Final

Electric Service

Reliability Report

2009 Annual Report

Submitted on March 31, 2010

In Compliance with WAC 480-100-398

CONTENTS

ELECTRIC SERVICE RELIABILITY REPORT
2009 ANNUAL REPORT

EXECUTIVE SUMMARY

This is Puget Sound Energy's (PSE or the Company) annual Reliability Report which covers the calendar year 2009, as required by WAC 480-100-398, Electric Service Reliability Reports.

Safe and reliable electric service at a reasonable cost is one of PSE's paramount goals. Information in this report is filed to provide the Washington Utilities and Transportation Commission (Commission) and customers with reliability metrics on the service that PSE provides its customers. Information on electric reliability is provided from several perspectives. The first perspective is provided by the traditional reliability metrics including the number and duration of outages as measured against the Service Quality Indices (SQIs) approved by the Commission in 1997. The second perspective is from sub-system information relating to outages by county, circuit, and cause. The third perspective includes customer concerns about service quality and reliability, received either firsthand or through the Commission.

In 2009, SAIDI increased by 16% and SAIFI increased by 8% when compared to the same metrics for 2008. Despite PSE's continued investment in reliability improvements, the 2009 SAIDI did not meet the SQI. The lower than benchmark performance was the result of weather events that did not meet the SQI criteria for major event exclusion and thus were included in the SQI calculation. For example, in January, PSE's service territory was especially hard hit by flooding and mudslides which led to extended outages as PSE was not able to safely access its damaged equipment. While PSE experienced two major events in 2009 as compared to one in 2008, there were fewer days excluded from the SQI as those two events encompassed four days as compared to one event over 5 days in 2008 and four events over 16 days in 2007. As a result, more days are included in the SAIDI results. SAIFI, while it increased from 2008, did meet the SQI benchmark.

At the sub-system level, the county-level SAIDI improved in four of the nine counties, while SAIFI improved in three counties. Sections IV "System Level Reliability" and V "Subsystem Reliability" of this report detail the system-wide and county reliability metrics as well as circuit results and outage causes in each county.

Customer concerns dropped in 2009, by 16% over 2008. Areas of greatest concerns are described in Section VI, "Areas of Greatest Concern". In 2009, portions of the electric system in King, Thurston, and Kitsap/Jefferson counties are identified as Areas of Greatest Concern based on the trend in system performance, number of customers affected, and complaints.

To address the performance of SAIDI and to maintain a consistent level of SAIFI, the reliability projects along with the miles of vegetation management planned for 2010 are included in Section VI. The number of projects planned for 2010 is approximately 15% higher than what was planned for 2009. Additionally, in 2009, PSE completed an additional $11.4 million worth of reliability and aging infrastructure replacement projects as a response to a commitment to improve SAIDI. It is important to ensure that PSE has timely crew response for outage restoration and emergencies.

Table 1 "Summary For 2007-2009", summarizes the overall reliability results for 2009 and compares them to 2008.

TABLE 1- SUMMARY FOR 2008 – 2009

	2008	2009
Complaints		
PSE	40	32
Commission	22	20
Total	62	52
Statistics		
Benchmark SAIDI SQI	136	136
SQI SAIDI*	163.48	189.93
Benchmark SAIFI SQI	1.3	1.3
SQI SAIFI*	1.01	1.09
Number of Customers (Ann. Avg.)	1,068,734	1,077,716
Number of Outages	13,147	13,295
Major Events Impact		
Number of Major Events	1	2
Days	5	4
Total Number of Customers Impacted	116,251	164,776
Average Number of Customer's Impacted	23,250	41,194
Average Percentage of Total Customers	2%	4%

* Data for SAIDI and SAIFI calculated using the SQI method - major events defined to be 5% or more customers out of service during a 24-hour period

SECTION I – BACKGROUND

Electric utilities subject to the Commission's jurisdiction are required to provide statements describing their reliability monitoring in an annual report pursuant to WAC 480-100-393 and WAC 480-100-398. These rules were adopted in the Commission's rulemaking in Docket Number UE-991168. The reliability indices are also part of the quality of service which PSE provides to its customers as measured by the Service Quality Indices detailed in consolidated Docket Nos. UE-011570 and UG-011571 and as modified in consolidated Docket Nos. UE-072300 & UG-072301 Orders 12 and 14. The ten individual indices include: WUTC Complaint Ratio, SAIDI (System Average Interruption Duration Index), SAIFI (System Average Interruption Frequency Index), Customer Access Center Answering Performance, Customer Access Center Transaction Satisfaction, Gas Safety Response Time, Field Service Operations Transactions Customer Satisfaction, Disconnection Ratio, Missed Appointments, and Electric Safety Response Time.

WAC 480-100-393 (3) (b) requires the establishment of baseline reliability statistics. These baseline statistics are the service quality indices established by the Commission in 1997.

WAC 480-100-398 requires annual reporting of electric service reliability. This information is contained in this document, which reports Puget Sound Energy's reliability metrics for the calendar year 2009.

In 2005, PSE met with Commission Staff to enhance the format of this report and information provided. Specific enhancements included a broadening of the definition of Areas of Greatest Concern, the inclusion of circuit data and project identification, and the comparison of metrics using the SQI methodology against the Institute of Electrical and Electronic Engineers (IEEE) methodology. In 2008 and early 2009, PSE had further discussions with both Commission Staff and the Public Counsel Section of the Attorney General's office to further enhance the content of this report.

While PSE believes that this annual report provides useful information to interested parties for the calendar year 2009, PSE cautions against putting too much emphasis on the usefulness of this information in determining year-to-year trends pertaining to system performance. Factors such as variation in weather, natural disasters, and normal random variation in events such as third-party damage will all impact year-to-year comparison of system performance. A single year's result does not lend to adequate identification of the best solution for long term improvement and actions taken based on an annual snapshot may result in "band-aid" solutions which may not meet long term objectives. Notwithstanding the limited usefulness of using the

annual reports to assess year-to-year trends, PSE believes the annual snap-shots provide a useful view in context of the overall trends.

PSE's electric system covers a nine county geographical area. Refer to Appendix E for a map of the service area.

SECTION II – METHODOLOGY

This section describes the methodology used in defining and calculating reliability metrics which are then used to evaluate performance. WAC 480-100-398 (2) requires a utility to report changes made in this methodology including data collection and calculation of reliability information after the initial baselines are set. The utility must explain why the changes occurred and how the change is expected to affect comparisons of the newer and older information.

Definitions of Areas of Concern

The definition of Areas of Greatest Concern was expanded over the original submittal which was defined by the number of customers and Commission complaints. PSE now defines Area of Greatest Concern by considering the trend in system performance based on circuits that exceed the SQI, number of customers affected by those circuits, and complaints. This aligns actual planning practice with this reporting requirement. During the planning process these concerns are evaluated along with other items such as load growth, other reliability concerns or improvement opportunities, maintenance needs, municipal concerns, and corporate commitments. Solutions are proposed that attempt to meet multiple issues and stakeholder concerns. The highest valued projects across all categories move forward in the process. The planning process outlined in Section VI provides a discussion regarding the planning and optimization process.

Change to Include the IEEE Methodology

In the 2004 Annual Electric Service Reliability Report, PSE indicated that starting in 2005, reliability metrics using the IEEE standard 1366 methodology as a guideline would be included. This change and other modifications for monitoring and reporting electric service reliability information were adopted by the Commission in UE-060391. The purpose for moving to the IEEE standard 1366 methodology is to provide uniformity in reliability indices, identify factors which affect these, and aid in consistent reporting practices among utilities. T_{MED} (Major Event Day Threshold) is the reliability index that facilitates this consistency. A detailed equation for calculating T_{MED} is provided in Appendix A and the actual T_{MED} values from 1999-2009 is provided in Appendix H.

While the IEEE guidelines provide a standard for the industry, it is important to note that companies can create a variety of definitions of an outage or sustained outage. PSE defines sustained outages as those lasting longer than one minute. IEEE defines a sustained outage to be longer than five minutes. PSE will continue to use the one minute definition as PSE believes that tracking shorter duration outages allows us to better monitor the performance of the electric system and subsequently assess potential system improvements. It is also consistent with the definition of an outage used in the SQI methodology.

A comparison of the two methodologies is shown in Table 2 "Comparison between Methods 2005-2009". The SQI Settlement Agreement in Docket Number UE-011570 defines Major Events Days as days when five percent or more of customers are out of power during a 24-hour period and days required to restore service to those customers. For purposes of this report, this is called the "SQI method". This methodology includes days which include customers that are still without power after the first day of a major event. The IEEE 1366 methodology defines Major Event Days as those days exceeding T_{MED} (Major Event Day Threshold).

TABLE 2- COMPARISON BETWEEN METHODS 2005 - 2009

Metrics	Year	PSE SQI Method	IEEE 1366 Method
SAIDI	2005	128.65	129.82
	2006	214.45	162.97
	2007	167.11	143.51
	2008	163.48	154.78
	2009	189.93	145.20
SAIFI	2005	0.94	0.95
	2006	1.23	1.03
	2007	0.97	0.91
	2008	1.01	0.98
	2009	1.09	0.94
Major Event Days	2005	7	4
	2006	34	24
	2007	16	7
	2008	5	4
	2009	4	7

Both methods result in SAIDI and SAIFI metrics that are increasing starting in 2006. The number of Major Event Days varies year to year within and between both methods. The SQI Major Event Day is based on five percent of the customers out of service within a 24-hour period plus the associated carry-forward days required to restore service. The criteria for the IEEE Major Event Day is calculated annually and is based on the previous five years of daily customer outage minutes. With the IEEE method, the threshold value changes yearly, whereas the SQI method remains relatively constant (it changes slightly with the change in total number of customers each year). There does not appear to be a correlation between number of days being included in one method versus the other and the difference in SAIDI or SAIFI results using those methods. For example, in 2006, fewer days were Major Event Days (and therefore excluded from the metric calculations) using the IEEE method versus the SQI method, at 24 versus 34, respectively. At the same time,

SAIDI was also lower using the IEEE method versus the SQI method, at 162.97 versus 214.45, respectively. One might have expected a higher value for SAIDI based on the IEEE method (since less days were excluded from the calculation), but this was not the case.

Annually, PSE participates in a benchmarking survey coordinated by IEEE. IEEE collects information from participating utilities and documents performance based on an individual ranking (#1 being the best) and within four quartiles (first quartile being the best). Over the past five years, PSE has ranked in the first quartile for SAIFI and has ranked in the second quartile for SAIDI over the past two years – which is an improvement over previous years. The following table details the five year history of PSE's performance against other utilities. The 2009 results are expected to be available in August 2010.

TABLE 3-UTILITIES RANKED BY SAIFI AND SAIDI AS DEFINED BY IEEE METHODOLOGY

	2004	2005	2006	2007	2008
SAIFI	0.77	0.93	1.05	0.91	0.98
Ranked	18th	14th	17th	9th	14th
Quartile Ranked	1st	1st	1st	1st	1st
No. of companies participating	78	88	95	64	77
SAIDI	113.75	128.52	163.92	143.51	154.78
Ranked	49th	35th	54th	32nd	37th
Quartile Ranked	3rd	2nd	3rd	2nd	2nd
T_{MED}	5.22	4.88	4.97	6.87	7.36

SECTION III – DATA COLLECTION/PROCESS

This section explains how PSE collects the underlying data for each annual report. The process described below identifies how an interruption is captured and documented within PSE. These interruptions are then expressed in terms of the reliability metrics SAIDI and SAIFI as discussed in the previous sections.

