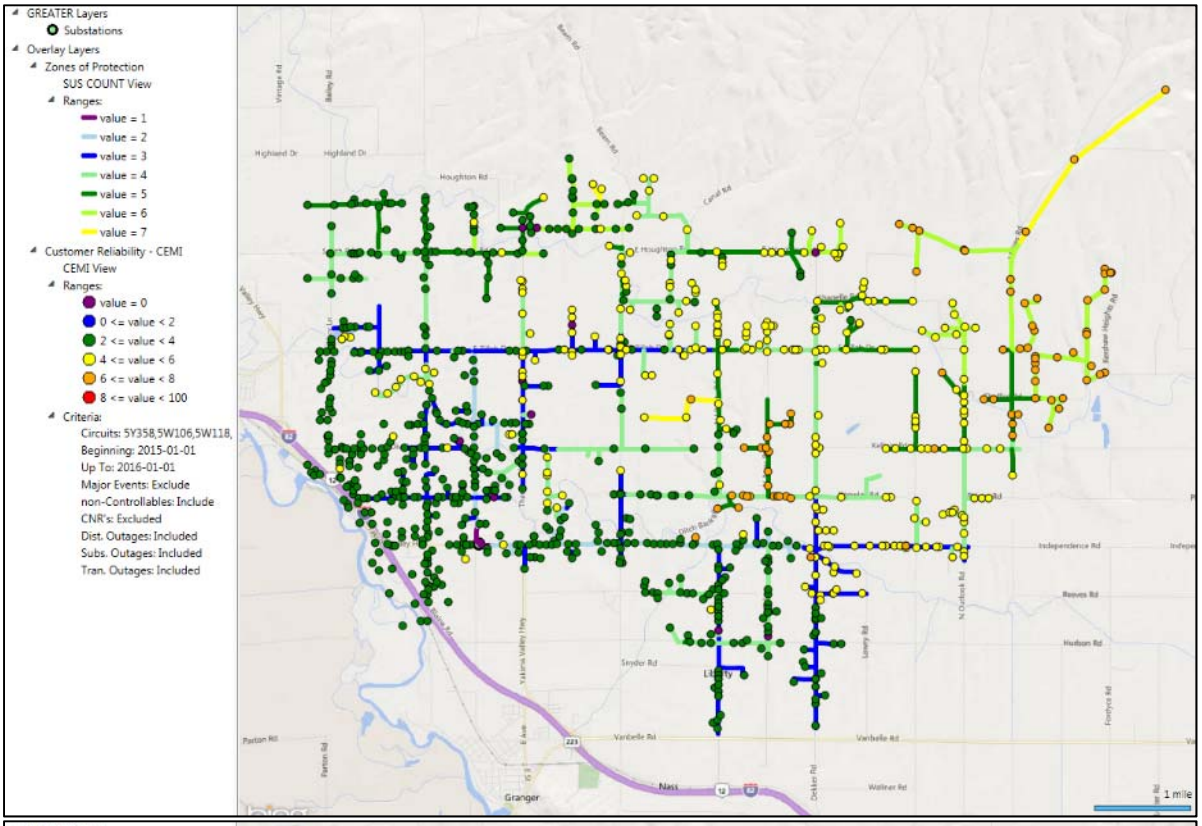
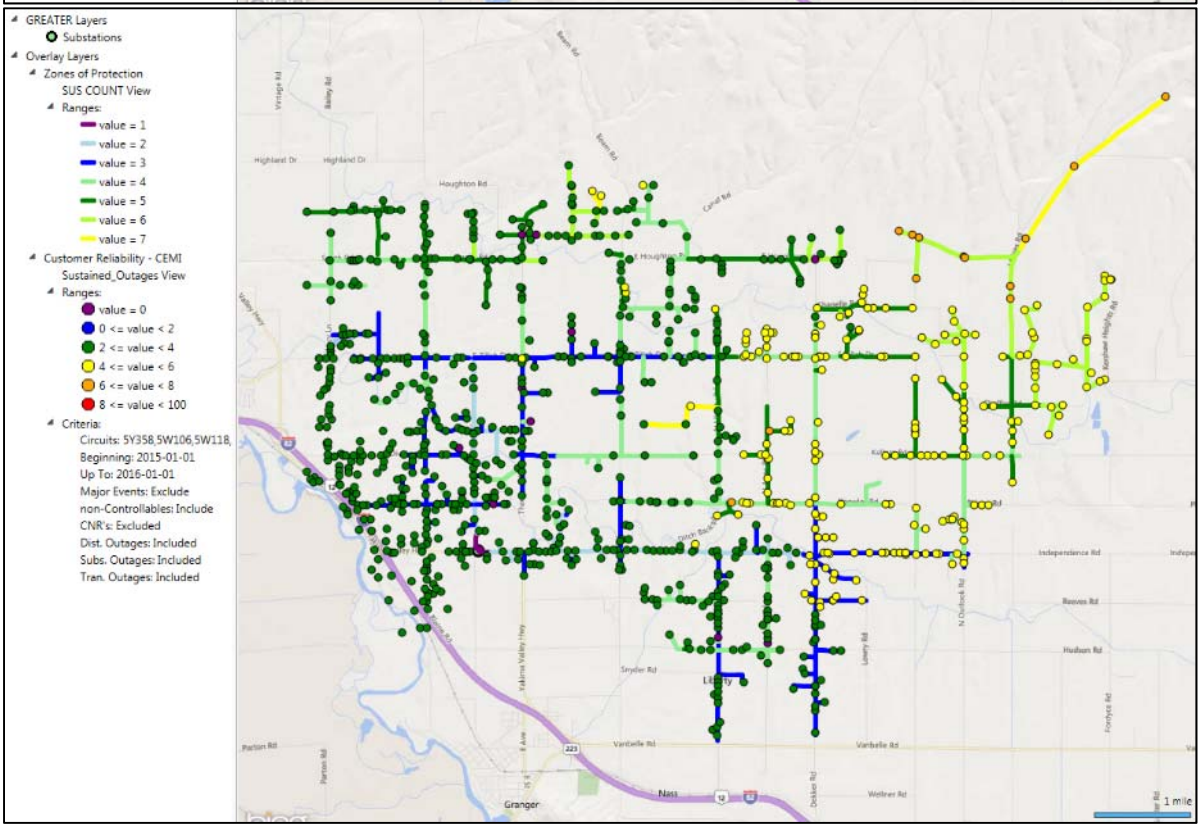
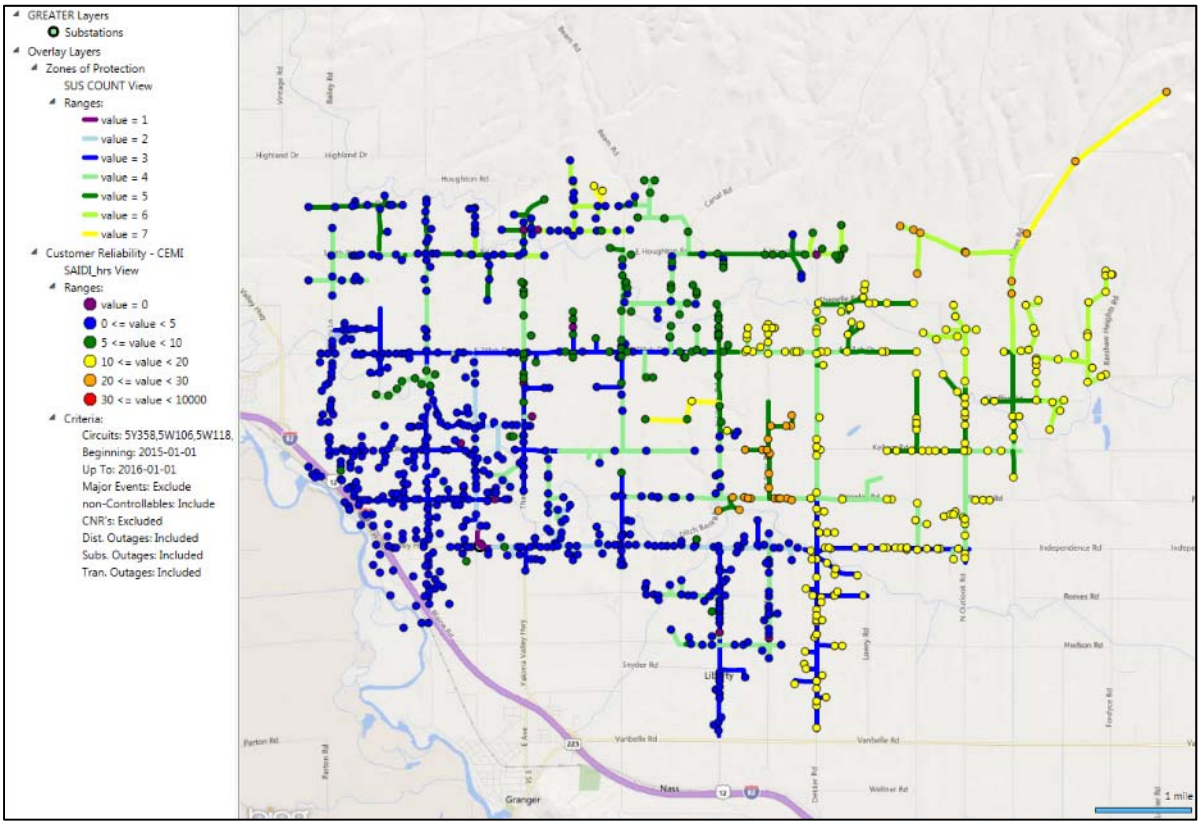
5 <= value < 10
10 <= value < 20
20 <= value < 30
30 <= value < 10000
Criteria:
Districts: SUNNYSIDE,WALLAV
Beginning: 2015-01-01
Up To: 2016-01-01
Major Events: Exclude
non-Controllables: Include
CNR's: Excluded
Dist. Outages: Included
Subs. Outages: Included
Tran. Outages: Included
Waterville
Coulee City
Davenport
Spokane
Leavenworth
Cashmere
Wenatchee
Harrington
Medical Lake
Cheney
Ephrata
Odessa
Sprague
Quincy
Cle Elum
Moses Lake
Ritzville
St John
George
Ellensburg
Warden
Lind
Cliffcell
Royal City
Colfax
United States Military Reservation Yakima Training Center
Othello
La Crosse
Mattawa
Washtucna
Pullman
Connell
Powers
Five Corners
Richland
Pasco
Peola
Yakama Indian Reservation
Satus
Walla Walla
Umatilla National Forest
Milton-Freewater
Laurel
Goldendale
Boardman
Hermiston
Athena
Flora
Arlington
Echo
Pendleton
Umatilla Indian Reservation
North Fork Umatilla Wilderness
The Dalles
Elgin
Wallowa
Moro
Olex
Ione
Pilot Rock
Dufur
Heppner
La Grande
Condon
Starkey
50 miles

