

May 2, 2008

## VIA ELECTRONIC FILING AND OVERNIGHT DELIVERY

Ms. Carole J. Washburn
Executive Secretary
Washington Utilities and Transportation Commission
1300 S. Evergreen Park Drive SW
Olympia, WA 98504-7250

Re: Supplemental Filing Annual Electric Reliability Report per WAC 480-100-393 and WAC 480-100-398

Dear Ms. Washburn:

On April 30, 2008, PacifiCorp submitted its Annual Electric Reliability Report per WAC 480-100-393 and WAC 480-100-398. Due to an inadvertent omission of data, PacifiCorp is making a supplemental filing by resubmitting this report in its entirety.

It is respectfully requested that all formal correspondence and Staff requests regarding this filing be addressed to:

By E-mail (preferred):

datarequest@pacificorp.com

By regular mail:

Data Request Response Center

**PacifiCorp** 

825 NE Multnomah, Suite 2000

Portland, OR 97232

By fax:

(503) 813-6060

Informal questions should be directed to Paul M. Wrigley, Regulatory Director, at (503) 813-6048.

Sincerely,

Andrea Kelly

Vice President, Regulation

andrea Kelly/ca

**Enclosures** 



# SERVICE QUALITY

REVIEW

January 1 – December 31, 2007

**Annual Report** 



January - December 2007

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# **EXECUTIVE SUMMARY**

During January 1 through December 31, 2007, PacifiCorp continued to deliver excellent reliable service to its Washington customers. The Customer Guarantee program continued to deliver high quality results (in fact, well above 99%) consistent with the prior year's performance. While PacifiCorp's reliability results delivered to its Washington customers during 2007 were slightly off the company's operating plan targets for the year, the service delivered across PacifiCorp's six states service territory ranks very high when compared across the industry.

The company's service reliability is 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 performance metrics. To provide a perspective on their impact this year, the significant events experienced during 2007 are listed in Section 3.

# 1 Service Standards Program Summary

PacifiCorp has a Service Standards Program comprised of a number of Customer Guarantees<sup>1</sup> and Performance Standards. Regular status reports regarding the program's performance are provided both internally and externally. These reports detail measures of performance that are reflective of PacifiCorp's reliability in service delivery (of both personnel and the network) to its customers. The company developed these measures after evaluating company and industry standards and practices for delivering, collecting, and reporting performance data. In certain cases, the company chose to adopt a level of performance higher than the industry norm. In other cases, PacifiCorp developed metrics and targets based upon its history of delivery of these measures. The measures are useful in evaluating historical performance and in setting future targets for performance. In its entirety, these measures comply with WAC 480-100-393 and 398 requirements for routine reliability reporting.

In UE-042131, the company applied, and received approval, to extend the core program through March 31, 2008. During the MidAmerican acquisition of PacifiCorp, in UE-051090, the program² was extended again through 2011. During Fiscal Year 2006, from April 1, 2005 through March 31, 2006 the company successfully delivered on both its outage duration and outage frequency targets consistent with the commitment made. At the close of March 31, 2008, the company also accomplished its 3-Hour Outage Restoration Target goal (PS4). Further, the company continues to target improvements to its underperforming circuits, resulting in meeting this commitment also. Upon completion of this program, the company will be proposing minor modifications to the program and will be completing a filing to formalize the status and suggested improvements going forward.

<sup>&</sup>lt;sup>1</sup> Customer Service Standards address individual customer transaction performance, while Performance Standards address system-level performance for the average PacifiCorp Washington customer.

<sup>&</sup>lt;sup>2</sup> Commitment 45 states that "MEHC and PacifiCorp commit to continue customer service guarantees and performance standards as established in each jurisdiction, provided that MEHC and PacifiCorp reserve the right to request modifications of the guarantees and standards after March 31, 2008, and the right to request termination (as well as modification) of one or more guarantees or standards after 2011. The guarantees and standards will not be eliminated or modified without Commission approval."

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# 1.1 PacifiCorp Customer Guarantees

Customer Guarantee 1: Restoring Supply After an Outage  Customer Guarantee 2: Appointments	The company will restore supply after an outage within 24 hours of notification from the customer with certain exceptions as described in Rule 25.  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. Disconnection 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.