Methods for Identifying a Sustained Interruption

- Customer calls the Company's customer access center, either through the automated voice response unit or talking with a customer representative.
- A customer calls directly to a PSE employee rather than through the customer access center.
- Automated system information from the Company's AMR system (may precede customer call).
- Possible Causes of Data Inconsistencies:

  a) If service to a customer that previously was affected by a service interruption remains out after the problem suspected to have caused the interruption has been corrected, a follow-up call from the customer may be reported as a new incident. This can especially be the case during Step Restoration which occurs when customers experiencing an outage have their service restored in smaller groups, rather than restoring service to all of the customers at the same time.

  b) Customers may call to report a Sustained Interruption that was caused by their own equipment and not shared by other customers. If the customer's power has been restored before crews arrive to investigate, the incident may still be reported as a sustained interruption.

  c) Data entry mistakes can create inconsistencies.

  d) Major storm events have an impact on data accuracy. In general, the greater the storm event the less time spent in recording accurate data up front due to the focus on the restoration effort.

Methods to Specify When the Duration of a Sustained Interruption Ends

- PSE services personnel will log the time when the problem causing the outage has been resolved.
- Possible Causes of Data Inconsistencies:
  a) There may be multiple layers of issues contributing to a Sustained Interruption for a specific customer as described in the above section.
  b) Data entry errors can affect the accuracy of the information.

Recording Cause Codes

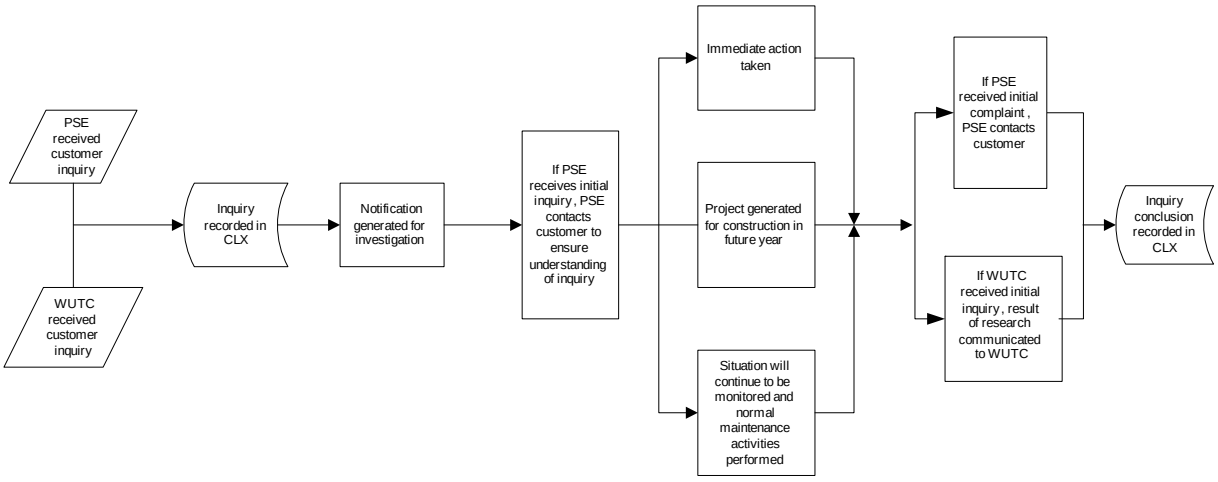
- Outage cause codes are reported by the PSE service technician responding to the outage location.
- Possible Causes of Data Inconsistencies:

a) Major storm event will have an impact of data accuracy. In general, the greater the storm the less time spent in recording accurate data up front due to the focus on the restoration effort.
b) The cause of the outage and the location of the protective device may be separated by a significant distance. Pinpointing the exact location of the outage and the cause may be secondary to the outage restoration effort.
c) Inspecting the distribution feeder to find temporary contacts with the distribution system is difficult.
d) A series of outages effecting a group or groups of customers at the same time or approximate times with several causes are difficult to capture.
e) Determining the difference between different cause codes is difficult in cross-country terrain and in the darkness.

Recording and Tracking Customer Complaints and Inquiries

In response to the Commission rulemaking procedure PSE developed a process to respond to customer complaints about reliability and power quality as reflected in Figure 1, "Process for Responding and Tracking Reliability and Power Quality Inquiries". The outlined process pertains to all calls received by any customer regardless of the number.

FIGURE 1 – PROCESS FOR RESPONDING AND TRACKING RELIABILITY AND POWER QUALITY INQUIRIES



The process is triggered by customers voicing concerns about reliability through the Company's customer access center. The Customer Service Representative (CSR) handling the call listens for key words and then categorizes the customer comments accordingly. This has been key to obtaining accurate information from the customer and to route the information to the various groups responsible to assess the customer "inquiry." Additionally, the CSR creates a request for the appropriate PSE personnel to contact the customer and

discuss their concerns. All contact is tracked via an Inbound Client Comment in the Company's Customer Information System (CLX).

In 2002 PSE implemented some enhancements to the process of logging inbound comments from customers in CLX, simplifying the number of topic and sub-topics to ensure greater data quality. PSE also enhanced the process to ensure customer feedback received outside of the customer service center (e.g. inquiries to field engineering) was posted to CLX inbound comments, thus improving our ability to track customer inquiries related to outages frequency, duration and/or power quality.

If a customer is not satisfied with the first call resolution outcome of their inquiry and has spoken with a supervisor, the customer may contact the WUTC Consumer Affairs section to file an "informal" service quality complaint. Customers can also bypass PSE and contact the Consumer Affairs section directly to file a service quality complaint. PSE staff is contacted with the details of the complaint and has two business days to respond, but, if needed, PSE may ask for an extension of the due date. The complaint is tracked in an internal database as well as an inbound client comment in CLX.

Inbound comment topics of "outage" and "power quality" are reviewed by PSE's System Planning department. PSE typically provides the outage history for the circuit in question, three year history of system improvements and any future system or reliability improvements. The 2009 Commission complaints concerning outage duration/frequency and power quality are reported in Appendix C.

Possible Causes of Data Inconsistencies:

a) Using the manual process, it is possible that the feedback loop may occasionally not be closed due to data entry and tracking errors. PSE seeks to minimize this inaccuracy by having the team involved with responding to inquiries, who are most knowledgeable about the specific situation, track customer inquiries.
b) Sources of inaccuracy include improper data entry. PSE seeks to minimize this inaccuracy by having the team involved with responding to inquiries, who are most knowledgeable about the specific situation, track customer inquiries, which will help catch errors in data entry.
c) High volumes of customer inquiries, during storms for example, may increase likelihood of data entry errors, leading to less accurate information.

A summary report captures the inbound comments received in 2008 and 2009, with a comment topic of "outage" (frequency or duration) and/or "power quality". If only one comment has been received from any one customer within the 24-month calendar period, it will be considered a customer "inquiry" and not reportable. When two or more comments on outage frequency or duration and/or power quality have been

received from a customer within the 24-month calendar period, it will be considered a "complaint" and reported in Appendix B – 2009 PSE Complaints and Resolutions.

SECTION IV – SYSTEM LEVEL RELIABILITY

Puget Sound Energy's overall system outage frequency (SAIFI) metric in 2009 met the established SQI. However, the overall system outage duration metric (SAIDI) in 2009 did not meet the established SQI. This was due in part to the number of weather related events in 2009 that are included in the SQI calculation. The Table 4 "2009 System Indices" shows the SQI and IEEE performance of the entire system, and Table 5 "2009 County Indices" show the performance by counties using both the SQI and the IEEE methodology in 2009.

TABLE 4 - 2009 SYSTEM INDICES

	SAIDI	SAIFI	Avg. Number of Customers*	Number of Outages	Number of Complaints**
PSE SQI BENCHMARK	136.00	1.30			
YE ACTUALS (SQI METHOD)	189.93	1.09	1,077,716	13,295	52
YE ACTUALS (IEEE 1366)	145.20	0.94	1,077,716	12,709	

*Year end average customer count.
**WUTC and Customer Complaints

TABLE 5 - 2009 COUNTY INDICES

	IEEE SAIDI	SQI SAIDI	IEEE SAIFI	SQI SAIFI	Avg. Number of Customers*	Number of Outages	Number of Complaints**
Whatcom	144.68	177.69	0.80	0.91	95,894	1,296	1
Skagit	130.56	206.29	0.75	0.87	57,592	823	3
Island	92.48	117.28	0.51	0.70	35,251	495	1
King	133.48	146.63	0.83	0.87	522,887	5,530	26
Kittitas	233.32	392.83	1.57	2.53	11,817	311	1
Pierce	140.92	164.81	0.90	1.09	100,338	1026	2
Thurston	151.14	287.52	1.00	1.60	120,798	1,558	7
Kitsap	218.09	264.31	1.71	1.85	115,091	1,909	11
Jefferson	98.80	156.45	0.67	0.84	18,052	362	0

*Year end average customer count.
**WUTC and Customer Complaints

To calculate the county metrics using the IEEE method, any outage occurring within the major event date (as shown in Table 7) was excluded from the calculation.

In 2009, PSE experienced multiple weather events throughout the year that negatively impacted SAIDI. While PSE expects to have winter weather events, the January flooding and mudslides was unusual for the region. Overall, there were two major events, consisting of four Major Event Days, meeting the five percent of total customers out criteria (SQI method) and there were seven Major Events Days, using the IEEE methodology. In addition, the January flooding and mudslides severely impacted PSE's ability to restore customers in a timely manner. Equipment was under water or mud and many roads were closed, thus hampering outage restoration. These access issues added approximately 9 minutes to the overall SAIDI since less than 1% of PSE customers were impacted. The following two tables, 6 and 7, highlight the specific days under the two different criteria for comparison, and provide further information regarding customer impact and cause. Days that were greater than a T_{MED} of 6.95 were removed from the SAIDI and SAIFI calculation shown for the IEEE 1366 Method on Table 6. Wind, flood and transmission lines interruptions were the major contributors to these events in 2009. April 23 was the largest event day, impacting approximately 8.7% of PSE's electric customers.