5.1 5Y358: Gurley






GREATER Layers
Substations
Overlay Layers
Zones of Protection
SUS COUNT View
Ranges:
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value = 3
value = 4
value = 5
value = 6
value = 7
Customer Reliability - CEMI
SAIDI_hrs View
Ranges:
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5 <= value < 10
10 <= value < 20
20 <= value < 30
30 <= value < 10000
Criteria:
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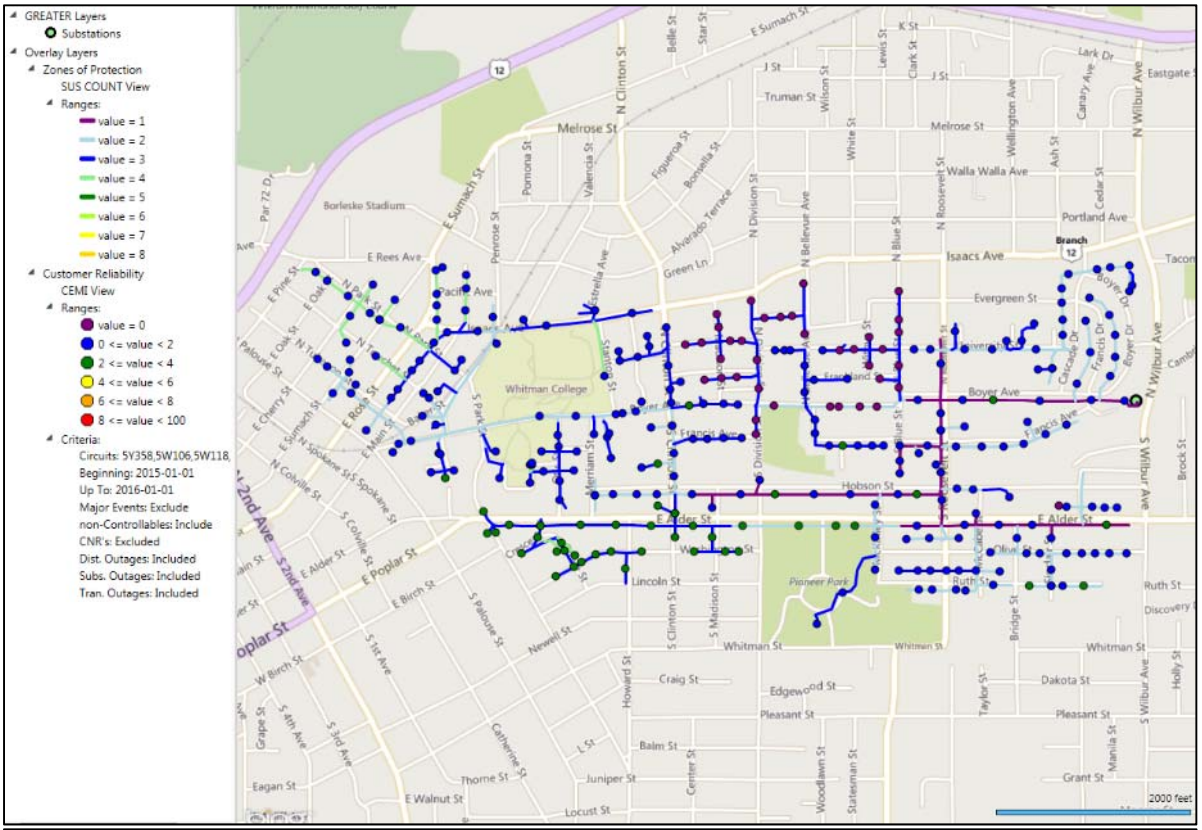
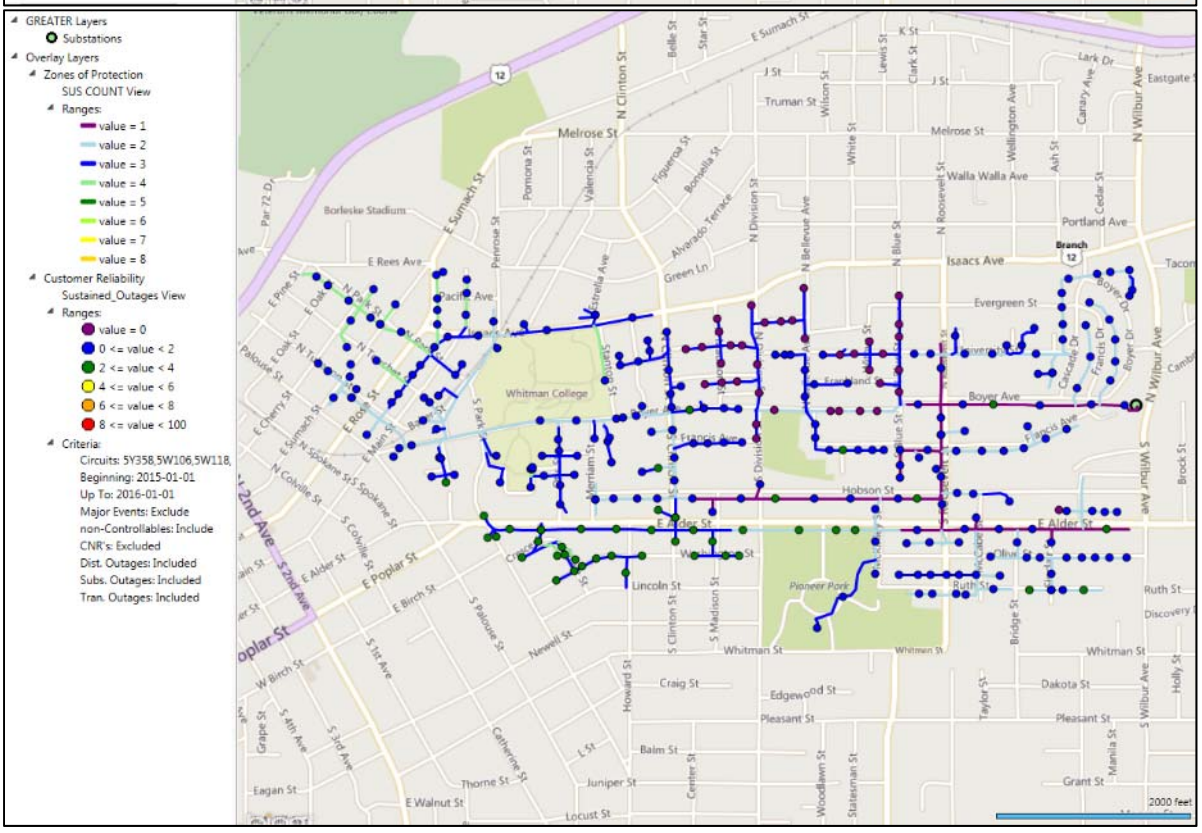
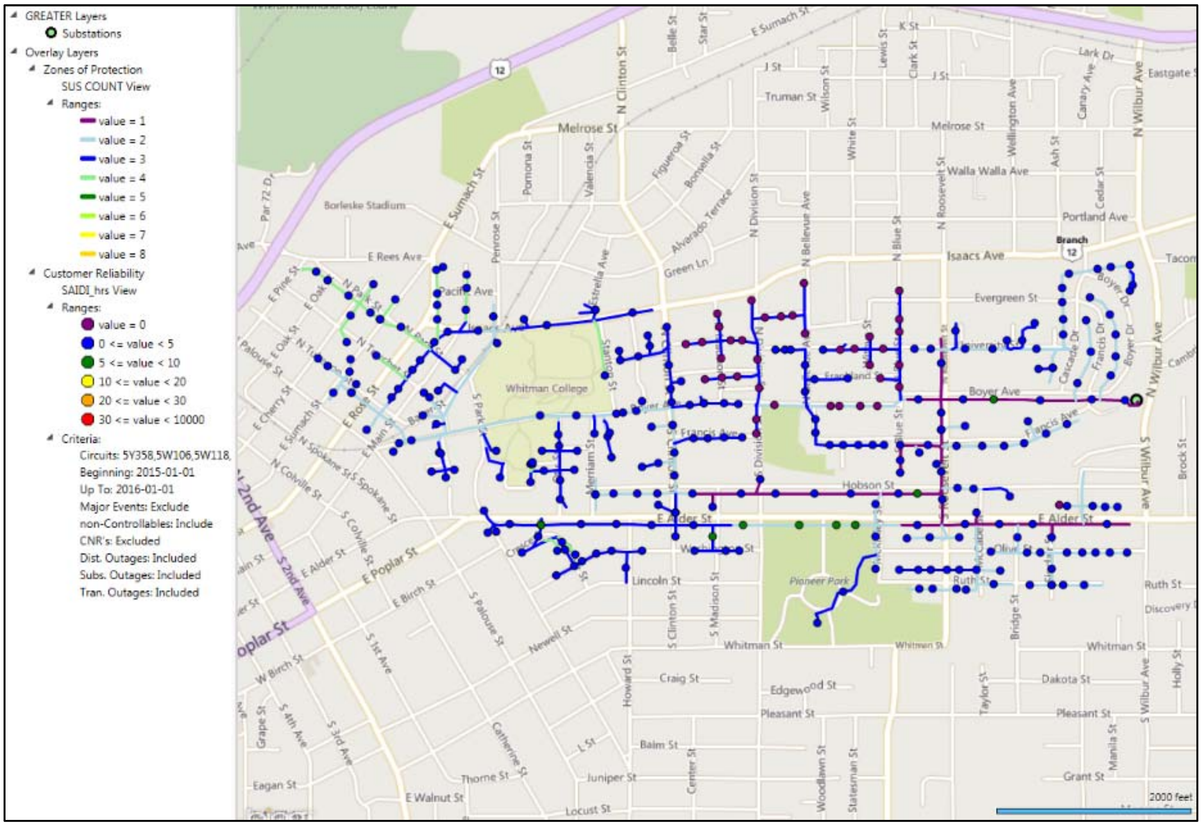
Beginning: 2015-01-01
Up To: 2016-01-01
Major Events: Exclude
non-Controllables: Include
CNR's: Excluded
Dist. Outages: Included
Subs. Outages: Included
Tran. Outages: Included
Granger
Nass
Liberty
1 mile