January - December 2007

# 1.2 PacifiCorp Performance Standards

Network Performance Standard 1: Improve System Average Interruption Duration Index (SAIDI)	The company will achieve its SAIDI commitment target during the 3 year period through March 31, 2008.
Network Performance Standard 2: Improve System Average Interruption Frequency Index (SAIFI)	The company will achieve its SAIFI commitment target during the 3 year period through March 31, 2008.
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 on average to 80% of customers within three hours.
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 three working days and will b) respond to at least 95% of disconnect Commission complaints within four working hours. The company will 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.



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#### **Reliability Definitions and Service Territory** 1.3

This section will define the various terms<sup>3</sup> used when referring to interruption types, performance metrics and the internal measures developed to meet its performance plans. A map of PacifiCorp 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 is defined as an outage of less than 5 minutes in duration. PacifiCorp has historically captured this data using substation breaker fault counts.

## Reliability Indices

#### SAIDI

SAIDI (sustained 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 time-frame. 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. 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 (sustained 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 time-frame. 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 PS1 (SAIDI) by PS2 (SAIFI).

#### **CEMI**

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

#### CPI99

<sup>&</sup>lt;sup>3</sup> P1366-2003 was adopted by the IEEE Commissioners on December 23, 2003. The definitions and methodology detailed therein are now industry standards.





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CPI99 is an acronym for Circuit Performance Indicator, which uses key reliability metrics (such as SAIDI and SAIFI) to identify underperforming circuits. It excluded Major Event and Loss of Supply or Transmission outages.

#### CPI05

CPI05 is an acronym for Circuit Performance Indicator, which uses key reliability metrics (such as SAIDI and SAIFI) to identify underperforming circuits. Unlike CPI99 it includes Major Event and Loss of Supply or Transmission outages.

# Performance Types & Commitments

PacifiCorp 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

A 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<sup>4</sup>.

**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, via the approaches described above. 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.

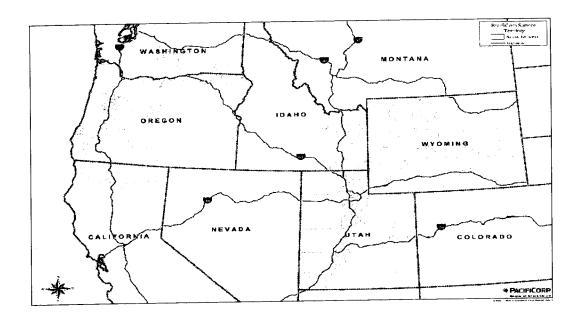
Commitment Targets

Because of the benefits that the company and its customers and regulators experienced from the Service Standards Program, the company filed and received approval to continue the program through 3/31/2008. From a reliability perspective, the company continues to develop stretch goals that will deliver important improvements to its customers. For Washington state customers, the company committed that it would deliver outage duration (SAIDI) and outage frequency (SAIFI) results within the 3-year period that met its prior commitment targets, as filed in UE-042131. At yearend 2007, these commitments have either been met or are on track for successful delivery.

# Service Territory Map

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<sup>&</sup>lt;sup>4</sup> During calendar 2007, the calculated threshold for a major event was 12.02 minutes; during calendar 2008, the calculated threshold is 11.69 minutes.



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# 2 CUSTOMER GUARANTEES SUMMARY

# customerguarantees

January to December 2007

Washington

		2007				2	006		
	Description	Events	Failures	%Success	Paid	Events	Failures	%Success	Paid
CG1	Restoring Supply	142,420	0	100%	\$0	125,093	0	100%	\$0
CG2	Appointments	2,971	8	99.7%	\$400	3,087	14	99.5%	\$700
CG3	Switching on Power	4,614	7	99.8%	\$350	4,741	16	99.7%	\$800
	Estimates	513	4	99.2%	\$200	533	5	99.1%	\$250
	I —	1,734	5	99.7%	\$250	1,495	6	99.6%	\$300
	Respond to Billing Inquiries	157	1	99.4%	\$50	116	0	100%	\$0
	Respond to Meter Problems	4,056	5	99.9%	\$250	5,304	3	99.9%	\$150
CG7	Notification of Planned Interruptions	4,000		00.070					
		156,465	30	99.9%	\$1,500	140,369	44	99.9%	\$2,200

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

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

Program performance reports are included in all billing statements beginning in June.

Each new customer is sent a welcome aboard packet that features the program and describes how to file a claim.