TABLE 6 - 2009 MAJOR EVENTS (SQI METHOD)

Major Event Days*	SAIDI	SAIFI	Cause	Customers Out	% Customers Out	Total Customers*
4/23/2009 - 4/24/2009	10.67	0.09	Transmission Lines Interruption	93,494	8.68%	1,076,637
11/16/2009 - 11/17/2009	14.85	0.07	Wind	71,282	6.61%	1,078,555

* The April major event started at 5:30 pm on 4/23. The November major event started at 4:00 am on 11/16

**Average Customer Count at time of Major Event

TABLE 7 - 2009 MAJOR EVENTS (IEEE Method)

Major Event Days	SAIDI	SAIFI	Cause	Customers Out	% Customers Out*	Total Customers**
1/4/2009	10.30	0.03	Wind/Flood	28,606	2.65%	1,077,716
1/7/2009	11.90	0.02	Flood/Mudslides	24,695	2.29%	1,077,716
4/23/2009	10.70	0.09	Transmission Lines Interruption	93,621	8.69%	1,077,716
11/5/2009	7.08	0.05	Wind	48,802	4.53%	1,077,716
11/16/2009	12.22	0.05	Wind	50,203	4.66%	1,077,716
11/18/2009	10.09	0.04	Wind	47,620	4.42%	1,077,716
12/6/2009	7.97	0.03	Wind	35,058	3.25%	1,077,716

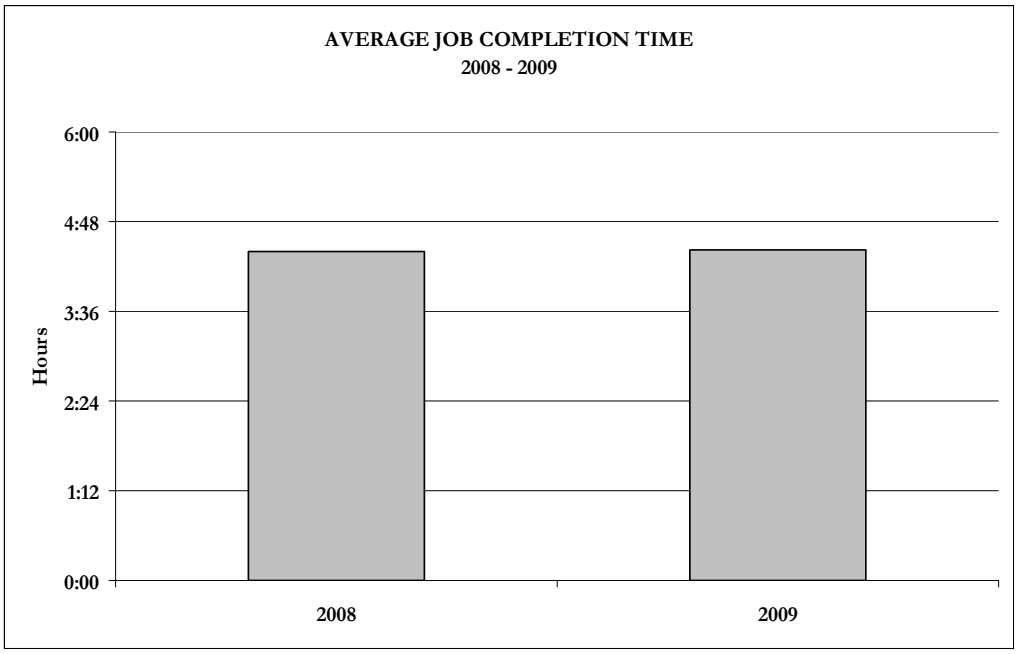
*Percentage based on year-end average customer count

**Year end average customer count.

Response and Restoration Times

Response and restoration time also play an important factor in PSE's overall reliability indices. Response time, the time from when the customer or the AMR system notifies PSE that an outage has occurred, until a service technician arrives at the site of the outage, is measured by SQI # 11, Electric Safety Response Time. In 2008 and 2009, the average response time was 55 minutes and 51 minutes respectively. Any major event as well as localized emergency event days are excluded from this metric. Figure 2 "Average Job Completion Time" illustrates that the average completion time for a service provider crew to restore an outage increased slightly from 2008. In 2007, PSE established a job completion metric with our service provider to monitor their performance. Pre-determined event types that are beyond the control of the service provider are either excluded from the metric or adjusted on a case by case basis. Examples include access issues and third party constraints that might hamper the service provider's ability to repair the outage in a timely manner. It's important to note that the SQI SAIDI only excludes outages that occur during a Major Event. Because each metric excludes different outage events, it is difficult to draw a comparison between response time, average job completion time and SAIDI.

FIGURE 2 – AVERAGE JOB COMPLETION TIME

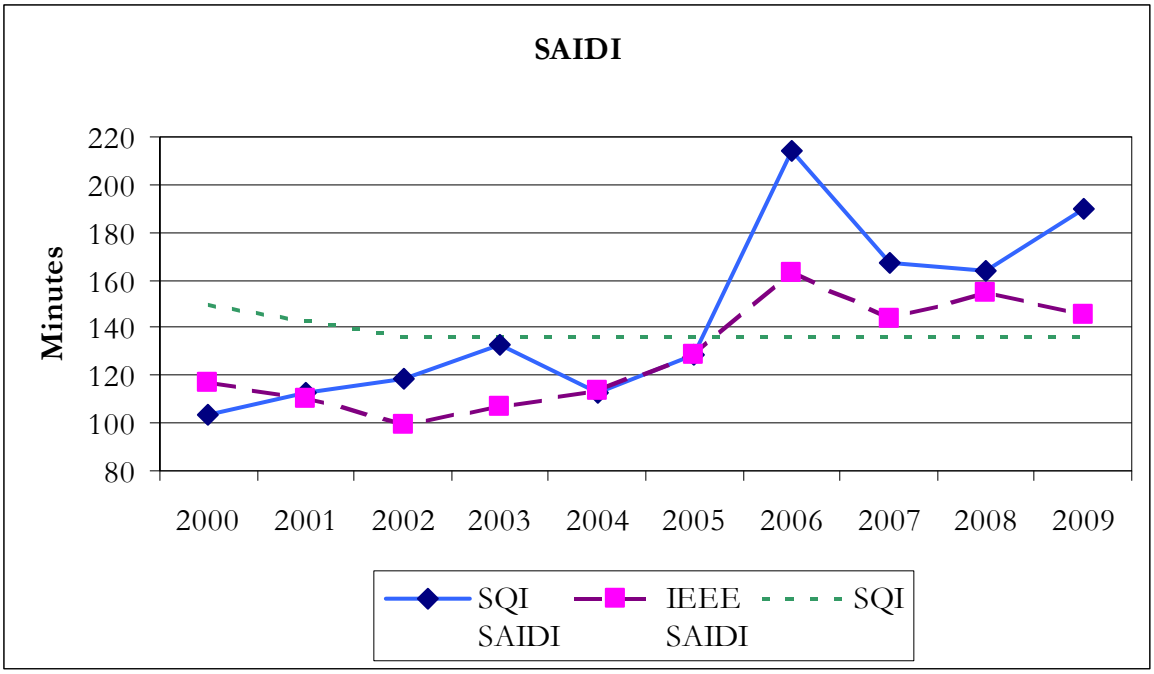


Performance of 2009 Against Prior Years

Figure 3 "SAIDI Historical Trends" and Figure 4 "SAIFI Historical Trends" illustrate the comparison between the SQI methodology and IEEE methodology for the last ten years with the raw data in Appendix

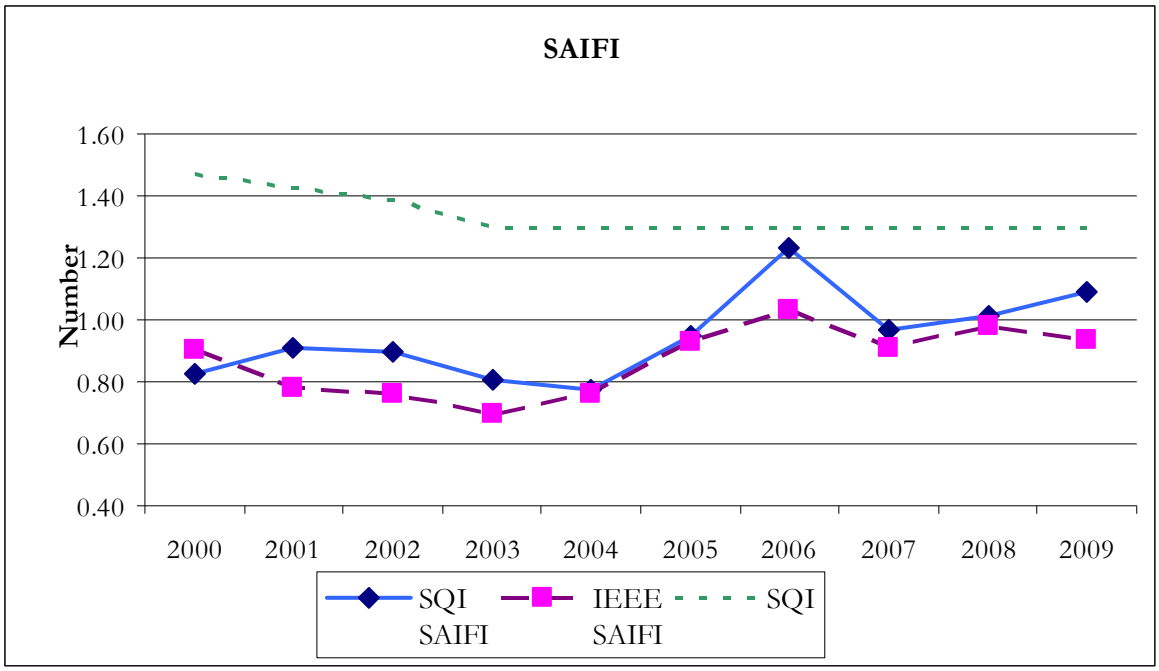
H. For the time period 2000-2005, the SQI requirements were met for each of these metrics. Clearly, this was not the case since 2006, as the SAIDI metric has missed the SQI due to the unique combination of weather events which took place during these four years. As described more fully in Section VI, PSE continues to focus on identifying projects that will reduce SAIDI, while managing other aspects of system performance. We also continue to monitor our system performance metrics with the goal of identifying trends and causes and, ultimately, identifying other possible improvements.

FIGURE 3 – SAIDI HISTORICAL TRENDS



Note: 2000-2003 SQI SAIDI adjusted to reflect SAIDI reported to UTC.

FIGURE 4 – SAIFI HISTORICAL TRENDS



Note: 2000-2003 SQI SAIFI adjusted to reflect SAIFI reported to UTC.

SECTION V – SUBSYSTEM RELIABILITY

This section reviews the reliability of PSE's system at a more detailed subsystem level. This is done by evaluating performance at the county and circuit level.

Table 8 "County Metrics", details the county reliability metrics at the end of 2009 along with 2008 and 2007. To calculate the county metrics using the IEEE method, any outage occurring within the major event date (as shown in Table 7) was excluded from the calculation. To calculate the county metrics using the SQI Method, any outage occurring within a major event date (as shown in Table 6) and time was excluded from the calculation of the metrics. What can be inferred from the comparison of the IEEE statistics against the SQI statistics is that for the most part, each method excludes similar significant weather events that impact each county.

TABLE 8 - County Metric

County	Year	IEEE SAIDI	SQI SAIDI	IEEE SAIFI	SQI SAIFI	SQI Total Outages	SQI Total Customers Impacted	SQI Total Customers*
Whatcom	**2009**	144.68	177.69	0.80	0.91	1,296	87,521	95,894
	2008	118.48	118.56	0.78	0.78	1,266	74,370	95,009
	2007	147.97	135.09	0.94	0.97	1,094	90,815	93,636
Skagit	**2009**	130.56	206.29	0.75	0.87	823	49,930	57,592
	2008	174.36	173.85	1.26	1.26	837	71,907	57,193
	2007	127.31	189.04	0.66	0.79	801	44,461	56,453
Island	**2009**	92.48	117.28	0.51	0.70	495	24,554	35,251
	2008	120.07	118.61	1.02	1.04	539	36,387	34,861
	2007	159.88	686.42	0.85	1.63	551	55,755	34,308
King	**2009**	133.48	146.63	0.83	0.87	5,530	452,658	522,887
	2008	134.64	150.40	0.77	0.83	5,724	431,205	518,257
	2007	109.53	118.38	0.78	0.85	5,109	432,769	511,947
Kittitas	**2009**	233.32	392.83	1.57	2.53	311	29,922	11,817
	2008	171.85	158.70	0.74	0.70	264	8,102	11,633
	2007	61.46	135.11	0.19	0.42	248	4,738	11,304
Pierce	**2009**	140.92	164.81	0.90	1.09	1026	109,678	100,338
	2008	88.37	91.27	0.81	0.82	956	81,320	99,762
	2007	59.23	57.39	0.52	0.48	905	47,556	98,443
Thurston	**2009**	151.14	287.52	1.00	1.60	1,558	192,946	120,798
	2008	200.12	185.76	1.11	1.12	1,512	134,112	119,405
	2007	186.29	214.07	0.99	0.90	1,376	104,745	116,787
Kitsap	**2009**	218.09	264.31	1.71	1.85	1,909	212,947	115,091
	2008	261.60	285.77	1.84	1.84	1,731	210,923	114,737
	2007	272.84	212.15	1.83	1.66	1,540	188,279	113,326
Jefferson	**2009**	98.80	156.45	0.67	0.84	347	15,122	18,052
	2008	307.80	307.90	1.89	1.89	318	33,849	17,879
	2007	478.42	625.59	1.43	1.83	355	32,188	17,619

*Year end average customer count.