5.2 5W118: BoyerFeeder



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Substations
Overlay Layers
Zones of Protection
SUS COUNT View
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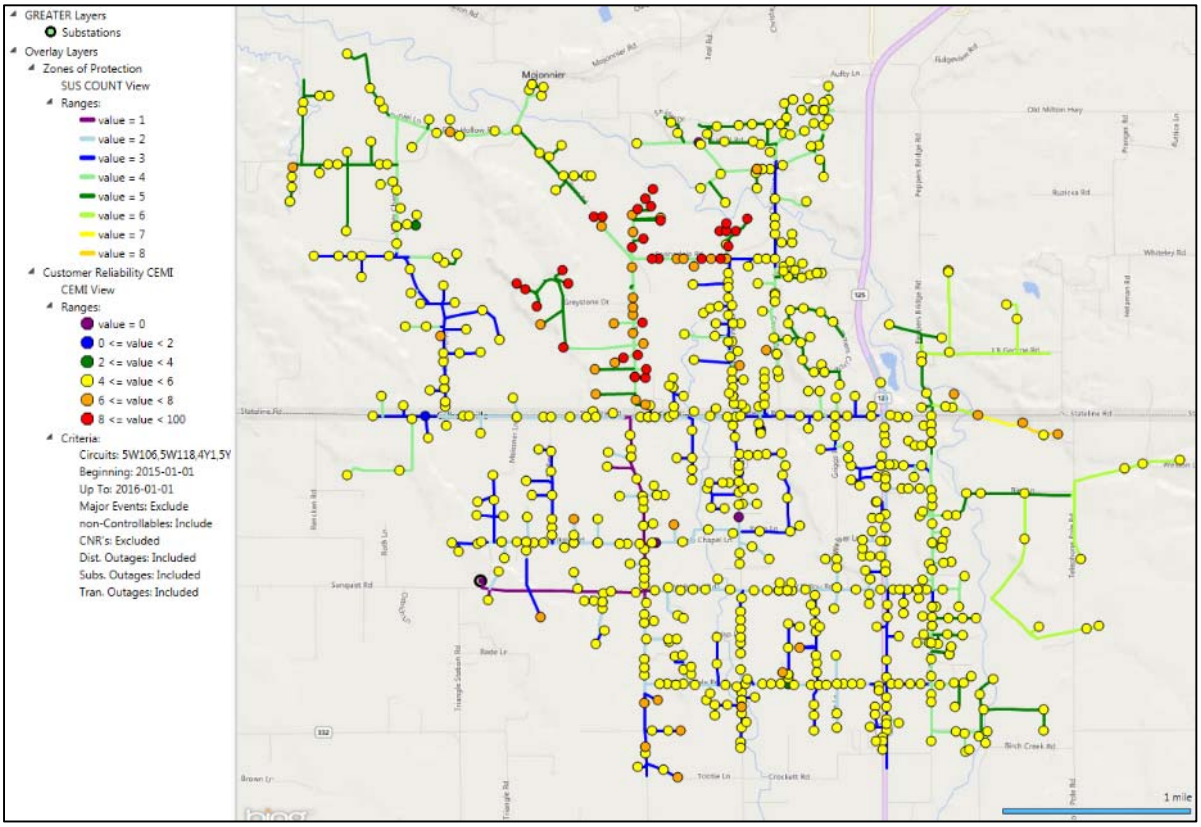
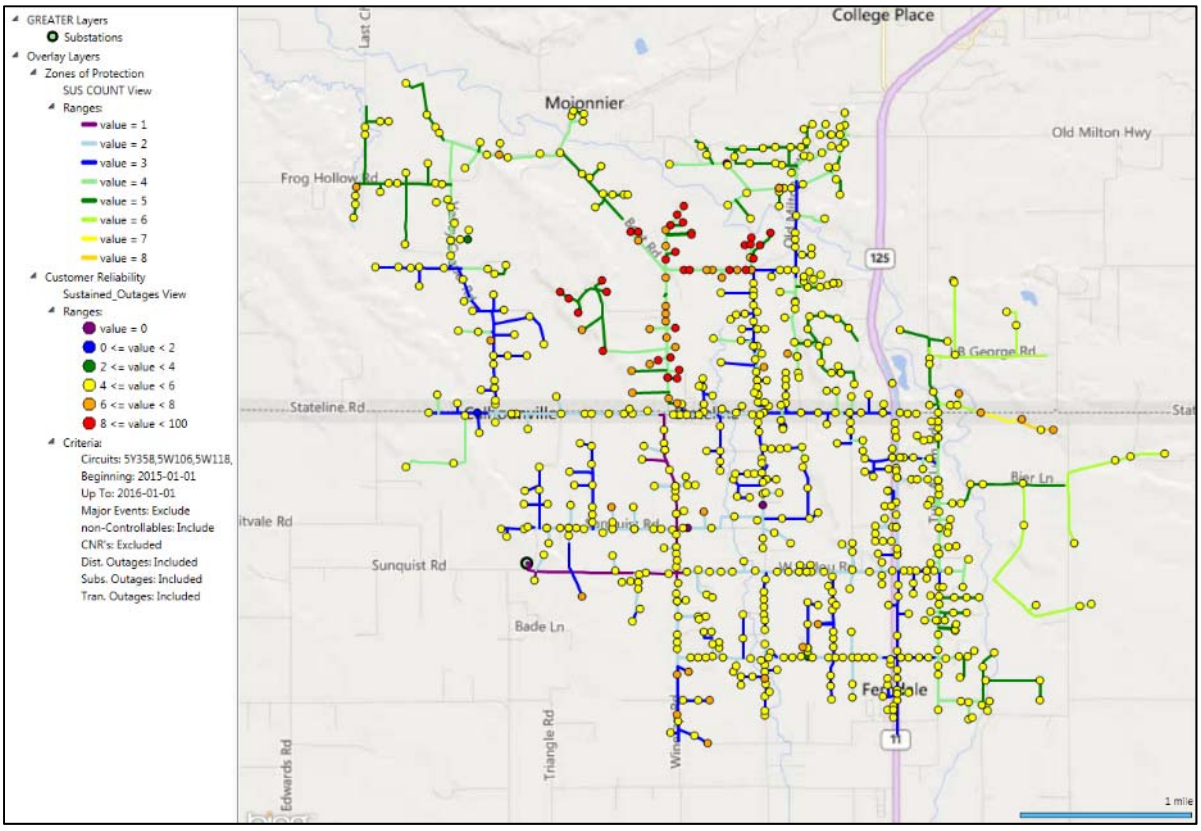
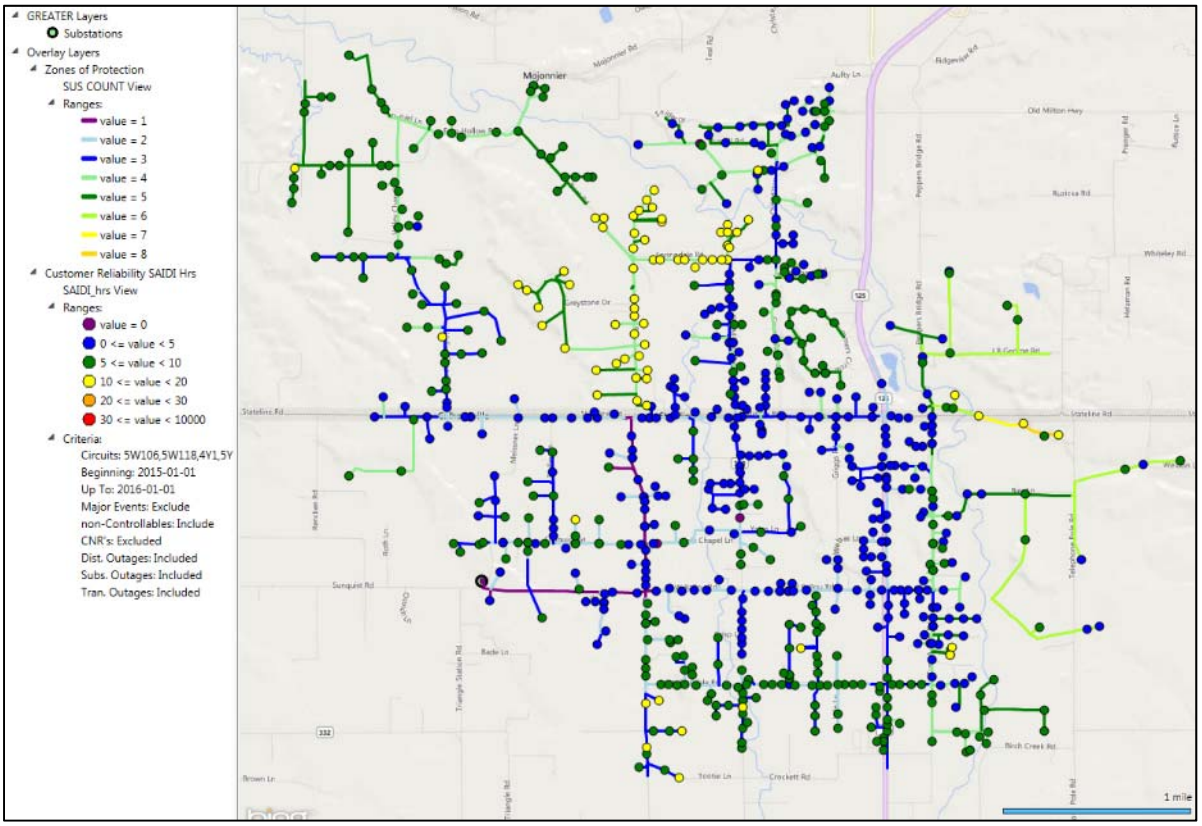
Beginning: 2015-01-01
Up To: 2016-01-01
Major Events: Exclude
non-Controllables: Include
CNR's: Excluded
Dist. Outages: Included
Subs. Outages: Included
Tran. Outages: Included
Whitman College
2000 feet