Major Events are excluded from the Customer Guarantees program.

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# 3 PERFORMANCE STANDARDS

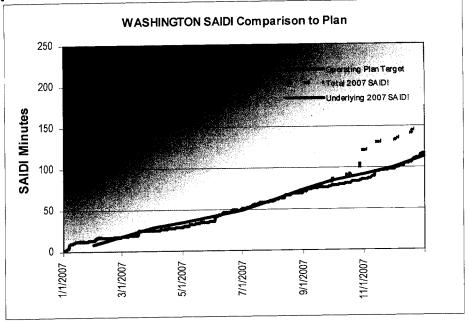
During the reporting period, the company delivered reliability results slightly higher than its internal targets. As seen in the following charts, events early in the year resulted in the first straying from performance targets, with the January 7 wind event and the March 17 loss of supply event. Later in the year, performance was impacted by another loss of supply event, on September 30, and a storm event on November 12. Totaling approximately 27 minutes, these four days in total accounted for more than one-fifth (22%) of the state's SAIDI for 2007. Late-year weather continued to impact reliability and resulted in performance being slightly beyond plan. On October 29, an animal encroachment resulted in the single major event filed during the year. During the period, the customer average interruption duration index (CAIDI) was 109 minutes; this means the average outage was restored after 109 minutes. Impacts of the four significant events not reaching the major event threshold are shown in the table below.

Significant Events				
Date	Description	Impact to SAIDI		
1/7/2008	Wind	5		
	Loss of Supply - unknown initiating event	6		
9/30/2008	Loss of Supply - initiated by lightning	10		
11/12/2008	Storm	6		

# 3.1 System Average Interruption Duration Index (SAIDI)

During the year, the company's average outage duration for its Washington customers was close to plan, but was impacted by a few significant events and frequent winter weather events at year-end.

	January 1 through December 31, 2007			
	SAIDI Plan SAIDI Actual Commitment Target			
Washington	122	113		

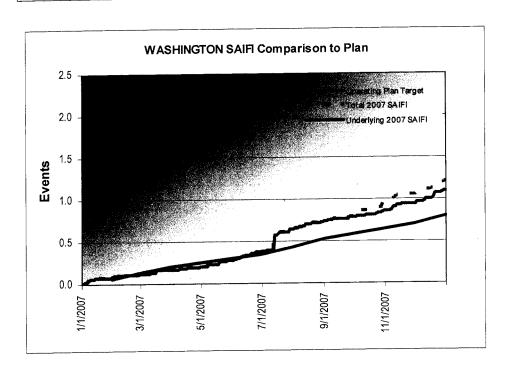


January - December 2007

# 3.2 System Average Interruption Frequency Index (SAIFI)

As stated previously, the company delivered reliability results slightly off plan during the year. As seen in the following chart, an up-tick in July pulled outage frequency substantially off plan. (On July 13, a loss of supply event affecting more than 22,000 customers for 12 minutes was due to lightning.) Later through the year, winter weather moved frequency further off plan.

	January 1 through December 31, 2007				
	SAIFI Actual SAIFI Plan Commitment Targ				
Washington	1.12	0.80			



January - December 2007

# 3.3 Operating Area Metrics

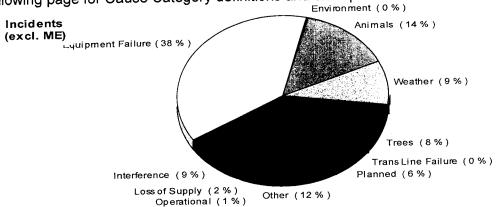
Washington Operating Area Performance for the reporting period is listed in the table below.

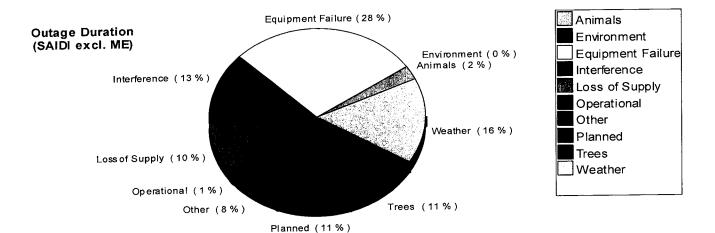
January – December 2007	Major Events Included		Major	Events Exclu	uded	
Operating Area	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
SUNNYSIDE	241	1.05	230	109	0.76	143
WALLA WALLA	107	1.3	82	107	1.3	82
YAKIMA	129	1.14	113	129	1.14	113