Focusing on performance at the next lower level, Table 9 "County Circuit Performance", shows the percentage of circuits in each county with 3 year averages for SAIDI and SAIFI metrics that are performing better than the PSE SQI benchmarks as calculated by the SQI Method. The circuit analysis is based on the SQI methodology where outages were excluded within the major event dates listed in Table 6, and is based on 2007 - 2009 performance data. Eight of the nine county areas had at least 50% of their circuits performing better than the SAIDI SQI benchmark, and all nine county areas had at least 70% of the circuits performing better than the SAIFI SQI benchmark.

Only Jefferson County had less than 50% of its circuits better than the SAIDI SQI benchmark. Jefferson County has relatively few circuits when compared to the majority of other counties within PSE's electric service area. Specifically, there are 22 circuits in Jefferson County, and 35 to 549 circuits in seven of the eight other counties that PSE serves. This means that the performance of a relatively small number of circuits can have a significant impact on the percentages shown in the following table. Circuit performance is also challenged by the fact that the circuits in Jefferson County, like other circuits in rural areas, are relatively long, and exposed to more trees than the shorter circuits that are found in urban areas.

TABLE 9 - COUNTY CIRCUIT PERFORMANCE

	% of Circuits Performing Better than Benchmark SAIDI SQI	% of Circuits Performing Better than Benchmark SAIFI SQI	Number of Circuits	# of Customers Affected
System	71%	85%	1,135	2,521,558
Whatcom	66%	84%	112	210,844
Skagit	72%	82%	68	146,915
Island	63%	80%	35	82,592
King	78%	89%	549	1,067,673
Kittitas	56%	75%	16	23,867
Pierce	84%	94%	96	191,991
Thurston	61%	84%	128	329,704
Kitsap	54%	70%	109	415,972
Jefferson	45%	86%	22	52,000

(Average county SQI's not available - the above table measures circuits in each county against the company-wide SQI)

Outages By Cause

Reviewing the cause of outages helps to better understand performance at the subsystem level. Table 10 "Outages by Cause", details the outage causes in each county in 2009. It shows that trees (TF and TO), birds and animals (BA), and equipment failures (EF) continue to be the primary reasons for outages in 2009 as in previous years. While the number of scheduled outages (SO) is significant, it is not considered a reliability concern because the scheduled outages are usually taken to perform system upgrades and maintenance, which results in higher system reliability.

TABLE 10 - OUTAGES BY CAUSE

	Whatcom	Skagit	Island	King	Kittitas	Pierce	Thurston	Kitsap	Jefferson	Total
AO	20	12	4	87	6	25	33	28	5	220
BA	148	91	44	719	37	145	244	299	33	1,760
CP	28	23	7	77	2	37	40	29	0	243
CR	0	0	0	14	1	1	0	6	3	25
DU	7	10	8	102	13	26	34	25	9	234
EF	614	385	243	2,065	179	385	633	511	102	5,117
EO	10	10	0	56	1	22	42	17	3	161
EQ	0	0	0	0	0	0	0	0	0	0
FI	2	0	0	12	0	1	4	1	1	21
LI	19	8	3	20	6	9	26	5	1	97
SO	85	38	25	995	5	173	116	247	66	1,750
TF	118	85	52	278	17	100	187	228	28	1,093
TO	178	131	94	757	29	89	174	436	77	1,965
UN	7	8	3	67	1	3	13	45	13	160
VA	0	0	0	7	0	0	0	1	0	8
Misc	60	22	12	274	14	10	12	31	6	441
Total	1,296	823	495	5,530	311	1,026	1,558	1,909	347	13,295

CAUSE CODE LEGEND					
AO	Accident Other with Fires	**EF**	Equipment Failure	**SO**	Scheduled Outage
BA	Bird or Animal	**EO**	Electrical Overload	**TF**	Tree-Off Right of Way
CP	Car Pole Accident	**EQ**	Earthquake	**TO**	Tree-On Right of Way
CR	Customer Request	**FI**	Faulty Installation	**UN**	Unknown Cause(Unknown Equip Involved Only)
DU	Dig Up Underground	**LI**	Lightning	**VA**	Vandalism

Evaluating causes at a lower level to understand specific components or factors that are impacting reliability is important. Table 11 "Outages by Equipment", presents the equipment categories for the majority of Equipment Failure causes as an example of the lower level information. The classification "Equipment Failure" can be somewhat misleading, as the largest number of "failures" (37%) is attributed to the proper operation of the protective fuses due to tree contacts with power line or the overload of equipment (OCO, OFC, OFU and OTF). The other major cause of equipment failure is related to underground cable (UPC). PSE continues to invest significantly in remediating underground cable as can be seen by the number of cable projects in Table 12 "2010 County Projects and Vegetation Management."

TABLE 11 - OUTAGES BY EQUIPMENT

	Whatcom	Skagit	Island	King	Kittitas	Pierce	Thurston	Kitsap	Jefferson	Total
Fuse Operations										
OCO	30	18	10	64	10	8	41	20	2	203
OFC	25	15	10	100	16	17	20	26	1	230
OFU	69	67	22	97	17	22	46	37	12	389
OTF	142	87	41	382	60	102	140	116	17	1,087
Fuse Total	266	187	83	643	103	149	247	199	32	1,909
Other Equipment Categories										
OCN	19	11	18	63	1	21	19	22	5	179
OJU	9	13	4	48	2	5	15	15	9	120
OPO	4	4	0	5	3	2	6	3	0	27
OSV	19	10	11	74	7	12	15	16	1	165
OTR	53	32	32	105	17	19	34	41	5	338
UEL	8	2	0	25	1	7	6	1	0	50
UFJ	9	5	0	46	1	3	12	2	3	81
UPC	107	48	36	437	4	79	147	106	23	987
UPT	6	8	4	44	2	5	13	14	2	98
USV	57	31	36	284	21	43	63	45	10	590
Misc	57	34	19	291	17	40	56	47	12	573
Other Total	348	198	160	1,422	76	236	386	312	70	3,208
Overall Total	**614**	**385**	**243**	**2,065**	**179**	**385**	**633**	**511**	**102**	**5,117**

EQUIPMENT CODE LEGEND					
OCN	OH Secondary Connector	**OPO**	Pole	**UFJ**	UGJ-Box
OCO	OH Conductor	**OSV**	OH Service	**UPT**	UG Padmount Transformer
OFC	OH Cut-Out	**OTF**	OH TRF Fuse	**UPC**	UG Primary Cable
OFU	Fuse Link/O.H. Line Fuse	**OTR**	OH Transformer	**USV**	UG Service
OJU	Jumper Wire	**UEL**	UG Elbow		

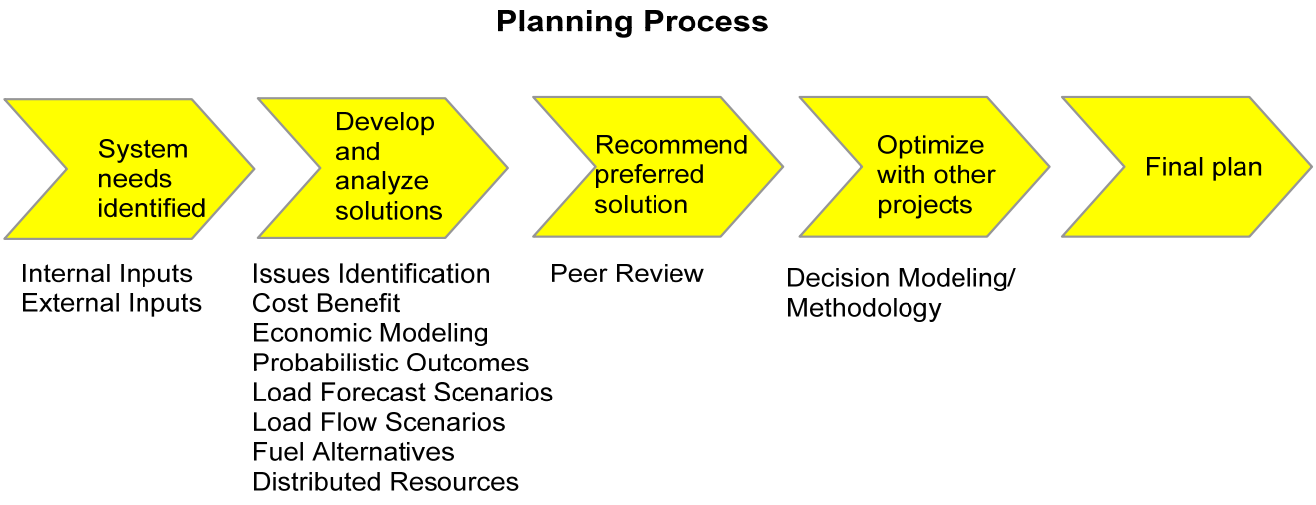
SECTION VI – AREAS OF GREATEST CONCERN

As discussed in Section II "Methodology", for purposes of this report starting in 2006 Puget Sound Energy defines an Area of Greatest Concern by considering the trends based on circuits that exceed the SQI, number of customers affected by those circuits, and customer complaints. Based on the trends in these three metrics, pockets within King, Thurston, and Kitsap/Jefferson counties have been identified as the Areas of Greatest Concern. These Areas of Greatest Concern provide focus for the planner in developing projects; however, all areas are continually evaluated for improvement.

How improvement projects for "Areas of Concern" are considered for funding:

The area planners study "area of concern" circuits and propose projects that will improve the reliability for those customers. The following is a description of the Total Energy System Planning (TESP) Process that the planners use to have their proposed projects considered for funding. Figure 5 - "Planning Process" also encompasses capacity projects but for the purposes of this report, we will focus on reliability criteria.

FIGURE 5 – PLANNING PROCESS



The goal of the planning process is to determine cost-effective ways to meet customer needs and maximize value to the company, customers and community. The "Planning Process" in Figure 5 represents the delivery system planning process beginning with an analysis of the current situation and an understanding of the existing operational and reliability challenges. Planning considerations include internal inputs such as reliability indices, company goals and commitments, and reviewing the root causes of the historic outages. In addition, external inputs such as regulations, municipalities' infrastructure plans, customer complaints and ongoing service issues are also considered. The communication received during the customer inquiry and complaint resolution process provides valuable information that field data or statistical modeling may not have revealed. PSE also conducts customer surveys to seek out general information regarding customer expectations and possible specific concerns. In July 2007, PSE completed an extensive review of its performance prior to, during and following the record-breaking windstorm that hit the Pacific Northwest in mid-December 2006. The feedback received through customer focus groups, telephone and Web surveys, provided valuable information and helped identify additional opportunities for improvement.

These inputs assist in determining specific solutions and alternatives to address the overall reliability. Each proposed project alternative is evaluated with quantitative benefits such as number of outages and customer minutes saved, number of customers impacted, and qualitative benefits such as improvement in customer complaints and customer satisfaction. Each proposed project alternative is compared using a value modeling tool that involves building a hierarchy of the value these benefits bring to the stakeholders against the project cost. Total value is optimized across the entire portfolio of system infrastructure projects (electric and natural gas) which results in a set of capital projects that provide maximum value to PSE customers and stakeholders.