5.3 5W106: Ferndale Feeder






GREATER Layers
Substations
Overlay Layers
Zones of Protection
SUS COUNT View
Ranges:
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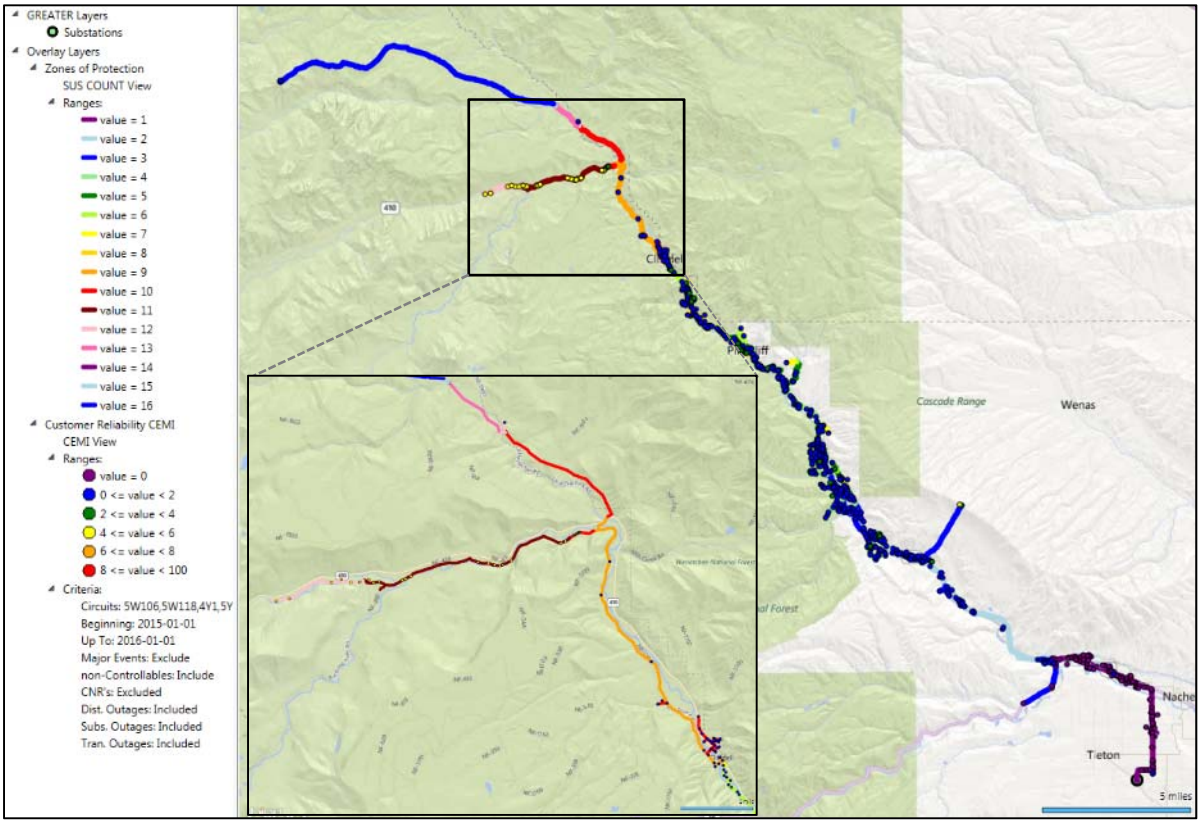
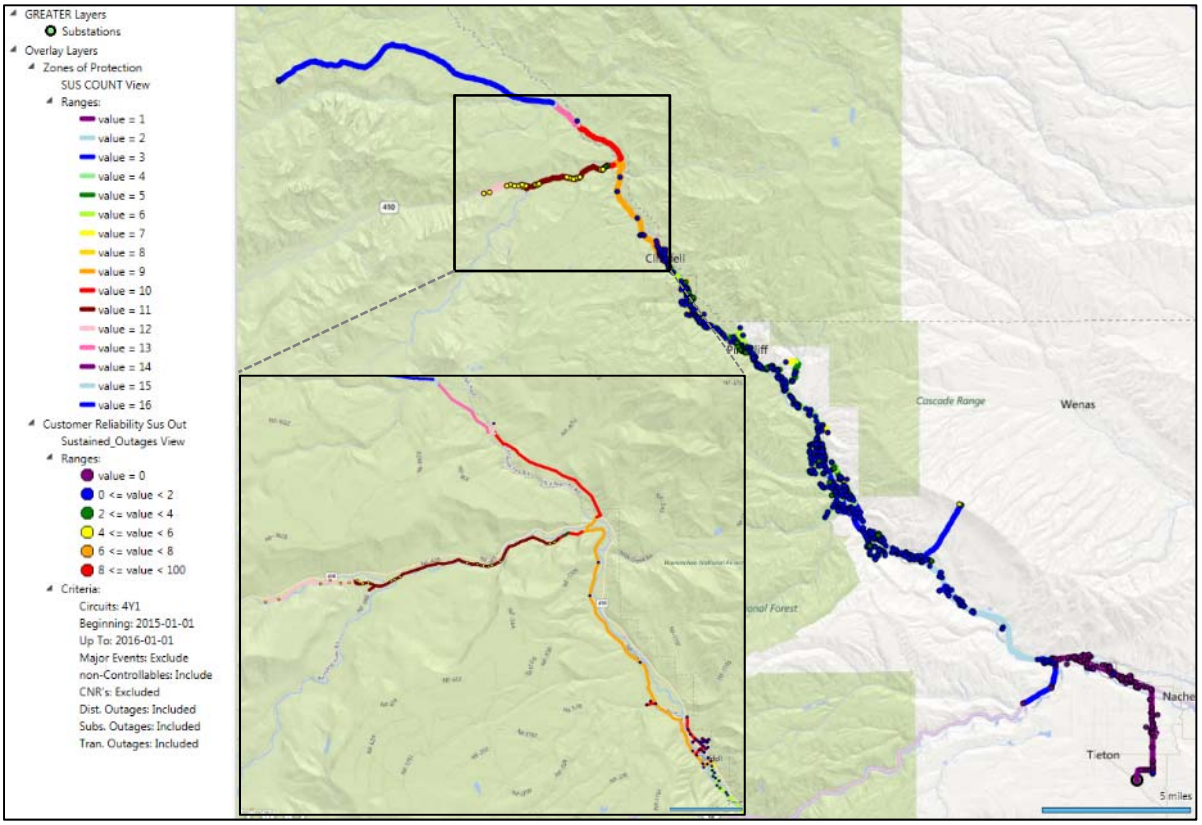
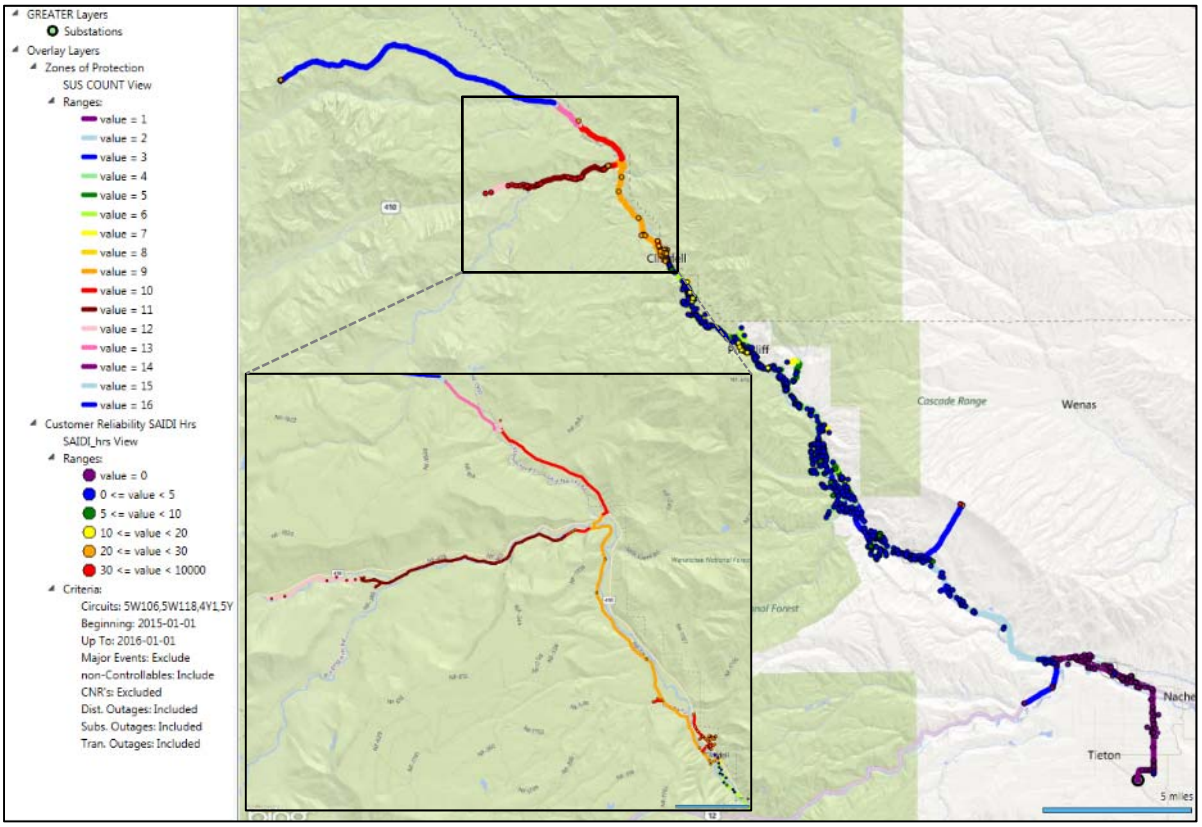
value = 3
value = 4
value = 5
value = 6
value = 7
value = 8
Customer Reliability SAIDI Hrs
SAIDI_hrs View
Ranges:
value = 0
0 <= value < 5
5 <= value < 10
10 <= value < 20
20 <= value < 30
30 <= value < 10000
Criteria:
Circuits: 5W106,5W118,4Y1,5Y
Beginning: 2015-01-01
Up To: 2016-01-01
Major Events: Exclude
non-Controllables: Include
CNR's: Excluded
Dist. Outages: Included
Subs. Outages: Included
Tran. Outages: Included
Majonnier
1 mile

5.4 4Y1: Nile Feeder



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Customer Reliability SAIDI Hrs
SAIDI_hrs View
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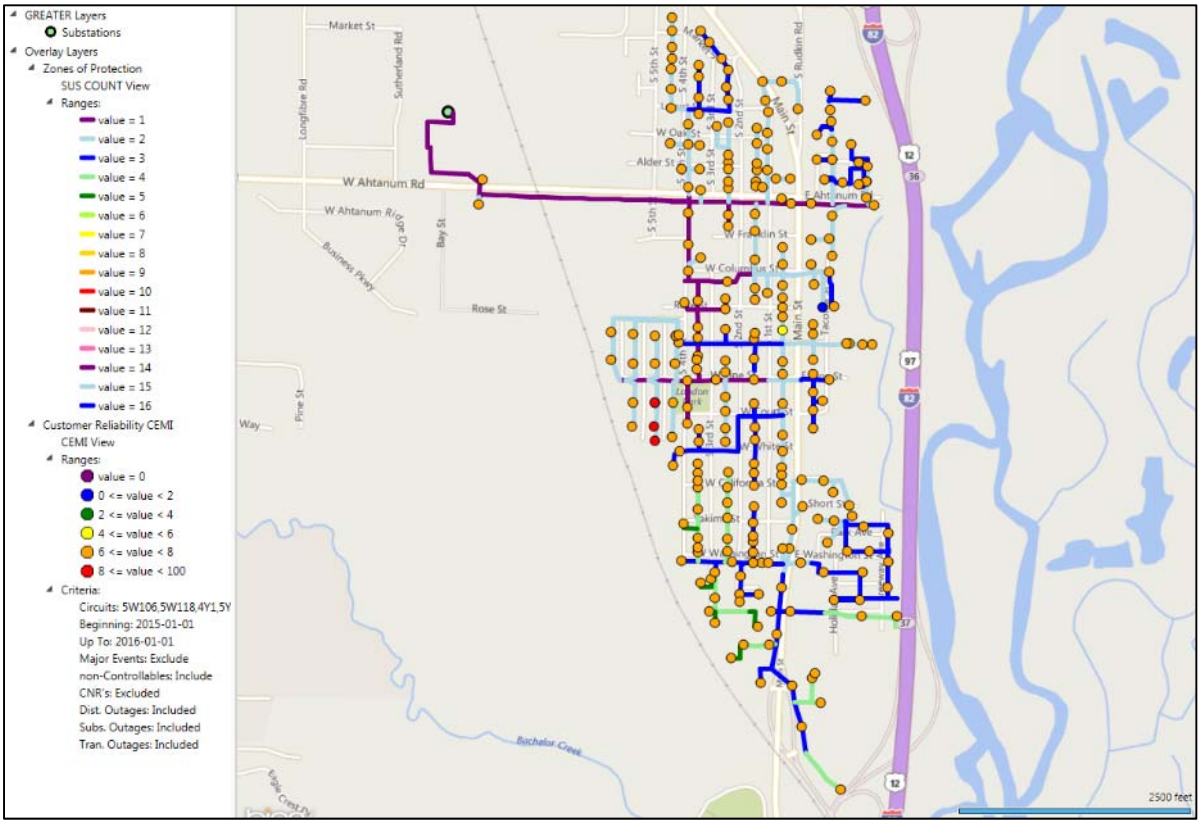
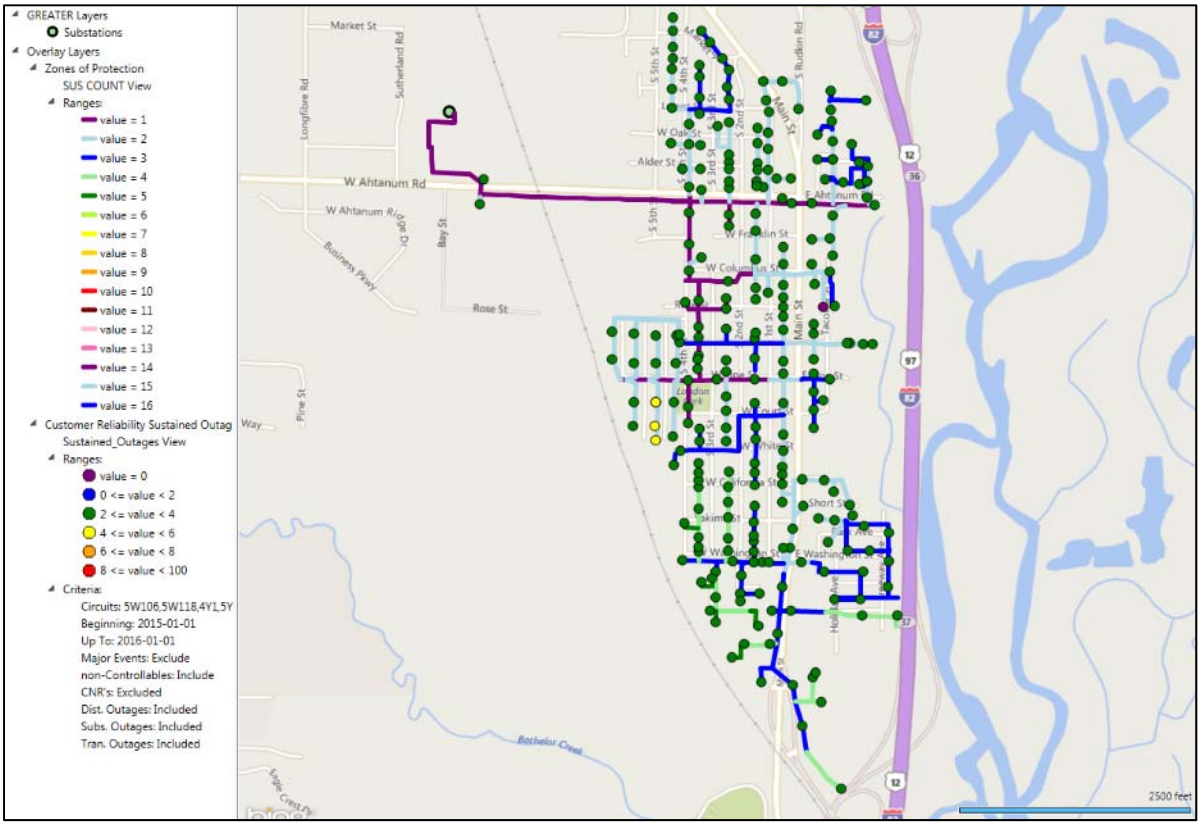
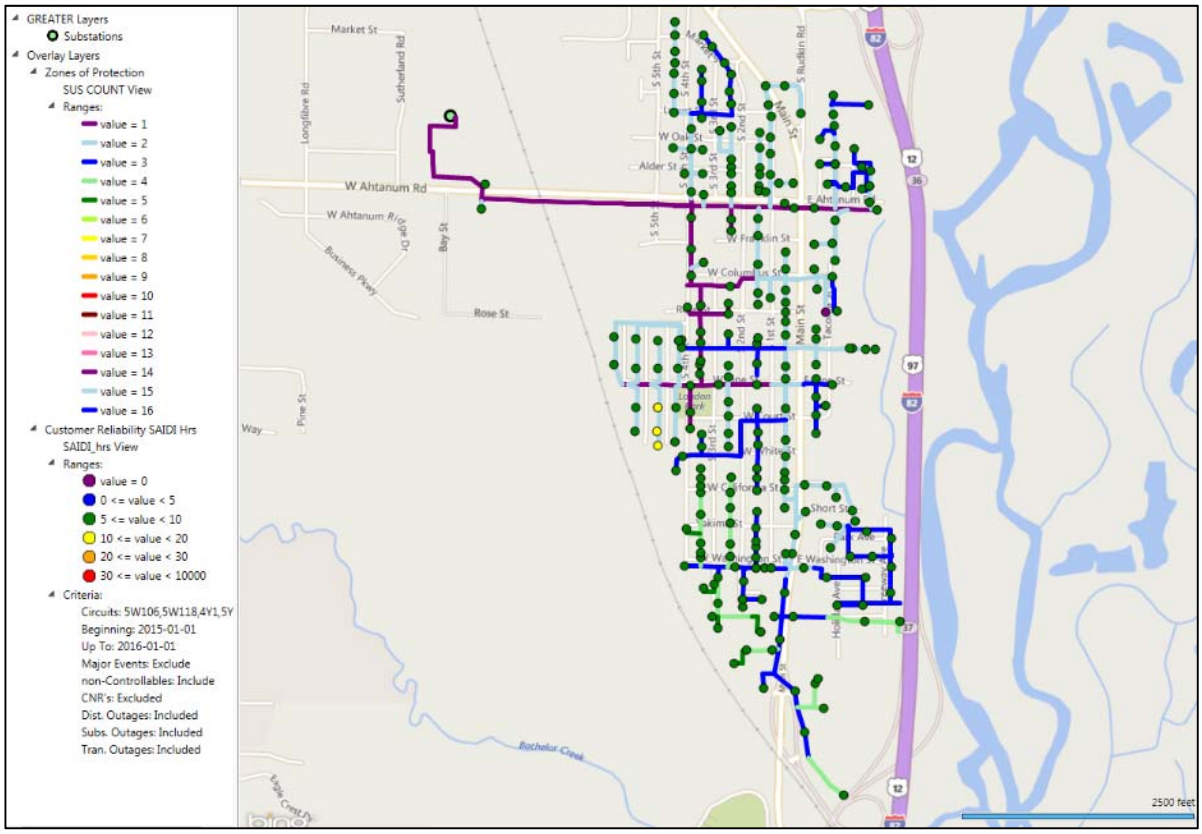
Circuits: 5W106,5W118,4Y1,5Y
Beginning: 2015-01-01
Up To: 2016-01-01
Major Events: Exclude
non-Controllables: Include
CNR's: Excluded
Dist. Outages: Included
Subs. Outages: Included
Tran. Outages: Included
Cascade Range
Wenas
Tieton
5 miles