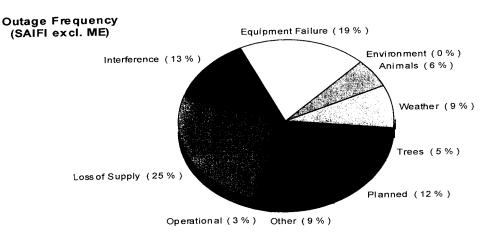
January - December 2007

# 3.4 Cause Code Analysis

The pie charts below show number of incidents, customer minutes lost, and sustained interruptions by cause category. Customer minutes lost is directly related to SAIDI (average outage duration) while sustained interruptions is directly related to SAIFI (average outage frequency). Certain types of outages typically result in a large amount of customer minutes lost, but are infrequent, such as Loss of Supply outages. Others tend to be more frequent, but result in few customer minutes lost. See the following page for Cause Category definitions and examples.







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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).
	Wind (excluding windborne material); snow, sleet or blizzard; ice; freezing fog;
Weather	frost; lightning.
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 (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 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.
- arterior (1986) er och de ander	
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.
O LI I CI	

January - December 2007

# 3.5 Areas of Greatest Concern

During 2007, reliability continues to focus on improved system hardening and protection. This protection focus has included replacement of hydraulic reclosers, upgrades of substation breakers and/or relays and coordination of circuit protection devices, such as fuses and reclosers. The company has found substantial improvements in performance by honing in on circuits that do not appear to be well coordinated. Additionally, it has continued its circuit hardening efforts by strategic deployment of circuit inspection, pole and/or crossarm replacement and vegetation hot spotting. In addition to circuit hardening and protection efforts, it has reviewed opportunities for localized activities such as feeder ties and cable replacement activities.

See Appendix A for graphical depictions of outage frequency and duration for the state, operating areas and selected circuits during the reporting period.

		Target Date
Additional tap fusing; minor circuit protection	Coordination Started	October 31, 2008
coordination.		
Re-conductor & install switch	Complete	
Circuit inspection and hardening; install 2	Engineering Complete	December 31, 2008
reclosers and coordinate circuit protection.	Inspection Underway	
Circuit inspection and hardening.	Complete	
·		
Additional tap fusing; circuit protection	Complete	
coordination.		
Additional tap fusing; circuit protection	Complete	
coordination.		
Circuit inspection and hardening.	Complete	
Circuit inspection and hardening; coordinate	Engineering Complete	December 31, 2008
circuit protection.	Inspection Underway	
	coordination.  Re-conductor & install switch  Circuit inspection and hardening; install 2 reclosers and coordinate circuit protection.  Circuit inspection and hardening.  Additional tap fusing; circuit protection coordination.  Additional tap fusing; circuit protection coordination.  Circuit inspection and hardening.  Circuit inspection and hardening.	coordination.  Re-conductor & install switch  Circuit inspection and hardening; install 2 reclosers and coordinate circuit protection.  Circuit inspection and hardening.  Circuit inspection and hardening.  Complete  Additional tap fusing; circuit protection coordination.  Additional tap fusing; circuit protection coordination.  Circuit inspection and hardening.  Complete  Complete  Complete  Complete  Complete  Circuit inspection and hardening.  Complete  Circuit inspection and hardening.

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# 3.6 Reduce CPI for Worst Performing Circuits by 20%

On a routine basis, the company reviews circuits for performance. One of the measures that it uses is called circuit performance indicator (CPI), which is a blended weighting of key reliability metrics covering a three-year time frame. The higher the number, the poorer the blended performance the circuit is delivering. As part of the company's Performance Standards Program, it annually selects a set of Worst Performing Circuits for target improvement. The improvements are to be completed within two years of selection. Within five years of selection, the average performance must improve by at least 20% (as measured by comparing current performance against baseline performance). Circuit selections for Program Years 1 through 5 have previously met their targets (as filed and approved) and are thus removed from the tracking table below.