A more detailed discussion of this process can be found in Chapter 7 "Delivery System Planning" of PSE's "2009 Integrated Resource Plan".

To assist with identifying the highest priority projects for reliability, several perspectives are developed for review by the planners:

- The 50 worst performing circuits in the Company based on total customer minute contribution to companywide SAIDI
- The 50 worst performing circuits by planning area
- The 50 worst performing circuits by circuit SAIDI

There are many items to consider in developing the 50 worst circuit listing. One can develop a worst circuit listing based on circuit SAIDI, the most customer minutes outages, the highest number of outages, etc. PSE

is focusing on the 50 worst performing circuits over the past 5 years that consistently contributed the most customer-minute interruptions. Each circuit is ranked for each of the previous 5 years by the total customer-minute interruptions seen by the circuit, and the worst circuits are those circuits with the highest ranking over the past 5 years. The 50 worst circuits are the circuits with the highest ranking over the past 5 years based on the customer-minute interruptions. These circuits contribute 26% of the total companywide SAIDI minutes over the past 5 years. Appendix I - 2008 Top 50 Worst Circuits details the Top 50 Worst Circuits along with PSE's plan for system improvements on each circuit. Thirty-eight of the circuits on the list are within the three Areas of Greatest Concern. The 2009 Top 50 Worst Circuits is currently being reviewed for system improvements. In addition, the four regional planning teams –Whatcom/Skagit/Island, North King County, South King County, Pierce/Thurston/Kitsap/Jefferson - continually review the performance of the distribution system in their respective regions. Each team reviews the 50 worst circuits in their regions in proposing reliability projects for the upcoming year that compete with other system related projects for funding.

In terms of reliability improvement, there was a 27.7% increase in customer minutes on the 2009 Top 50 circuits as compared to the 2008 Top 50 list. This increase is a result of the January flooding and mudslides which severely hampered PSE's ability to restore customers in a timely manner. Without these outages, there would have been a 4% improvement in customer minutes in 2009 as compared to 2008.

In addition to the annual process as described above, new projects are identified and released for construction throughout the year. These projects can be a result of a new initiative such as the 10+ year reliability initiatives program, a municipality altering their infrastructure plans, or to address a resource need for a given area. In 2010, new reliability projects are evaluated using the value modeling tool described above. Projects that score a benefit to cost ratio greater than 1 are determined to be needed before the next planning cycle are approved and released for construction.

Planners also review the performance of the 50 worst circuits defined by "circuit SAIDI." Circuit SAIDI measures the performance of individual circuits as experienced by the customers on those circuits. This tends to be a customer-centric view as customer density on the circuit has less influence on the measure.

Customer Concerns and Complaints

As described earlier, customer concerns and complaints are inputs to the Planning Process. Each planner investigates the outage history surrounding each customer complaint, reviews the overall circuit reliability and then prepares plan for resolution. Depending on the nature of the circuit reliability, the plan for resolution could be continued monitoring of the circuit. Or a planner may propose projects which will improve the

circuit reliability. The projected improvement in customer complaints is an input in the value modeling tool, along with a number of inputs as described above. It's important to note that PSE continually investigates customer complaints and tracks ongoing service issues as they are communicated. Customers receive follow-up correspondence to discuss their concern, as well as plans for resolution.

In 2009, PSE received 32 complaints relating to reliability and power quality concerns. These complaints came through PSE's complaint process and are shown in tabular form in Appendix B – 2009 PSE Complaints and Resolutions of this report.

The Commission received 20 complaints relating to the reliability of PSE's energy delivery system. These complaints are shown in Appendix C – 2009 PSE Concerns Filed with the Commission of this report. Appendix D is the 2008 PSE Complaints and Resolutions updated to include follow-up actions taken by PSE in 2009.

Appendix F – 2009 Areas of Greatest Concern Map graphically presents these complaints as defined by the PSE process and those complaints filed with the Commission. In addition, Appendix E – 2008 Areas of Greatest Concern Map has been included for reference and comparison. The maps indicate by county the number of customer complaints received by PSE, the number of commission complaints, and the number of completed reliability projects for the year following the complaints as discussed further in Section VI.

Appendix G – 2009 Geographic Location of Customer Complaints on Service Territory Map graphically maps PSE and Commission (WUTC) complaints closer to the actual geographic location of the customer.

Projects Addressing Reliability

As a result of this comprehensive process, projects planned in 2010 address reliability in all counties including those in the Areas of Greatest Concern. Overall, in 2010 PSE plans to initiate 501 projects, and perform vegetation management on over 2,200 miles of OH distribution line across the entire system to improve reliability. While most of the 501 projects planned for 2010 are in the Areas of Greatest Concern, all projects are prioritized through the planning process, as described earlier, prioritizing the projects with the highest value to multiple stakeholders.

Table 12 "2010 County Projects and Vegetation Management" identifies the planned projects and vegetation management for 2010 by county and by type of work which solve the top causes of diminished reliability. Additional 2010 projects may be added as system issues come up during the year. In 2009, 74 additional distribution projects costing over $11.4M were completed to help improve SAIDI, harden the distribution system for storms and in response to the reliability roadmap that was developed in 2008. The reliability

initiatives continue to be a strong focus and specific programs, tactics, and area specific plans are continuously under development for future funding. It is also important to note that all counties receive focus towards resolving these issues, though in 2010 most of the projects are focused in three of the Areas of Greatest Concern – King, Thurston, and Kitsap/Jefferson.

The effectiveness of the planning process can be evaluated by looking at the number of projects that are funded. While projects within the Areas of Greatest concern are not automatically weighed more favorably, the resulting value of those projects are great enough that projects are funded through the value based model.

TABLE 12 – 2010 PROJECTS BY COUNTY

	Whatcom	Skagit	Island	King	Kittitas	Pierce	Thurston	Kitsap	Jefferson	Total
Cable Projects (EF)	7	1	1	70	0	9	24	14	3	129
Pole Replacement*	10	3	0	33	0	2	2	7	2	59
Tree Wire (TF, TO)	0	0	0	1	0	0	1	1	0	3
Protection Devices (EF, BA)	20	14	4	94	4	13	25	73	9	245
Other Reliability Projects	4	4	4	33	1	1	3	2	2	54
Total	41	22	9	231	5	25	55	97	16	501
Vegetation Management (TF, TO) "Circuit Miles"	256	193	44	746	107	139	371	232	111	2,200

*Pole replacement projects include multiple poles

The focus on reducing the average frequency and duration of electric system outages had resulted in PSE continually meeting the established SQI prior to 2006. PSE will continue to manage the number of outages and their duration overall for the system to meet the established SQI, and will evaluate opportunities to modify sections of the electric system to perform more effectively in the environments that they are located within. In addition, PSE and its Service Provider are committed to an improving restoration times for all outages.

PSE will also continue to review the performance of the 50 worst circuits in the company with the intention of improving the reliability of these circuits as these 50 worst circuits contribute 26% of the total companywide SAIDI minutes over the past 5 years. Many improvements have been funded for each of the circuit over the past years. Some of the proposed improvements for the 50 worst circuits were not funded since other system projects for that year were more cost effective in improving overall system reliability.

Vegetation Management

PSE's vegetation maintenance program focuses on maintaining proper clearance from energized electric lines which is paramount to public safety and to prevent tree related contact outages from occurring.

Vegetation maintenance is conducted on the overhead distribution system typically every four years for lines in urban areas and every six years for lines in rural areas and on the cross-country transmission system every three years. Maintenance activities include tree trimming, removing danger trees in right-of-way corridors along with spray and mowing. In 2009, vegetation maintenance was performed on 2,196 miles of overhead distribution. In response to a national vegetation management standard developed by the North America Electric Reliability Corporation (NERC), PSE has begun a project to remove all vegetation with a mature height of over 15' from beneath and alongside the conductors on the 230 kV corridors. The standard requires a management plan and clearance distances which will prevent outages from effecting on this voltage lines. Penalties for outages from vegetation growing into these lines (or the lines sagging into vegetation) are very large, and PSE will complete this project early in 2010 to limit the probability of this type of outage. In 2009, 568 miles of high-voltage distribution and 330 miles of transmission corridors were maintained

PSE also continues to manage vegetation impacts with its TreeWatch Program whose implementation was authorized by a WUTC Order in July 8, 1998. This program, which removes trees that are not on the right of way with compromised structural integrity, essentially "hardens" the electric delivery system for both routine and significant weather events. In 2009, approximately 900 miles of transmission and high voltage distribution line were worked under the TreeWatch program. Trees trimmed or removed numbered over 10,000.

In 2010, the TreeWatch program will continue with specific focus on the transmission corridors in order to remove danger trees that threaten transmission and high voltage distribution facilities, as well as distribution

circuits with "pockets" of trees which threaten these lines. The overall goal is to remove or trim 10,000 off right-of-way danger trees.

The 2009 year-end results are summarized in Table 12 "2009 Vegetation Management Program".

TABLE 13 - 2009 VEGETATION MANAGEMENT PROGRAM

Vegetation Management Strategies	YE RESULT
Tree Trimming - OH Distribution (miles)	2,196
Tree Trimming - High Voltage Distribution (miles)	568
Tree Trimming - Cross Country Transmission Corridor (miles)	330
Tree Watch - Transmission & High Voltage Distribution Lines (miles)	~900
Tree Watch - Number of Trees Trimmed or Removed	10,000+

APPENDIX A
DEFINITIONS

APPENDIX A – DEFINITIONS

AMR – Automated Meter Reading system, which is a communication network capable of providing the Company with certain information pertaining to sustained outages automatically.

Area of Greatest Concern – An area targeted for specific actions to improve the level of service reliability or quality.

Area of Greatest Concern Map – A plot of localized areas of concern on a geographic map. Areas include PSE complaints and concerns filed with the commission and projects planned.

Cause Codes – A list of codes used to identify the Company's best estimation of what caused a Sustained Interruption to occur. The following is the PSE Interruption Causes code information:

AO	Accident Other, with Fires
BA	Bird or Animal
CP	Car Pole Accident
CR	Customer Request
DU	Dig Up Underground
EF	Equipment Failure
EO	Electrical Overload
EQ	Earthquake
FI	Faulty Installation
LI	Lightning
SO	Scheduled Outage, was WR – Work Required
TF	Tree – Off Right of Way
TO	Tree – On Right of Way
UN	Unknown Cause (unknown equipment involved only)
VA	Vandalism

CLX – Consumer LinX, PSE's customer information system.

Commission Complaint – any single concern filed by a customer with the Washington Utilities and Transportation Commission (WUTC).

Customer Complaint – a customer comment relating to dissatisfaction with the resolution or explanation of a concern related to a Sustained Interruption or Power Quality. This is indicated by two or more contacts to the Company over a 24-month period, where by, after investigation by the Company, the cause of the concern is found to be on the Company's energy delivery system.

Customer Count – the number of customers relative to focus of topic or data. The source of the data will be the outage reporting system that is a part of SAP, the Company's Work Management and Financial Information System.

Customer Inquiry – an event whereby a customer contacts the Company to report a Sustained Interruption or Power Quality concern.

Duration of Sustained Interruption − the period, measured in minutes, or hours or days, beginning when the Company is first informed the service to a customer has been interrupted and ending when the problem causing the interruption has been resolved and the line has been re-energized. An interruption may require Step Restoration tracking to provide reliable index calculation. As an example, two trees could be down, one taking out a major feeder on a main street affecting numerous customers, another down the line in a side street, affecting only a few customers off the major feeder. When the major line is restored and service to most customers is resumed, it is possible that the second tree will prevent resumption of service to the smaller group of customers. The Sustained Interruption associated with the second tree is treated as a separate incident for reporting and tracking purposes.