5.5 5Y468: 4th Street Feeder



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Substations
Overlay Layers
Zones of Protection
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value = 13
value = 14
value = 15
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Customer Reliability SAIDI Hrs
SAIDI_hrs View
Ranges:
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10 <= value < 20
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30 <= value < 10000
Criteria:
Circuits: 5W106,5W118,4Y1,5Y
Beginning: 2015-01-01
Up To: 2016-01-01
Major Events: Exclude
non-Controllables: Include
CNR's: Excluded
Dist. Outages: Included
Subs. Outages: Included
Tran. Outages: Included
Market St
Sutherland Rd
Longfibre Rd
W Ahtanum Rd
W Ahtanum Rd
Bay St
Business Pkwy
Rose St
Pine St
Alder St
W Oak St
Main St
S 5th St
S 4th St
S 2nd St
S Ruddin Rd
W Franklin St
W Columbia St
1st St
2nd St
3rd St
Short St
Bachelor Creek
2500 feet

APPENDIX A: Reliability Definitions

This section will define the various terms[1] 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.

[1] 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.

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

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

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

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

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

Performance Types & Commitments

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

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

- A SAIDI-based Major Event is defined as a 24-hour period where SAIDI exceeds a statistically derived threshold value, as detailed in IEEE Distribution Reliability Standard 1366-2003/2012.
- A SAIFI-Based Major Event is defined as an event in which more than 10% of an operating area's customers are simultaneously without service as a result of a sustained interruption.

Underlying Events

Within the industry, there has been a great need to develop methodologies to evaluate year-on-year performance. This has led to the development of methods for segregating outlier days. Those days which fall below the statistically derived threshold represent "underlying" performance, and are valid (with some minor considerations for changes in reporting practices) for establishing and evaluating meaningful performance trends over time.

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: 2015 Major Event Filings

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

Event Date:	June 29, 2015
Date Submitted:	October 16, 2015
Primary Affected Locations:	Yakima
Primary Cause:	Loss of Transmission
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / David O'Neil / Steve Henderson / Kevin Putnam

Event Description

Due to high summer loading conditions a line section in the Yakima valley was loaded above its continuous rating, but within its four hour emergency rating. Action was taken to resolve the loading condition by reconfiguration the transmission system. During the switching to reconfigure the system, a switch failed to operate correctly (was unable to extinguish the arc), resulting in a flash over causing outages to North Park, Orchard, Pacific, and River Road substations.

Sustained interruptions were experienced by approximately 20% of the company's Washington customers.

6/29/15 Event Outage Summary	
# Interruptions (sustained)	35
Total Customer Interrupted (sustained)	27,609
Total Customer Minutes Lost	2,037,132
Event SAIDI	14.84 Minutes
CAIDI	74

Restoration Summary

On June 29th at 16:40 crews were called to respond to an outage that involved 27,333 customers in the Yakima Valley. The first crew was dispatched to Voelker substation at 16:50, and a second to River Road substation at 17:01. At 17:22 the dispatcher closed 2Y108 at Clinton substation via SCADA to restore the load at Orchard Substation. At 17:40 the crew at Voelker informed dispatch that switch 2Y130 had a burnt arcing horn and the structure had evidence of a flash over. The crew performed an inspection of 2Y130 and informed dispatch the switch could be closed manually. Once 2Y130 at Voelker substation was closed, the

dispatcher closed 2Y91 at Union Gap substation via SCADA to restore Voelker Substation. At 18:00 the crews at River Road substation reported their findings to the dispatcher and were confident the station could be restored to service. At 18:09, the dispatcher closed 2Y21 at River Road substation which restored power to River Road, Pacific, and North Park substations via SCADA to conclude the customer restoration process.

Restoration activities utilized 14 operations personnel. 99.9% of the sustained customer interruptions were restored within 92 minutes.

There were no company or commission customer complaints made regarding the major event.

Mitigation Measures

Operational procedures were modified to incorporate recent system configuration changes which impact switch limitations (in addition to other equipment ratings). Further work has been initiated to augment switching capability of these and other similar switches within the Yakima loop.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
27,609	27,587	22	0

Restoration Resources

No materials were used or replace due to the event.

Personnel Resources	
Wires Journeymen	6
Substation Journeymen	8
TOTAL	**14**

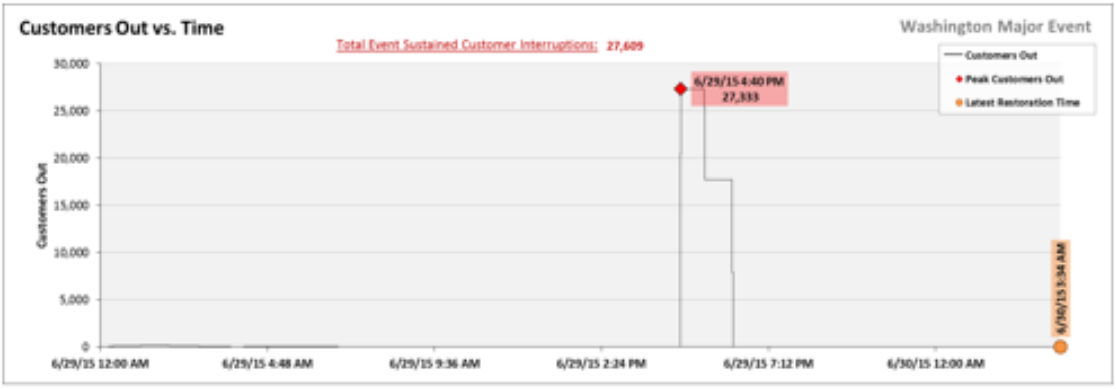
State Estimated Major Event Costs

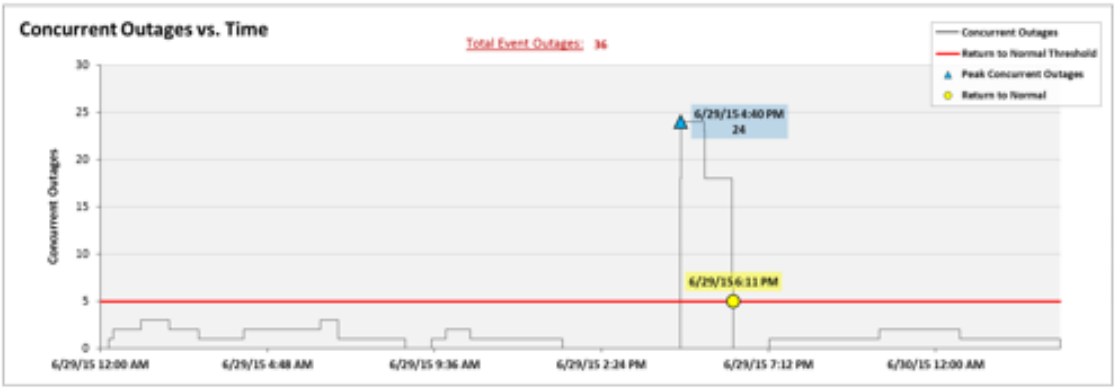
Estimate $	Labor	Materials	Total
Capital	$0	$0	$0
Expense	$16,944	$0	$16,944
Total	**$16,944**	$0	**$16,944**

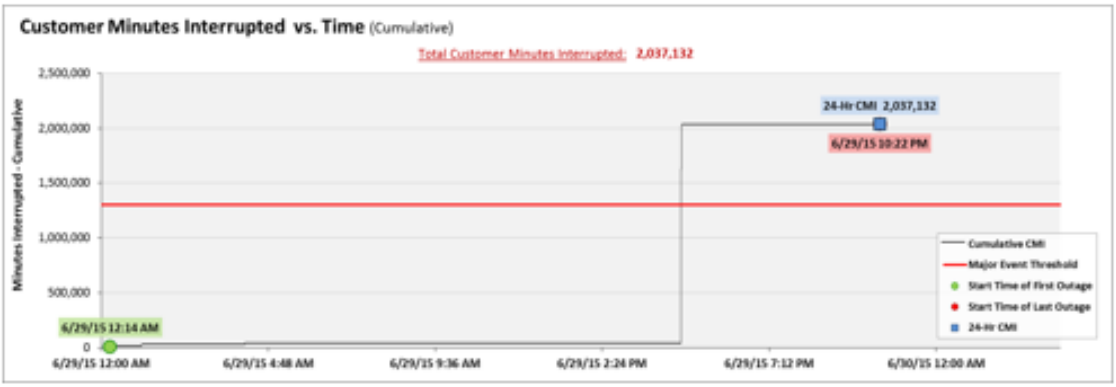
Major Event Declaration

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. This major event exceeded the company's current Washington threshold of 1,299,474 customer minutes lost (9.46 state SAIDI minutes) in a 24-hour period.