WASHINGTON WORST PERFORMING CIRCUITS	BASELINE	Performance 12/31/07		
Circuit Performance Indi	cator 2005 (CPI	05)		
PROGRAM YEAR 9:				
Garden	109			
Hay	166			
Rivard	81			
Franklin	82			
Boulevard	41			
TARGET SCORE = 77	96			
PROGRAM YEAR 8:				
Zillah	114	177		
Gurley	87	96		
Stone Creek	135	143		
Nile	760	617		
Highland	247	212		
TARGET SCORE = 215	269	249		
PROGRAM YEAR 7:				
West	210	95		
Granger	116	216		
Russell Creek	149	82		
Tampico	140	166		
Gore	56	82		
TARGET SCORE = 107	134	128		
PROGRAM YEAR 6:				
Nile	383	617		
Forney	246	118		
Harrah	220	115		
Windward	233	168		
Ferndale	227	108		
TARGET SCORE = 210	262	225		

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# 3.7 Restore Service to 80% of Customers within 3 Hours (across 3 years)

W	WASHINGTON RESTORATIONS WITHIN 3 HOURS						
	3-Year Program to Date = 85%						
January 1 through December 31, 2007 = 85%							
January	February	March	April	May	June		
72% 98% 97% 86% 91% 82%			82%				
July August September October November December				December			
94%	84%	78%	91%	83%	70%		

# 3.8 Telephone Service and Response to Commission Complaints

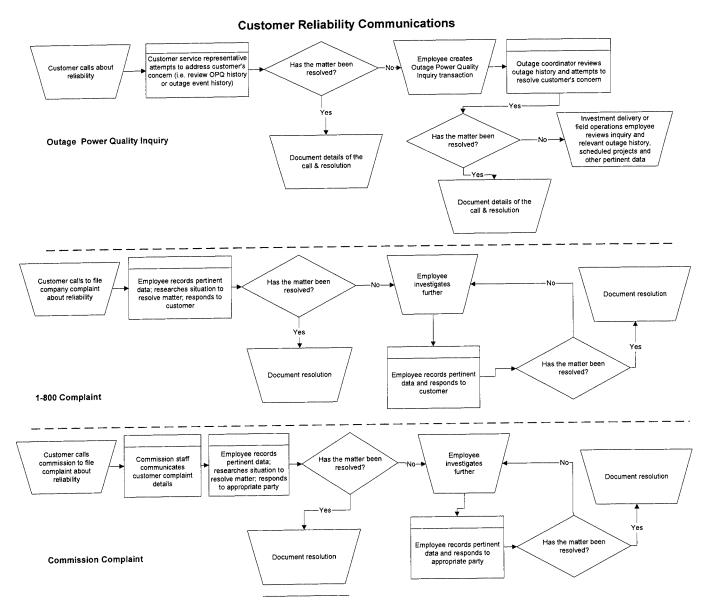
COMMITMENT	GOAL	PERFORMANCE	
PS5-Answer calls within 30 seconds	80%	83%	
PS6a) Respond to commission complaints within 3 days	95%	100%	
PS6b) Respond to commission complaints regarding service disconnects within 4 hours	95%	100%	
PS6c) Resolve commission complaints within 30 days	95%	100%	

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# 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.





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# 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 are the complaints recorded during the year, by the receipt point.

# Informal Complaints (1-800 or Customer Assistance Line (CAL))

Received S	State	Operating Area	Complaint Type	Circuit Number	Commission		Customer Account Number Number	Customer Name	Summary
1/8/2007 V	VA	Yakima Distribution	Outage	5Y631	Private	121316119	49627621 1	Beddoe, Lewis A.	Customer contacted CAL regarding tree arcing in line.

### • Commission Complaints

Received State	Operating Area	Complaint Type	Circuit Commission Number		Site ID Customer Account Customer Name Number Number			Summary
10/26/2007 WA	Walla Walla Distribution	Outage	5W4	Private	999033523	42717011	1 Hackett, James S	Customer contacted WUTC with questions regarding outage restoration.