Equipment Codes

OCN	Overhead Secondary Connector
OCO	Overhead Conductor
OFC	Overhead Cut - Out
OFU	Overhead Line Fuse / Fuse Link
OJU	Overhead Jumper Wire
OPO	Distribution Pole
OSV	Overhead Service
OTF	Overhead Transformer Fuse
OTR	Overhead Transformer
UEL	Underground Elbow
UFJ	Underground J − Box
UPC	Underground Primary Cable
USV	Underground Service

Major Event Days– per the SQI method, a catastrophic event that exceeds design limits of the electric power system and is characterized by more than five percent of the customers out of service during a 24-hour period. Under the IEEE 1366 definition, a major event is a day in which the daily system SAIDI exceeds a threshold value, T_{MED} that is determined by using the 2.5 beta method.

Outage − the state of a system component when it is not available to perform its intended function due to some event directly associated with that component. For the most part, a component's unavailability is considered an outage when it causes a sustained interruption of service to customers.

Power Quality − there are no industry standards that are broad enough to be able to define power quality or how and when to measure it. For purposes of this rule, power quality includes all other physical characteristics of electrical service except for Sustained Interruptions, including but not limited to momentary outages, voltage sags, voltage flicker, harmonics and voltage spikes.

SAIDI – System Average Interruption Duration Index. This index is commonly referred to as customer minutes of interruption or customer hours, and is designed to provide information about the average time the customers are interrupted. SAIDI will be calculated according to the following:

$$\text{SAIDI} = \frac{\sum \text{Customer Interruption Durations}}{\text{Total number of customers served}}$$

SAIFI – System Average Interruption Frequency Index (sustained interruptions). This index is designed to give information about the average frequency of sustained interruptions per customers over a predefined area. SAIFI will be calculated according to the following:

$$\text{SAIFI} = \frac{\text{Total number of customers that experienced Sustained Interruptions}}{\text{Total number of customers served}}$$

SQI – Service Quality Index are the established indices per conditions of the Puget Power and Washington Natural Gas merger in 1997.

Step Restoration – the restoration of service to blocks of customers in an area until the entire area or feeder is restored.

Sustained Interruption – any interruption not classified as a momentary event. PSE records interruptions longer than one minute.

T_{MED} – Tmed is the major event day identification threshold value that is calculated at the end of each reporting period (typically one year) for use during the next report period. It's determined by reviewing the past 5 years of daily system SAIDI, and using the IEEE 2.5 beta methodology in calculating the threshold value. Statistically, any days having a daily system SAIDI greater than Tmed are days on which the energy delivery system experienced stresses beyond the normally expected, which are classified as Major Event Days.

$$T_{MED} = e^{(\alpha + 2.5\beta)}$$

Where α is the log-average of the data set and β is the log-standard deviation of the data set.

APPENDIX B

2009 PSE COMPLAINTS AND RESOLUTIONS

Appendix B - 2009 PSE COMPLAINTS AND RESOLUTIONS

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE
1	Feb 2008 May 2008 Mar 2009	Enumclaw	Reliability Power Quality	Greenwater-13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
2	Jan 2008 Jan 2008	Sammamish	Reliability	Sahalee-13	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
3	Mar 2008 Mar 2009	Bothell	Reliability	Norway Hill-17	Contacted customer to discuss concerns.	A system project to improve reliability was completed in 2009. Ongoing circuit monitoring and maintenance will continue.
4	Nov 2009 Nov 2009	Bow	Reliability	WLS-16	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
5	Aug 2009 Sep 2009	Blaine	Reliability	Birch Bay-12	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
6	Dec 2008 May 2009	Bainbridge Island	Reliability	Port Madison-12	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
7	Aug 2008 Aug 2009	Des Moines	Reliability	Zenith-23	Contacted customer to discuss concerns.	A system project in 2010 will improve reliability. Ongoing circuit monitoring and maintenance will continue.
8	Nov 2008 Dec 2008	Sedro Woolley	Reliability	Norlum-16	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
9	Sep 2008 Sep 2008	Olympia	Reliability	Friendly Grove-16	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE
10	Oct 2008 Dec 2008	Duvall	Reliability	Duvall-15	Reported on 2008 report, no new inquiries in 2009	A system project to improve reliability was completed in 2009. Ongoing circuit monitoring and maintenance will continue.
11	Jan 2008 Nov 2008	Bainbridge Island	Reliability	Port Madison-16	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
12	May 2008 May 2008	Duvall	Power Quality	Duvall-12	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
13	May 2008 Dec 2008	Woodinville	Reliability Power Quality	Hollywood-26	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
14	Sep 2008 Jul 2009	Ellensburg	Reliability	Woldale13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
15	Dec 2009 Dec 2009	Graham	Reliability Power Quality	Orting-22	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
16	Dec 2009 Dec 2009	Bothell	Reliability	North Bothell-25	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
17	Mar 2009 Mar 2009	Woodinville	Reliability	Cottage Brook-16	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
18	Jun 2008 Apr 2009	Port Orchard	Reliability	East Port Orchard-13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
19	Jul 2009 Jul 2009	Bellevue	Reliability	Clyde Hill-26	Contacted customer to discuss concerns.	System improvement projects are scheduled for 2010. Ongoing circuit

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE
20	May 2008 Oct 2008	Bellevue	Reliability	South Bellevue-26	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
21	Aug 2008 Jun 2009	Bainbridge Island	Reliability	Port Madison-12	Contacted customer to discuss concerns.	System project completed in 2009 should improve reliability.
22	May 2008 May 2008 May 2008	Snoqualmie Pass	Reliability	North Bend-15	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
23	Jun 2008 Oct 2009	Bothell	Reliability Power Quality	Vitulli-23	Contacted customer to discuss concerns.	System projects completed in 2009 should improve reliability.
24	Jun 2008 Jan 2009	Olalla	Reliability	Fragaria-16	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
25	Dec 2008 Feb 2009	Yarrow Point	Reliability Power Quality	Medina-33	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
26	Oct 2008 Dec 2008	Bellevue	Reliability	Bridle Trails-21	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
27	Sep 2009 Sep 2009 Sep 2009	Redmond	Power Quality	Avondale-15	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
28	Oct 2009 Nov 2009 Nov 2009 Nov 2009	Sedro Woolley	Reliability Power Quality	Hamilton-13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.
29	Dec 2008 Dec 2008	Vashon	Reliability	Vashon-13	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
30	Oct 2009 Oct 2009	Clinton	Reliability	Langley-12	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE
31	Jun 2008 Jun 2008	Port Orchard	Reliability	East Port Orchard-16	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.
32	Mar 2008 Apr 2008	Bellevue	Reliability Power Quality	Somerset-15	Reported on 2008 report, no new inquiries in 2009	Ongoing circuit monitoring and maintenance will continue.

APPENDIX C

2009 PSE CONCERNS FILED WITH COMMISSION

APPENDIX C - 2009 PSE CONCERNS FILED WITH COMMISSION

PSE has provided the Commission with background information on all of the following concerns.

No.	Date of Complaint	Location	Complaint Type	Closing Date
1	1/20/2009	Maple Valley	Reliability	2/5/2009
2	2/25/2009	Seabeck	Reliability	2/25/2009
3	3/3/2009	Yelm	Reliability	3/26/2009
4	5/13/2009	Olympia	Reliability	5/20/2009
5	5/13/2009	Olympia	Reliability	5/26/2009
6	6/24/2009	Tenino	Reliability	6/24/2009
7	8/21/2009	Auburn	Reliability	8/25/2009
8	8/21/2009	Auburn	Reliability	8/25/2009
9	10/21/2009	Kent	Reliability	11/16/2009
10	10/28/2009	Bothell	Reliability	11/3/2009
11	11/2/2009	Enumclaw	Reliability	12/16/2009
12	11/25/2009	Lacey	Reliability	12/2/2009
13	11/30/2009	Bainbridge Island	Reliability	12/3/2009
14	12/21/2009	Puyallup	Reliability	12/23/2009
15	2/26/2009	Bremerton	Power Quality	2/26/2009
16	3/10/2009	Vashon	Power Quality	3/10/2009
17	4/8/2009	Roy	Power Quality	5/12/2009
18	7/20/2009	Auburn	Power Quality	7/23/2009
19	10/9/2009	Bainbridge Island	Power Quality	11/2/2009
20	12/9/2009	Seabeck	Power Quality	12/18/2009

APPENDIX D

2008 PSE COMPLAINTS AND RESOLUTIONS

APPENDIX D - 2008 PSE COMPLAINTS AND RESOLUTIONS

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE	Follow Up on Action Taken by PSE
1	Apr 2007 Apr 2007	Snoqualmie	Reliability	Snoqualmie-13	Contacted customer to discuss concerns.	Tree trimming completed in 2007. Ongoing circuit monitoring and maintenance will continue.	Completed system improvement projects to improve reliability. A new substation is scheduled for construction in 2010. Ongoing circuit monitoring and maintenance will continue.
2	Jan 2008 Jan 2008	Sammamish	Reliability	Sahalee-13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
3	Jan 2007 Jan 2007	Nordland	Reliability	Irondale-13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.
4	Nov 2007 Jan 2008	Tumwater	Reliability	Prine-21	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.
5	Jan 2007 Mar 2007 Mar 2007 Nov 2007	Yelm	Reliability	Longmire-22	Reported on 2007 report, no new inquiries in 2008	A substation transformer was replaced and a new circuit was energized in February 2008. Ongoing circuit monitoring and maintenance will continue.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.
6	Jan 2007 Nov 2008 Dec 2008	Sedro Woolley	Reliability	Norlum-13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE	Follow Up on Action Taken by PSE
7	Sep 2008 Sep 2008	Olympia	Reliability	Friendly Grove-16	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
8	Oct 2008 Dec 2008	Duvall	Reliability	Duvall-15	Contacted customer to discuss concerns.	System projects in 2009 will improve reliability.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.
9	Jan 2007 Jan 2007	Bellingham	Reliability	Woburn-25	Contacted customer to discuss concerns.	Completed system improvement projects to improve reliability.	Ongoing circuit monitoring and maintenance will continue.
10	Jan 2008 Nov 2008	Bainbridge Island	Reliability	Port Madison-16	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	System improvement projects are planned for 2010. Ongoing circuit monitoring and maintenance will continue.
11	Jan 2007 Dec 2007	Baring	Reliability Power Quality	Skykomish-25	Reported on 2007 report, no new inquiries in 2008	Ongoing circuit monitoring and maintenance will continue.	System improvement projects are planned for 2010. Ongoing circuit monitoring and maintenance will continue.
12	Sep 2007 Jul 2008	Yarrow Point	Reliability Power Quality	Medina-33	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
13	May 2008 May 2008	Duvall	Power Quality	Duvall-12	Contacted customer to discuss concerns.	System project in 2009 will improve power quality issues.	System improvement projects are planned for 2010. Ongoing circuit monitoring and maintenance will continue.
14	May 2008 Dec 2008	Woodinville	Reliability Power Quality	Hollywood-26	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE	Follow Up on Action Taken by PSE
15	Jan 2007 Jan 2007 Jan 2007 Feb 2007	Yelm	Reliability	Longmire-22	Contacted customer to discuss concerns.	A substation transformer was replaced. Additional system improvement projects were also completed.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.
16	Oct 2007 Oct 2007	Federal Way	Reliability	Lakota-17	Reported on 2007 report, no new inquiries in 2008	One system improvement projects scheduled for 2009. Ongoing circuit monitoring and maintenance will continue.	Completed system improvement project to improve reliability. Ongoing circuit monitoring and maintenance will continue.
17	Oct 2007 Oct 2007	Olympia	Reliability	West Olympia-25	Contacted customer to discuss concerns.	System projects completed which will improve reliability.	Ongoing circuit monitoring and maintenance will continue.
18	Jan 2007 Oct 2007	Yelm	Reliability	Longmire-22	Reported on 2007 report, no new inquiries in 2008	A substation transformer was replaced and a new circuit was energized in February 2008. Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
19	Jan 2007 Nov 2007	Yelm	Reliability	Longmire-22	Contacted customer to discuss concerns.	A substation transformer was replaced and a new circuit was energized in February 2008. Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
20	May 2008 Oct 2008	Bellevue	Reliability	South Bellevue-26	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Completed system improvement projects. Ongoing circuit monitoring and maintenance will continue.