Event Detail







SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.

3 of 3

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

Event Date:	October 5, 2015
Date Submitted:	January 12, 2016
Primary Affected Locations:	Yakima
Primary Cause:	Loss of Transmission
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / David O'Neil / Steve Henderson / Kevin Putnam

Event Description

On October 5, 2015, Yakima, Washington, experienced a system average interruption frequency index-driven (SAIFI)-based major event when an unplanned loss of supply event occurred. The outage affected a total of 23,319 customers, of those, 9,506 customers experienced a momentary outage, lasting less than 5 minutes. The 13,834[1] customers who experienced a sustained interruption were restored in large blocks at 36 minutes (about 3,000 customers) and 55 minutes (about 11,000 customers).

Sustained interruptions were experienced by approximately 17% of the Yakima operating area's customers, while approximately 10% of the company's Washington customers experienced a sustained interruption.

10/05/15 Outage Summary	
# Interruptions (sustained)	18
Total Customer Interrupted (sustained)	13,834
Total Customer Minutes Lost	698,661
Event SAIDI	5.09 Minutes
CAIDI	51

Restoration Summary

At 9:58am on October 5, during switching for the Pomona Heights project, a flash occurred on a switch at Tieton tap. When dispatch attempted to operate the switch to close, the switch

[1] The SAIFI-based major event threshold (as identified in PacifiCorp's reporting plan, pursuant to Washington Administrative Code (WAC) 480-100-393 & 398) requires at least 10% of an operating area's customers are without service as the result of a sustained interruption (greater than five minutes in duration). Yakima operating area's Calendar 2015 Frozen Customer Count is 83,410 customers.

was unable to operate to close and with the relaying scheme temporarily in place, circuit breakers at Union Gap, Tieton, and Pomona Heights opened, and customers served from Pomona Heights, Selah, Wenas, Naches, Tieton and Wiley substations were interrupted. Service was restored within just a few minutes to Pomona Heights, Selah and Wenas substations, while the outage at the Naches Plant Substation lasted 36 minutes and 55 minutes at Wiley and Tieton substations. Equipment that was damaged during the event was repaired immediately.

Restoration activities utilized 6 operations personnel. 100% of the sustained customer interruptions for the event were restored within 55 minutes.

There were no company or commission customer complaints made regarding the major event.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
13,834	13,829	0	0

Restoration Resources

Resources	
Substation Crewmembers	6

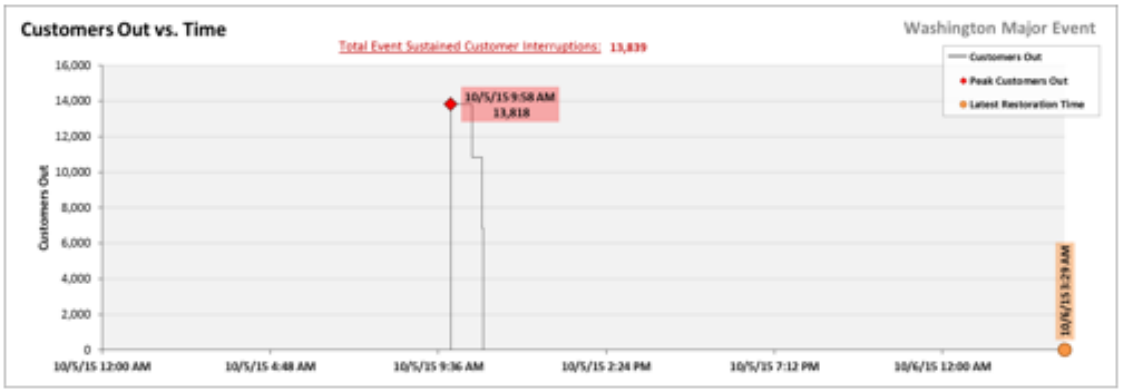
State Estimated Major Event Costs

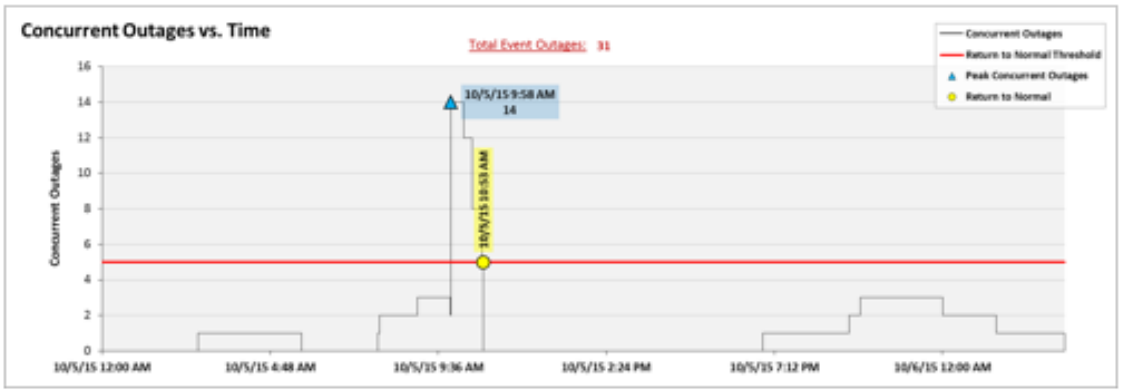
Estimate $	Labor	Materials	Total
Capital	$0	$0	$0
Expense	$7,189	$624	$7,713
Total	**$7,189**	$624	**$7,713**

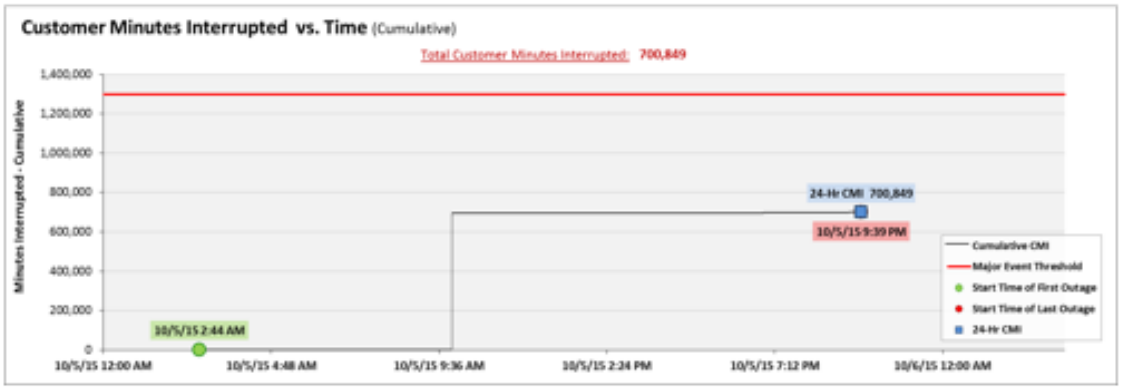
Major Event Declaration

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 (13,834 customers interrupted out of 83,410 Yakima operating area customers, or 17% of the operating area customers) 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:	November 17-18, 2015
Date Submitted:	January 27, 2016
Primary Affected Locations:	Yakima and Walla Walla
Primary Cause:	Wind and Rain Storm
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / David O'Neil / Steve Henderson / Kevin Putnam

Event Description

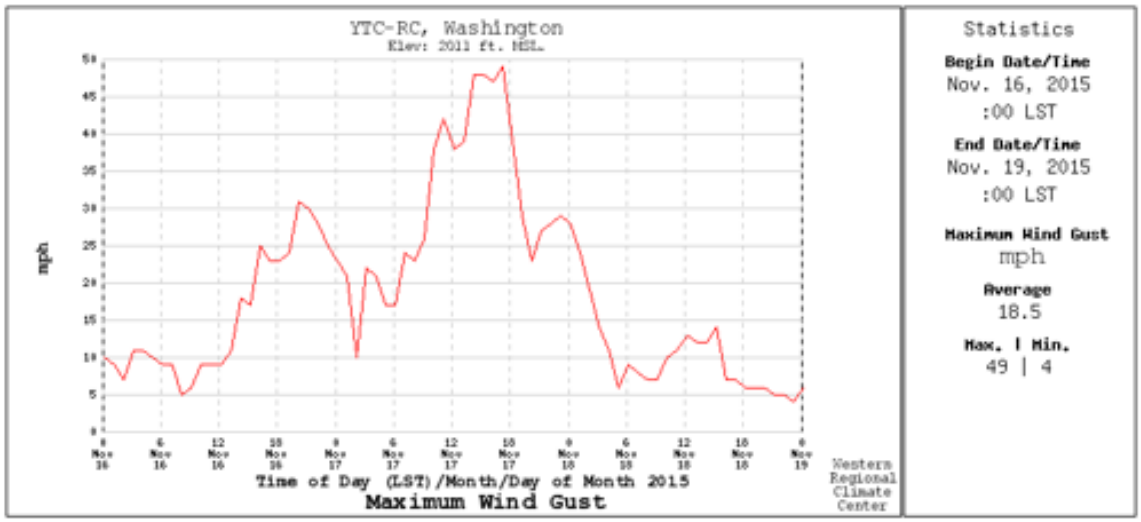
On November 17, 2015, Yakima and Walla Walla experienced a severe wind and rain storm. The storm brought high winds and rain to the northwest. Yakima sustained 63% of all the outages that occurred during the major event. Pole fire-related outages accounted for approximately 32% of all outages, affecting more than 2,200 customers, with a total of over 970,000 customer minutes lost. [1] Tree related outages accounted for approximately 27% of all incidents, affecting over 1,800 customers, with over 445,000 customer minutes lost.

During the storm two significant outages occurred. The most substantial outage occurred at 6:14 pm in Walla Walla when a large tree fell on a primary overhead line. The outage affected 1,611 customers, with 924 customers restored at 9:34 pm, and 687 customers restored at 10:07 pm. In Yakima, circuit 5Y607 sustained the greatest impact during the event due to a pole fire, experiencing a total of 450,349 minutes lost.