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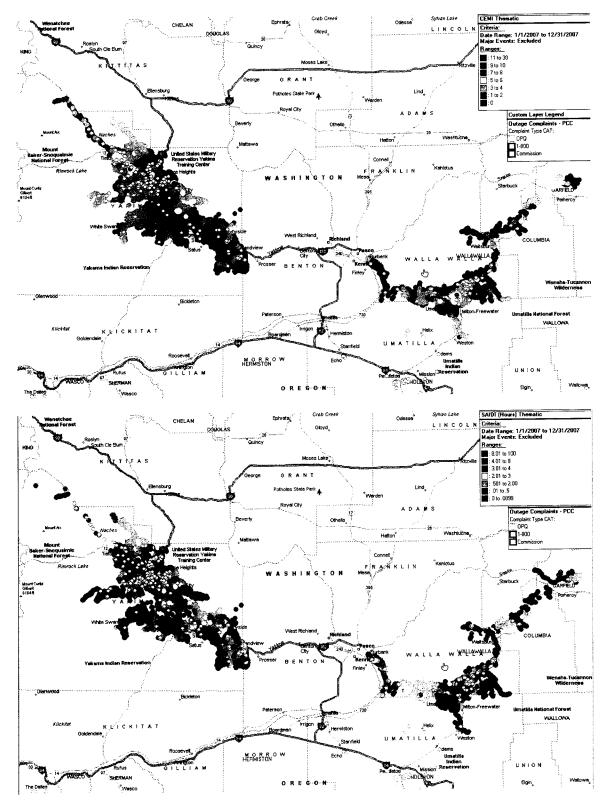
# **5 WASHINGTON RELIABILITY RESULTS DURING 2007**

To geospatially display reliability results, the Company has developed its GREAT 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. 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. Second, 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.)

Finally, these graphics superimpose customer reliability inquiries and complaints. When this data is graphically overlaid with transformer performance data, trends can be surfaced that warrant prompt action.

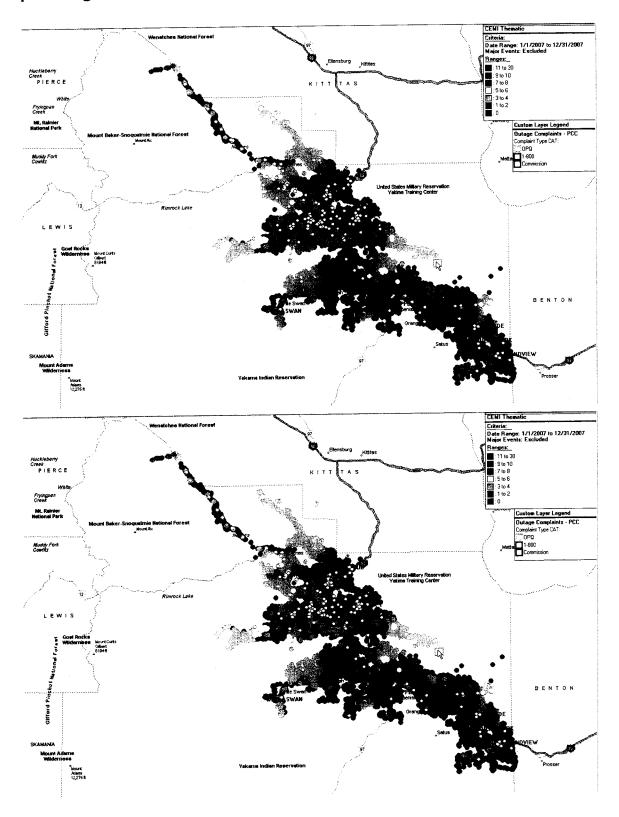
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# 5.1 State Reliability



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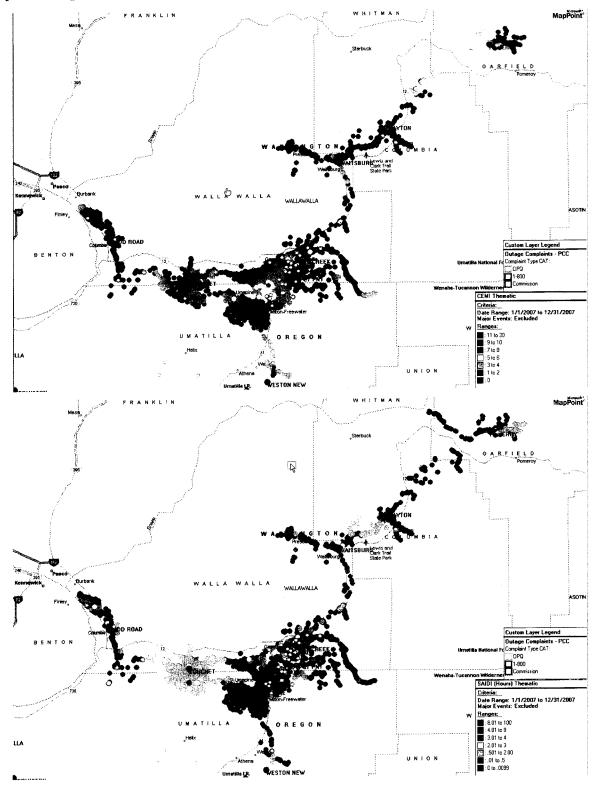
# 5.2 Operating Area Reliability-Sunnyside and Yakima