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE	Follow Up on Action Taken by PSE
21	May 2008 May 2008 May 2008	Snoqualmie Pass	Reliability	North Bend-15	Contacted customer to discuss concerns.	One system project completed in 2008 to improve reliability.	Ongoing circuit monitoring and maintenance will continue.
22	Jan 2007 Jan 2007	Yelm	Reliability	Longmire-22	Contacted customer to discuss concerns.	A new substation transformer was replaced. Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
23	Sep 2007 Sep 2007	Blaine	Reliability Power Quality	Birch Bay-12	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	A new substation is scheduled for construction in 2010. Ongoing circuit monitoring and maintenance will continue.
24	May 2007 May 2007	Issaquah	Reliability	Lake McDonald-23	Contacted customer to discuss concerns.	Tree trimming scheduled for 2009. Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
25	Dec 2007 Dec 2008	Bremerton	Reliability	Sinclair-22	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	A system improvement project is scheduled for 2010.
26	Apr 2007 Apr 2007	Port Orchard	Reliability	East Port Orchard-13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
27	Jan 2007 Apr 2007	Snoqualmie	Reliability	Snoqualmie-13	Contacted customer to discuss concerns.	A new substation is scheduled for contruction in 2010 which will improve reliability. Ongoing circuit monitoring and maintenance will continue.	Completed system improvement projects to improve reliability. A new substation is scheduled for construction in 2010.

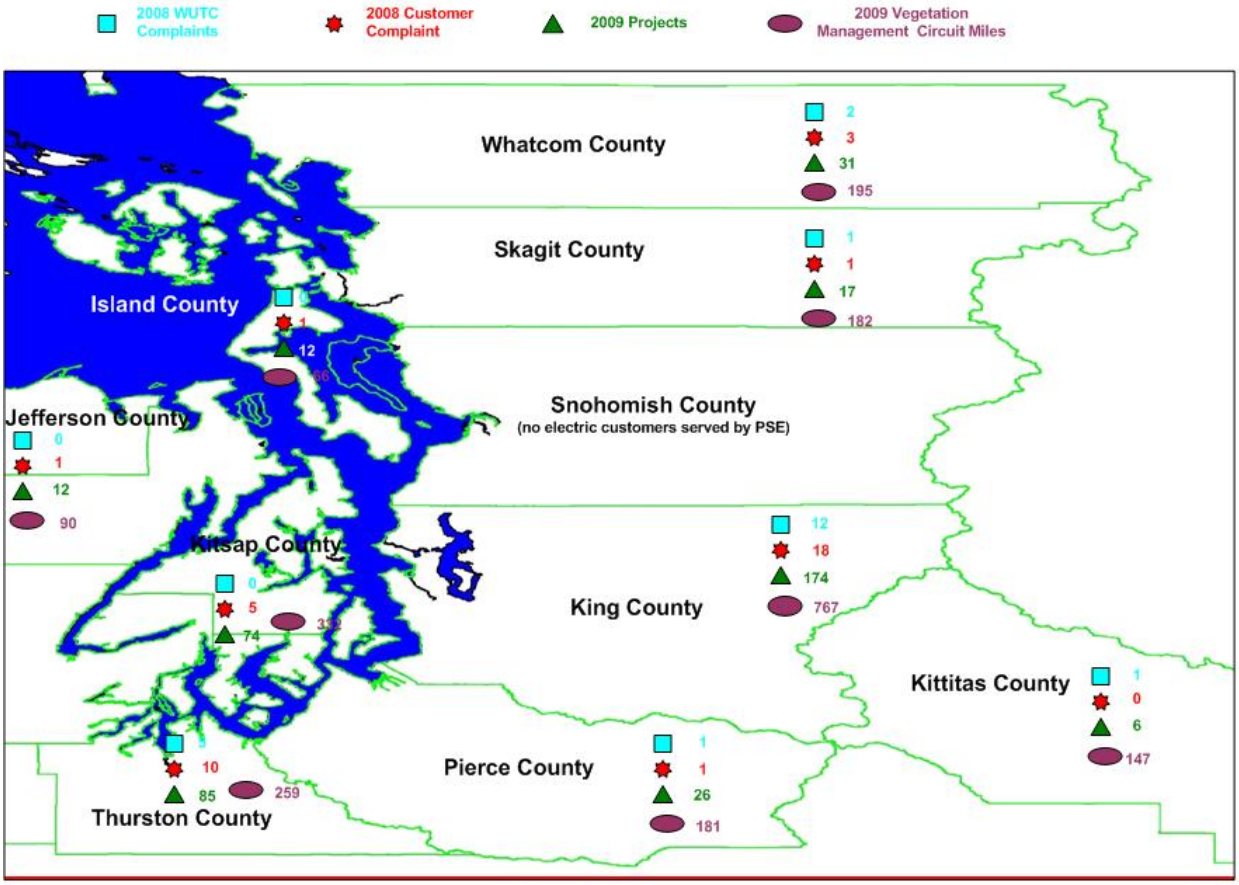
No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE	Follow Up on Action Taken by PSE
28	Oct 2008 Dec 2008	Bellevue	Reliability	Bridle Trails-21	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.
29	Mar 2007 Mar 2007	Yelm	Reliability Power Quality	Longmire-22	Contacted customer to discuss concerns.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.
30	Jul 2007 Jul 2007	Duvall	Reliability	Duvall-15	Contacted customer to discuss concerns.	Two system improvement projects scheduled for 2009 will improve reliability.	Completed system improvement projects to improve reliability. Ongoing circuit monitoring and maintenance will continue.
31	Jan 2007 Jan 2007	Gig Harbor	Reliability	Fragaria-16	Reported on 2007 report, no new inquiries in 2008	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
32	May 2008 May 2008	Silverdale	Reliability	Silverdale-17	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
33	Oct 2007 Oct 2007	Mercer Island	Reliability	South Mercer-15	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
34	Jan 2007 Jan 2007 Nov 2007	Bellingham	Reliability	Woburn-25	Contacted customer to discuss concerns.	Completed system projects will improved reliability. Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
35	Jan 2007 Jan 2007	Clinton	Reliability Power Quality	Langley-16	Contacted customer to discuss concerns.	Multiyear projects including a new substation and transmission line right of way improvements will improve reliability.	A new substation is scheduled for construction in 2010. Ongoing circuit monitoring and maintenance will continue.

No.	Date of Complaint	Location	Complaint Type	Circuit	Response	Action by PSE	Follow Up on Action Taken by PSE
36	Dec 2008 Dec 2008	Vashon	Reliability	Vashon-13	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
37	Jun 2008 Jun 2008	Port Orchard	Reliability	East Port Orchard-16	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
38	Oct 2007 Oct 2007	Carnation	Reliability	Tolt-15	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Completed system improvement project. Ongoing circuit monitoring and maintenance will continue.
39	Nov 2007 Nov 2007	Olympia	Reliability	McAllister-16	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	Ongoing circuit monitoring and maintenance will continue.
40	Mar 2008 Apr 2008	Bellevue	Reliability Power Quality	Somerset-15	Contacted customer to discuss concerns.	Ongoing circuit monitoring and maintenance will continue.	A system improvement project is scheduled for 2010. Ongoing circuit monitoring and maintenance will continue.

APPENDIX E

2008 CUSTOMER COMPLAINTS ON SERVICE TERRITORY MAP WITH NUMBER OF COMPLAINTS AND NUMBER OF PROJECTS COMPLETED TO ADDRESS AREAS OF CONCERN

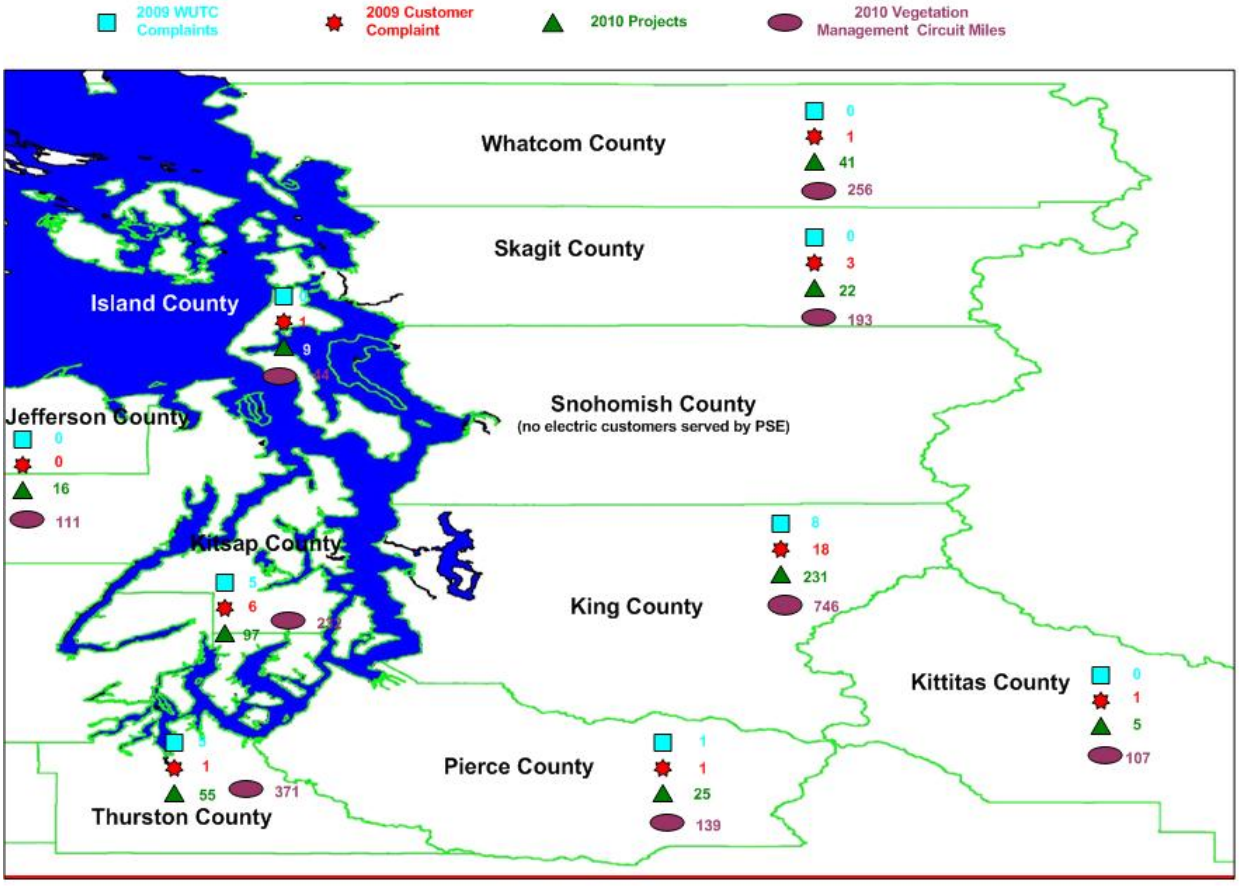
APPENDIX E - 2008 Customer Complaints with 2009 System Projects