Event Outage Summary	
# Interruptions (sustained)	106
Total Customer Interrupted (sustained)	6,870
Total Customer Minutes Lost	1,839,623
State Event SAIDI Impact	13.4 Minutes
CAIDI	268
Major Event Start	11/17/15 11:13 AM
Major Event End	11/18/15 5:30 PM

[1] Pole fires occur when atmospheric conditions with light misting rain bonds with contaminants resulting in a breakdown of insulation, which leads to leakage current. If this leakage current passes through a dry wood pocket on its path to ground, it can ignite the crossarm or pole.

Wind Gust November 16-18, 2015



http://www.raws.com

Restoration Summary

During the storm a total of 106 sustained outages occurred, and at its peak 4,077 customers were without power. Restoration activities utilized 49 operations personnel. A total of 35 journeymen took part in the restoration efforts, replacing approximately 8,000 feet of conductor, 29 insulators, 25 cutouts, 28 crossarms, and five transformers. During the duration of the major event, 27% of customers interrupted were restored within 3 hours; no customers were off supply for more than 24 hours.

There were no company or commission customer complaints made regarding the major event.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
6,870	1,873	4,997	0

Restoration Resources

Personnel Resources	
Service Coordinators	3
Mechanics	1
Metermen	2
Plant Journeymen	3
Collectors	2
Estimators	1
General Foreman	2
Journeyman	35
TOTAL	49

Materials	
Insulators	29
Pole top extender	8
Cutouts	25
Approximate Line Feet (conductor)	8,000 ft.
Crossarms	28
Transformers (pole mounted)	5

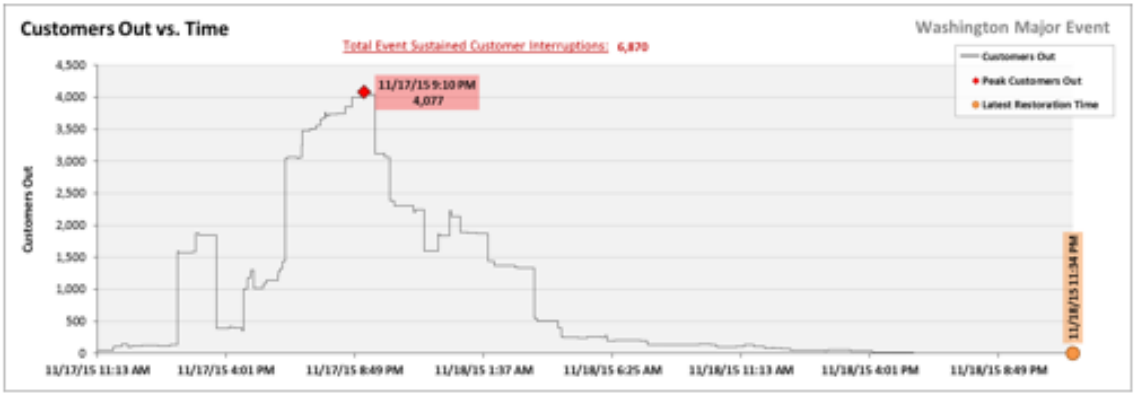
Estimated Major Event Costs

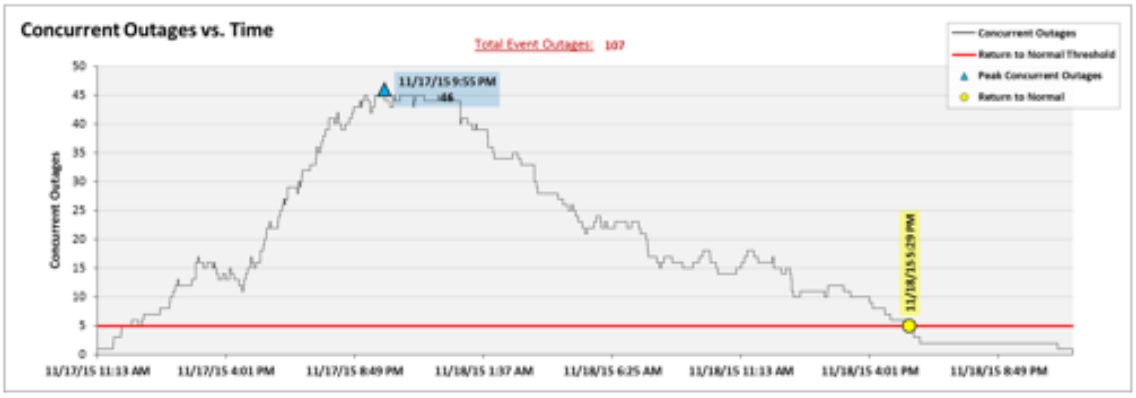
Estimate $	Labor	Contracts	Materials	Total
Capital	$13,000	$25,000	$27,000	$65,000
Expense	$119,000	$123,000	$24,000	$266,000
Total	**$132,000**	**$148,000**	**$51,000**	**$331,000**

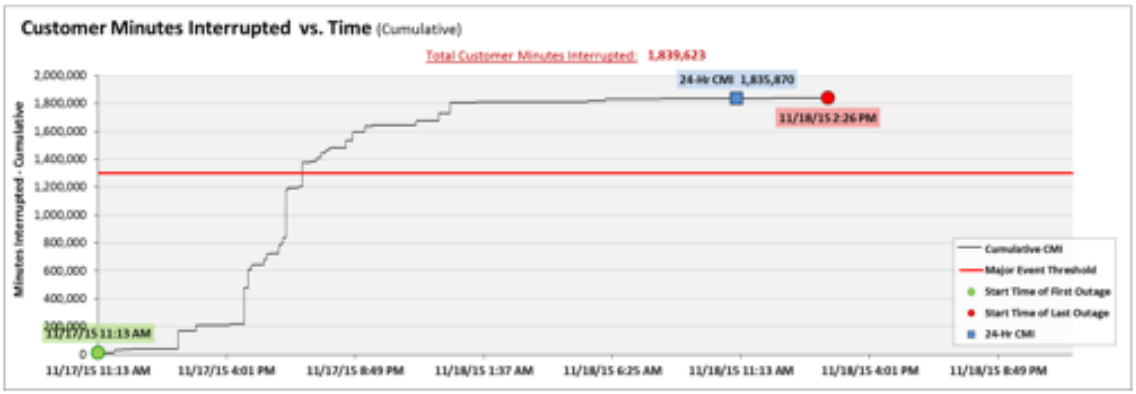
Major Event Declaration

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 current Washington threshold of 1,299,474 customer minutes lost (9.46 state SAIDI minutes) 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

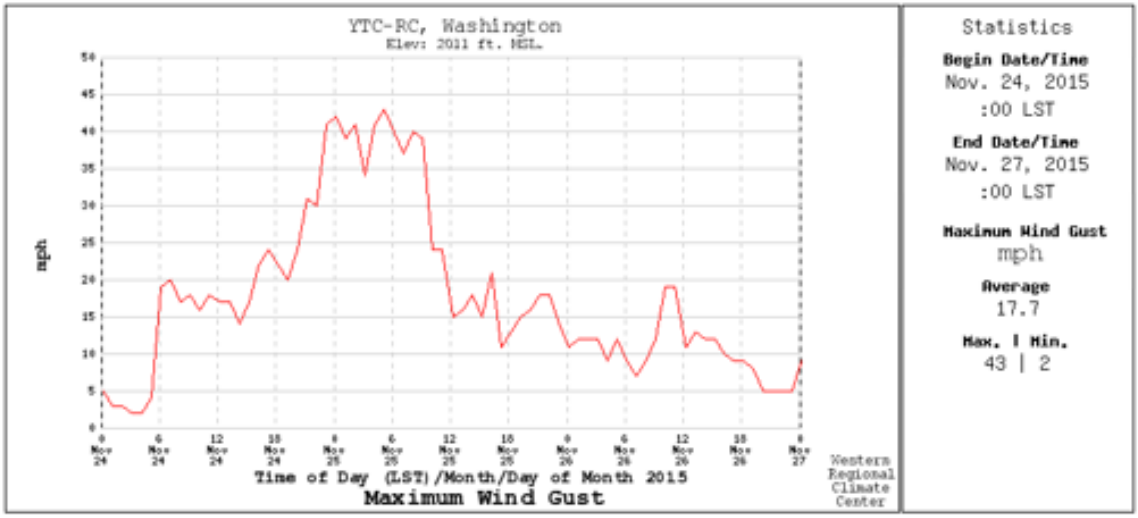
Event Date:	November 25-26, 2015
Date Submitted:	January 27, 2016
Primary Affected Locations:	Yakima
Primary Cause:	Windstorm
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / David O'Neill / Steve Henderson / Kevin Putnam

Event Description

On November 25, 2015, Washington, experienced a highly localized wind event in Yakima. Wind gusts were so strong they broke poles at the ground level, taking down facilities, including a two-pole regulator bank structure, four adjacent pole structures (2-pot bank pole; single transformer pole; tangent pole and single phase tap pole) and damaged crossarms on 2 additional poles. The damaged facilities involved a double-circuit distribution feeder served out of the Hopland Substation.

Event Outage Summary	
# Interruptions (sustained)	8
Total Customer Interrupted (sustained)	4,622
Total Customer Minutes Lost	2,086,025
State Event SAIDI Impact	15.19 Minutes
CAIDI	451
Major Event Start	11/25/15 1:16pm
Major Event End	11/26/15 1:16pm

Wind Gust November 24-26, 2015



http://www.raws.com

Restoration Summary

The event began at 1:16 pm, causing a loss of power to 3,106 customers. Emergency action support (which involves management, logistics, and enables shifting of resources rapidly) was brought into the response actions immediately and all local crews were immediately re-deployed to support the restoration and reconstruction. Over 30 employees supported the major event, including flaggers, logistics, substation operations, and engineers. Additional crews from Hood River, Pendleton, Walla Walla, and Portland were called in to assist with the restoration. At approximately 4:20 pm crews were able to isolate part of the outage enabling restoration of power to 1,496 customers. Personnel worked through the night in below-freezing temperatures to complete repairs. Restoration of the remaining 1,610 customers was completed between 7:04 am and 7:47 am the following morning. An additional planned emergency damage repair outage occurred between 6:17 am and 7:04 am for the 1,496 customers whose power had been restored the previous day. Additional work and cleanup continued until 1pm that afternoon.