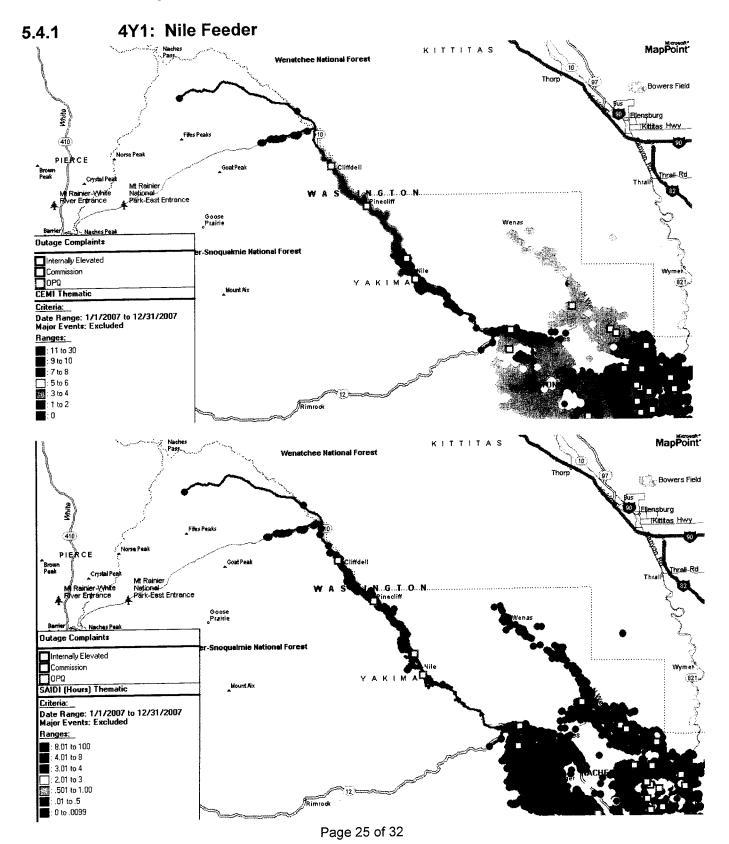
# January - December 2007

# 5.3 Operating Area Reliability-Walla Walla

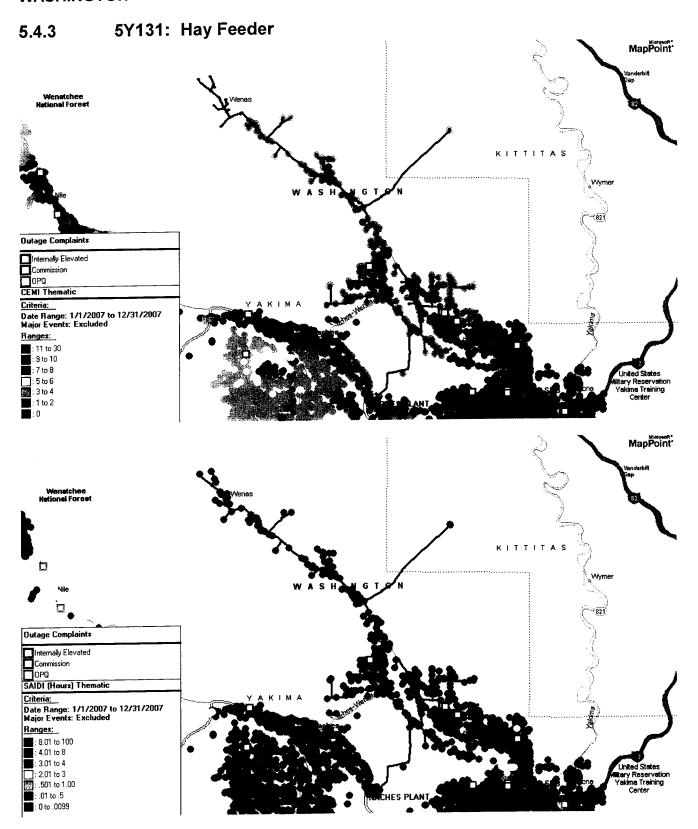


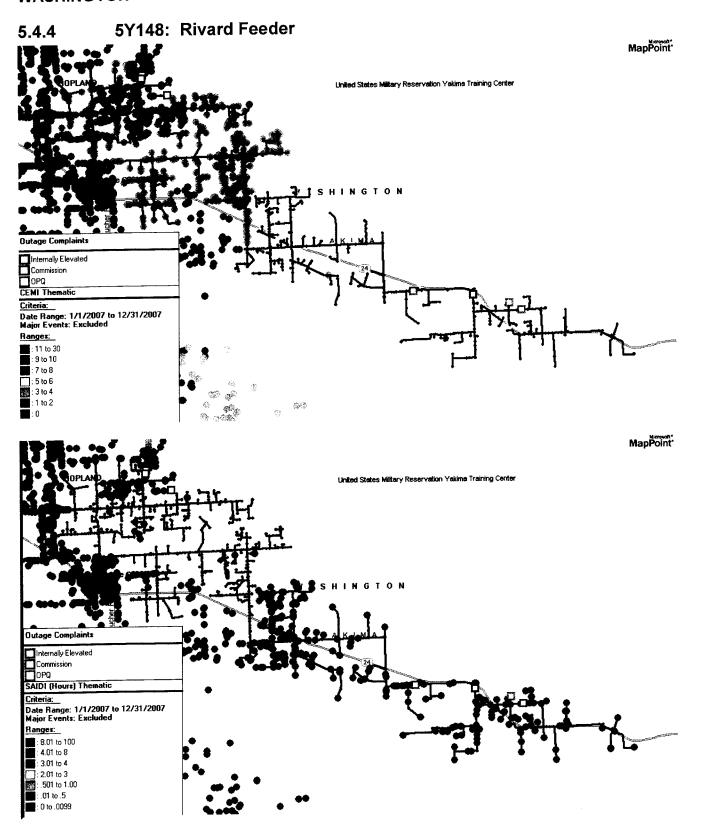