APPENDIX F

2009 CUSTOMER COMPLAINTS ON SERVICE TERRITORY MAP WITH NUMBER OF COMPLAINTS AND NUMBER OF PROJECTS PROPOSED TO ADDRESS AREAS OF CONCERN

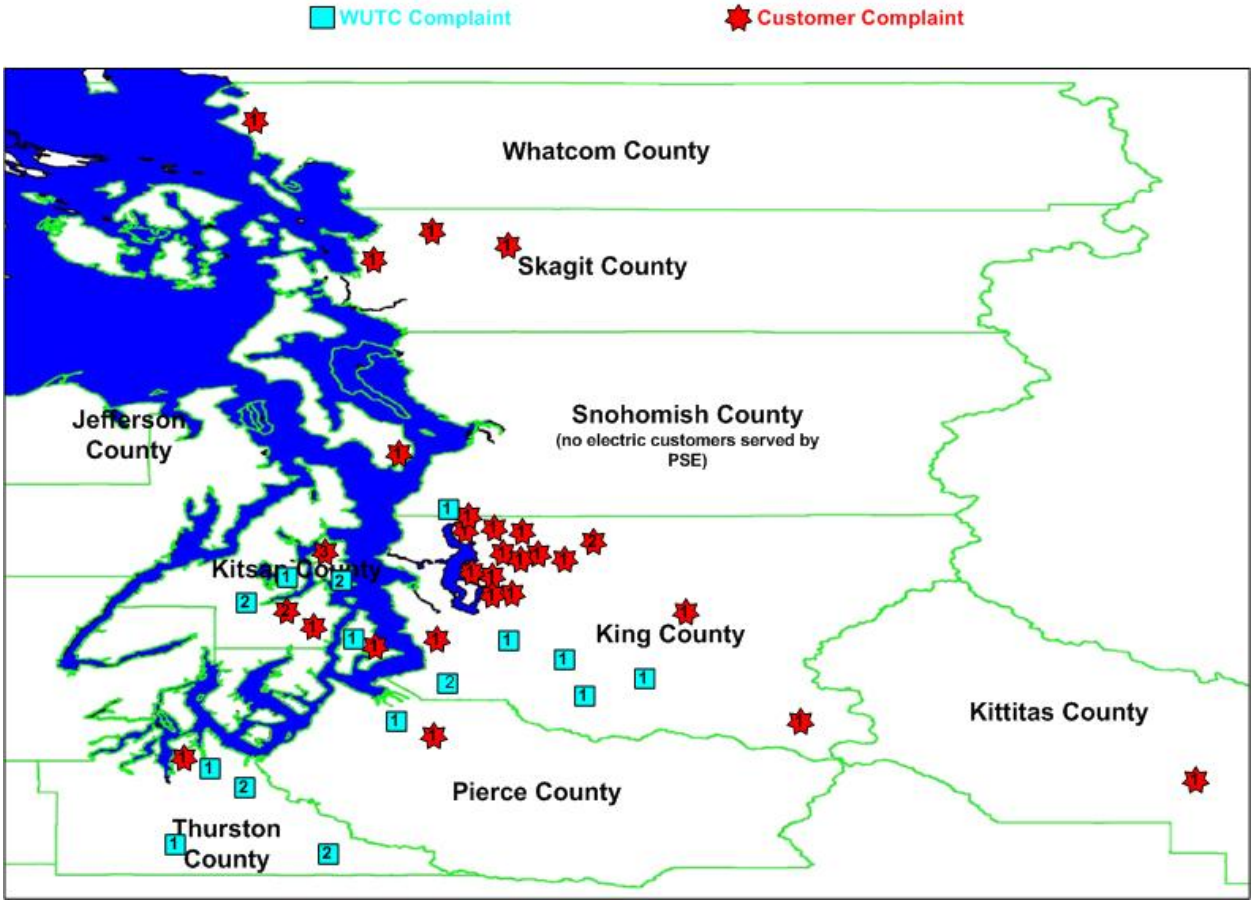
APPENDIX F - 2009 Customer Complaints with 2010 System Projects



APPENDIX G

2009 GEOGRAPHIC LOCATION OF CUSTOMER COMPLAINTS ON SERVICE TERRITORY MAP

Appendix G - 2009 Geographic Location of Customer Complaints on Service Territory Map



APPENDIX H

2000 – 2009 RELIABILITY DATA

APPENDIX H – 2000 - 2009 SAIFI AND SAIDI DATA

YEAR	SQI SAIDI	SQI SAIFI	IEEE SAIDI	IEEE SAIFI	IEEE Tmed
2000	104	0.8	117	1.9	6.16
2001	112	0.9	110	1.8	5.56
2002	118	0.9	100	1.8	5.27
2003	133	0.8	107	1.7	5.14
2004	113	0.8	114	1.8	5.22
2005	129	1.0	129	1.9	4.88
2006	214	1.2	163	2.0	4.97
2007	167	1.0	144	1.9	6.87
2008	164	1.0	155	2.0	7.36
2009	190	1.1	145	0.94	6.95

Note: 2000-2003 SQI SAIDI and SAIFI adjusted to reflect SAIDI and SAIFI reported to UTC.

APPENDIX I

2008 TOP 50 WORST CIRCUITS BY CUSTOMER MINUTES

TOP 50 WORST CIRCUITS BY CUSTOMER MINUTES
5 YEAR AVERAGE

Rank	Circuit	County	Average Customer Minutes	Action by PSE*
1	Longmire-22	Thurston	3,033,583	Phase II of the feeder replacement in Clearwood has been completed in 2008. Phase III is scheduled for construction in 2009 in conjunction with a Clearwood water line replacement project. Phase IV (final phase) of the feeder replacement is scheduled for completion in 2010. The addition of second recloser and additional switches have been installed.
2	Chico-12	Kitsap	1,913,857	Completed a recloser project in 2008. Substation property purchase and completing three phase feeder extension in 2010.
3	Baker River Switch-24	Skagit	1,126,645	Completed an underground conversion project in 2009.
4	Port Gamble-13	Kitsap	1,453,490	Installed two regulators in 2009
5	Duvall-15	King	976,449	The cable remediation projects were completed in 2008, and two recloser projects were completed in 2009.
6	Longmire-17	Thurston	694,725	This circuit will continue to be monitored for potential improvements.
7	Southwick-17	Thurston	724,096	Completed 1/0 cable remediation project in 2006 and 2007. Feeder cable replacement scheduled for 2011-2012
8	Duvall-12	King	863,138	Improvements should be seen with the tree wire projects completed in 2007 for on this circuit.
9	Vashon-13	King	1,060,271	Two reconductor projects are approved for 2009 and scheduled to be completed in 2010.
10	Port Ludlow-16	Jefferson	791,625	Completed a switch relocation in 2008 which should improve reliability.
11	Cottage Brook-13	King	1,016,680	Completing two underground conversion projects and underground cable remediation project in 2009.
12	Port Gamble-12	Kitsap	658,616	Two recloser projects were completed in 2008.
13	Silverdale-13	Kitsap	881,560	Installed regulator in 2008.
14	Eld Inlet-25	Thurston	808,524	Replaced sections of overhead wire to tree wire

*Dates for current or future projects are estimated completion dates

Rank	Circuit	County	Average Customer Minutes	Action by PSE*
15	Irondale-15	Jefferson	687,910	A tree wire project and feeder tie were completed in 2008.
16	Winslow-15	Kitsap	781,832	A reconductor project is scheduled to be completed in 2010.
17	Fall City-15	King	580,198	This circuit will continue to be monitored for potential improvements.
18	Silverdale-16	Kitsap	718,445	Feeder tie project is scheduled to be completed in 2011.
19	Griffin-13	Thurston	801,606	UG conversion project and six tree wire projects were completed in 2008.
20	Prine-13	Thurston	488,465	This circuit will continue to be monitored for potential improvements.
21	Slater-16	Whatcom	682,184	Feeder tie scheduled to be completed in 2011.
22	Christensens Corner-22	Kitsap	574,450	Kingston Substation has been completed and the reconfiguration of the feeder system should help improve the reliability.
23	North Bend-16	King	436,323	Feeder tie project is scheduled to be completed in 2010.
24	Longmire-23	Thurston	499,552	Feeder work to split the load into two circuits and additional switches and reclosers work to sectionalize feeder were completed in 2009.
25	Hobart-16	King	484,553	Completed a feeder tie in 2009. An underground conversion project is scheduled for 2010.
26	Hemlock-13	Pierce	449,097	This circuit will continue to be monitored for potential improvements.
27	Miller Bay-22	Kitsap	937,564	A recloser was relocated in 2008 to better protect the circuit.
28	Black Diamond-12	King	723,150	This circuit will continue to be monitored for potential improvements.
29	Prine-21	Thurston	552,828	This circuit will continue to be monitored for potential improvements.
30	Nugents Corner-26	Whatcom	627,299	A feeder tie is scheduled for completion in 2011. Installed a recloser in 2009.
31	Yelm-25	Thurston	729,343	This circuit will continue to be monitored for potential improvements.

*Dates for current or future projects are estimated completion dates

Rank	Circuit	County	Average Customer Minutes	Action by PSE*
32	Inglewood-13	King	528,733	Constructing a new underground feeder which replaces a cross-country overhead line.
33	Greenwater-16	King	923,995	Completed a reroute of the river crossing in 2009.
34	Silverdale-15	Kitsap	691,915	Constructing additional phases to better enable circuit balancing and improve outage response.
35	Langley-16	Island	449,488	Transmission right of way enhancement and vegetation management. Maxwelton substation and circuits is scheduled to be completed in 2011 which will help improve reliability to this circuit.
36	Orting-23	Pierce	344,870	This circuit will continue to be monitored for potential improvements.
37	Rose Hill-21	King	665,397	Completed three system projects in 2009. Underground conversion project scheduled for 2010.
38	Freeland-12	Island	419,713	A feeder tie project is scheduled for 2010 completion.
39	Hickcox-16	Skagit	534,662	A recloser is scheduled for installation in 2010
40	Wilson-16	Skagit	445,131	Installed three reclosers in 2009.
41	Vashon-12	King	385,738	This circuit will continue to be monitored for potential improvements.
42	Somerset-15	King	678,555	Replaced underground equipment in 2008 in response to outage. This circuit will continue to be monitored for potential improvements.
43	Hamilton-15	Skagit	570,817	This circuit will continue to be monitored for potential improvements.
44	Inglewood-15	King	427,255	Construction of a second substation bank completed in 2009.
45	Freeland-15	Island	637,940	Transmission right of way enhancement and vegetation management. Maxwelton substation is planned for completion in 2011 which includes transmission improvements that will benefit Freeland substation reliability.
46	Blumaer-17	Thurston	513,170	Recloser installation was completed in 2008. This circuit will continue to be monitored for potential improvements.

*Dates for current or future projects are estimated completion dates

Rank	Circuit	County	Average Customer Minutes	Action by PSE*
47	Orting-22	Pierce	833,349	Tree wire project was completed in 2009.
48	Inglewood-16	King	382,135	This circuit will continue to be monitored for potential improvements.
49	Duvall-13	King	296,927	This circuit will continue to be monitored for potential improvements.
50	Hobart-15	King	355,074	Two feeder tie projects funded for 2010.

*Dates for current or future projects are estimated completion dates