There were no company or commission customer complaints made regarding the major event.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
4,622	1,495	3,127	0

Restoration Resources

Personnel Resources	
Journeyman	24
Collectors	2
Estimators	1
General Foreman	1
Other	3
TOTAL	31

Materials	
Poles	3
Crossarms	1
Transformers (pole mounted)	1
Transformer platform	1
Switches (bypass)	1
Cutouts	1
Insulators	16
Line regulator	1
Lightning arrestor	4

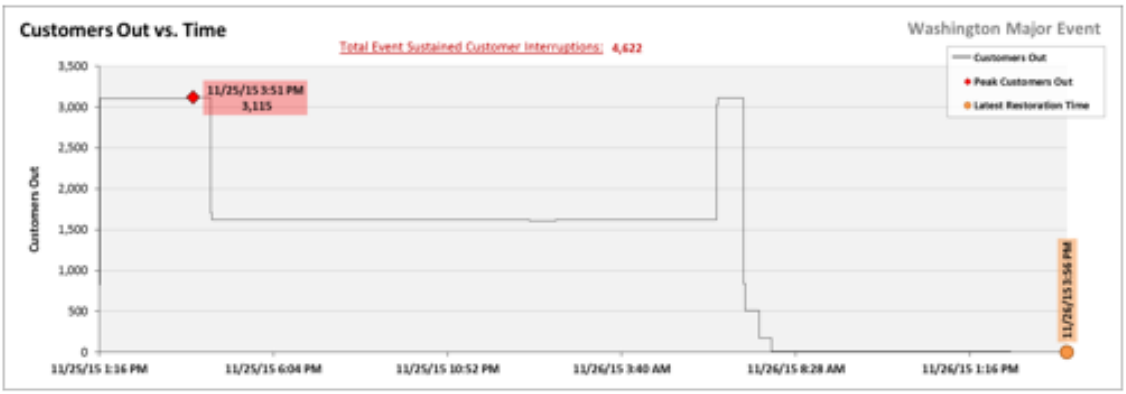
State Estimated Major Event Costs

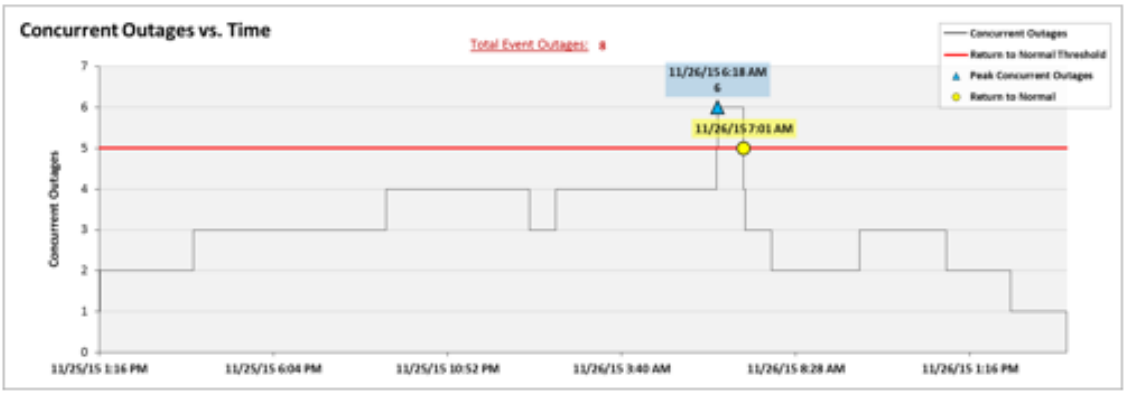
	Labor	Materials	Total
Estimate $	$61,030	$66,220	$127,250

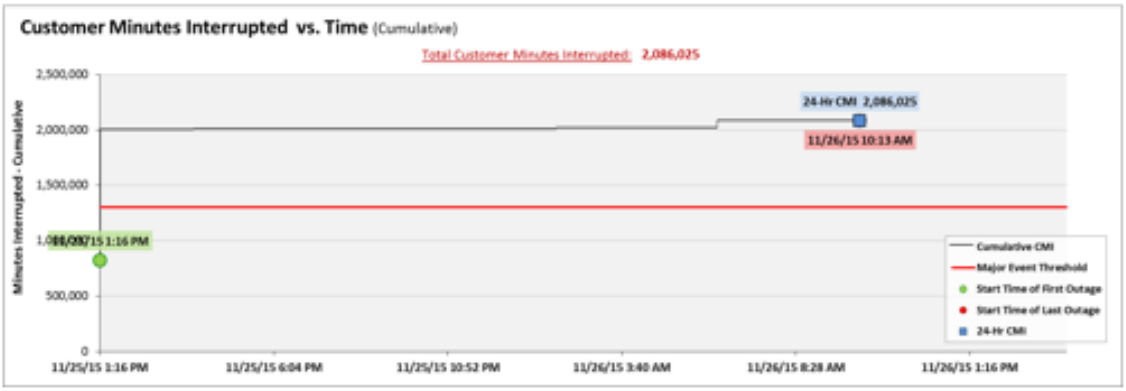
Major Event Declaration

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. This major event exceeded the company's current Washington threshold of 1,299,474 customer minutes lost (9.46 state SAIDI minutes) 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:	December 12-13, 2015
Date Submitted:	February 8, 2016
Primary Affected Locations:	Sunnyside, Walla Walla, and Yakima
Primary Cause:	Weather
Exclude from Reporting Status:	Yes
Report Prepared by:	April Brewer
Report Approved by:	Heide Caswell / David O'Neil / Chad Ooten / Michael Gavin / Ron Duren / Kevin Putnam

Event Description

During the month of December several severe wind and rain storms impacted areas across the Northwest, impacting electric reliability. Such was the case on December 12, 2015, when several large outages across Pacific Powers' Washington service territory occurred due to the weather. Rain and wind resulted in significant outages. Of them, pole fire[1]-related outages accounted for approximately 83% of all customer outages, affecting more than 5,200 customers, with a total of over 1,300,000 customer minutes lost.

During the storm there were two significant outages causing the majority of customer interruptions. Equipment was damaged due to a pole fire-caused outage in Sunnyside that affected 2,645 customers fed from the Sulphur Creek Substation. Interruptions lasted between 2 hours and 16 minutes and 7 hours 12 minutes, and totaled 754,800 customer minutes lost. In Walla Walla, circuit 5W323, feed from the Dayton Substation, experienced isolated three pole fire-caused outages, affecting 1,046 customers; all customers were restored within 11 hours. Numerous other small outages were also experienced that resulted in extensive restoration activities across the state.

[1] Pole fires may result from a number of different causes. They can occur when atmospheric conditions exist with light misting rain that bonds with contaminants resulting in a breakdown of insulation, which leads to leakage current. A pole fire may also result from leakage current caused by an equipment failure such as a failed dead-end insulator, or a broken cutout. If the leakage current passes through a dry wood pocket on its path to ground, it can ignite the crossarm or pole.

Event Outage Summary	
# Interruptions (sustained)	18
Total Customer Interrupted (sustained)	6,424
Total Customer Minutes Lost	1,391,154
State Event SAIDI Impact	10.13 Minutes
CAIDI	217
Major Event Start	12/12/15 3:15pm
Major Event End	12/13/15 3:15pm

Restoration Summary

During the event all available employees were dispatched. While additional resources would have been helpful, across Washington and into northern Oregon storm activities had all available personnel engaged in outage response. A large number of the repairs required modifications to electrical structures, generally adding pole top extensions and new cutouts. Power was restored to all customers by 6:42 am on December 13, 2015.

There were no company or commission customer complaints made regarding the major event.

Restoration Intervals

Total Customers Sustained	< 3 Hrs.	3 - 24 Hrs.	24+ Hrs.
6,424	3,053	3,371	0

Restoration Resources

Resources	
Journeyman	28

Materials	
Cutouts	10
Insulators	12
Crossarms	11
Transformers	2
Pole top extension	7
Conductor	600ft

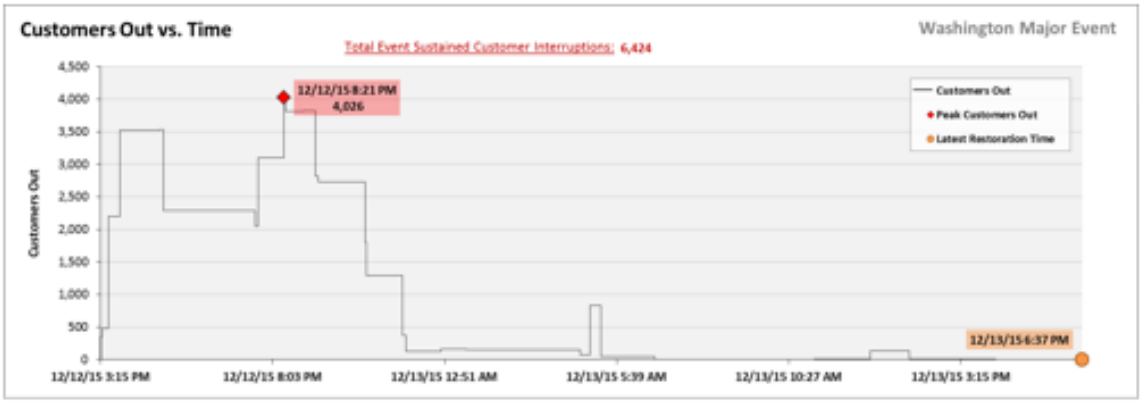
State Estimated Major Event Costs

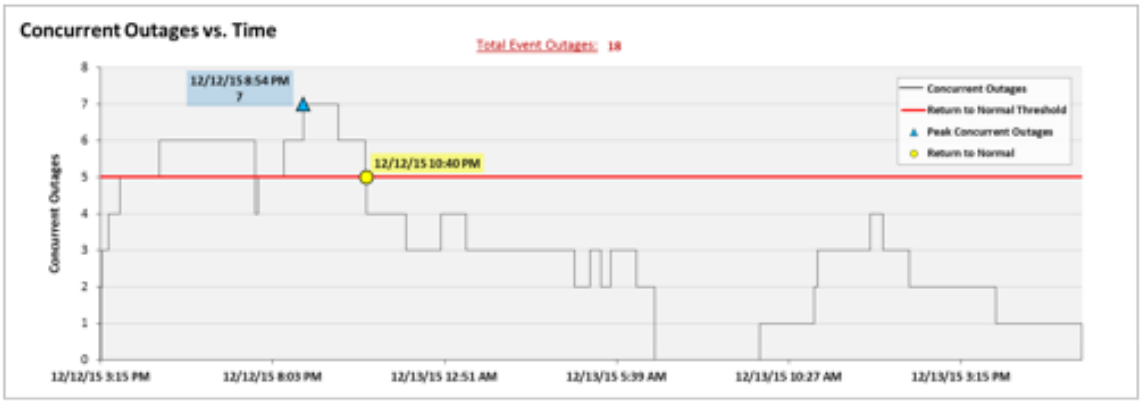
Estimate $	Labor	Materials	Total
Capital	$4,600	$5,025	$9,625
Expense	$30,647	$10,315	$40,962
Total	**$35,247**	**$15,340**	**$50,587**

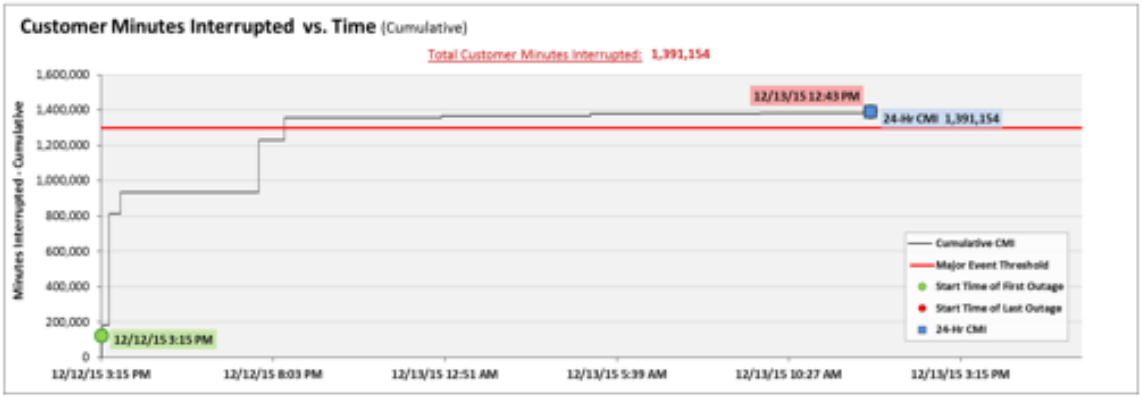
Major Event Declaration

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 current Washington threshold of 1,299,474 customer minutes lost (9.46 state SAIDI minutes) in a 24-hour period.

Event Detail







SAIDI, SAIFI, CAIDI by Reliability Reporting Region

Please see the attached system-generated reports.