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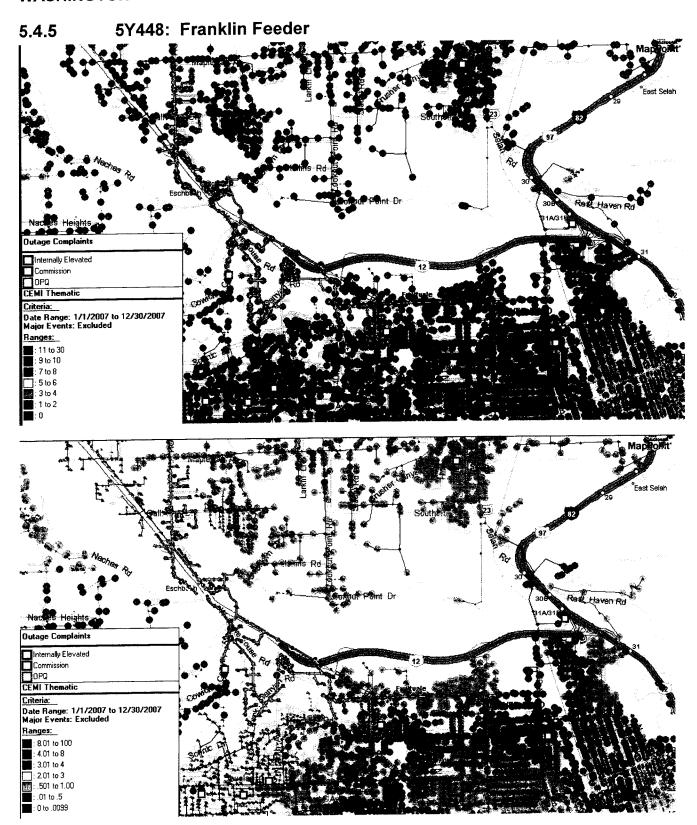
# 5.4 Reliability Areas of Greatest Concern













January - December 2007

5.4.7 5Y690: Pahtoe Feeder



