

**EXHIBIT NO. ___(BAV-1T)
DOCKET NO. UE-09___/UG-09___
2009 PSE GENERAL RATE CASE
WITNESS: BERTRAND A. VALDMAN**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

**Docket No. UE-09___
Docket No. UG-09___**

**PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF
BERTRAND A. VALDMAN
ON BEHALF OF PUGET SOUND ENERGY, INC.**

MAY 8, 2009

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

PUGET SOUND ENERGY, INC.

**PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF
BERTRAND A. VALDMAN**

CONTENTS

- I. INTRODUCTION 3
- II. CUSTOMER SERVICE, COMMUNITY PARTNERSHIP, AND ACCOUNTABILITY 6
 - A. Improving Reliability of Service to Customers 6
 - 1. Aging Infrastructure Management and Costs 8
 - 2. Vegetation Management 19
 - B. Improving Storm Preparedness 23
 - C. Improving Customer Information Tools 28
 - D. Improving the Billing and Metering Performance Process 29
 - E. Improving New Customer Construction Services 33
- III. QUALITY OF SERVICE 34
 - A. Safety 34
 - B. Compliance 37
 - C. Reliability 43
- IV. PRODUCTIVITY, SUCCESSION PLANNING, AND PERFORMANCE EXCELLENCE 46
 - A. Service Provider Model 46
 - B. Succession Planning 53
 - C. Performance Excellence – Continuous Improvements 57
- V. CONCLUSION 58

1 **PUGET SOUND ENERGY, INC.**

2 **PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF**
3 **BERTRAND A. VALDMAN**

4 **I. INTRODUCTION**

5 **Q. Please state your name, business address, and position with Puget Sound**
6 **Energy, Inc.**

7 A. My name is Bertrand A. Valdman. My business address is 10885 N.E. Fourth
8 Street Bellevue, WA 98004. I am the Executive Vice President and Chief
9 Operating Officer for Puget Sound Energy, Inc. (“PSE” or “the Company”).

10 **Q. Have you prepared an exhibit describing your education, relevant**
11 **employment experience, and other professional qualifications?**

12 A. Yes, I have. It is Exhibit No. ___(BAV-2).

13 **Q. What are your duties as Executive Vice President and Chief Operating**
14 **Officer for PSE?**

15 A. I have overall responsibility for the management of PSE’s regulated electric and
16 natural gas delivery operations. I also oversee the customer service, information
17 technology, and corporate affairs functions.

1 **Q. Please summarize your testimony.**

2 A. My testimony describes the Company's efforts to control the costs associated with
3 delivering electricity and natural gas to PSE's customers while at the same time
4 maintaining high levels of service quality, safety and reliability.

5 PSE's aging infrastructure, expanding customer base, need to acquire and retain
6 talented employees, unforeseen storm events, and need to comply with
7 increasingly stringent safety, reliability, and environmental standards all place
8 substantial and increasing cost pressures on the Company. These cost pressures
9 are occurring simultaneously and have escalated to the point that costs related to
10 the Company's gas and electric infrastructure investments and maintenance
11 reflected in the test period for this case are far below the costs that the Company
12 anticipates incurring during the rate year and beyond.

13 While PSE remains one of the lowest cost providers nationally, as shown in
14 Exhibit No. ___(BAV-3), PSE will need to invest increased amounts into its
15 operations and maintenance ("O&M") to maintain and promote system integrity
16 and reliability, provide for public and worker safety, worker retention, and
17 maintain existing levels of service quality.

18 ////

19 ////

20 ////

1 **Q. Please summarize why PSE's energy delivery and customer service O&M**
2 **expenses increased in calendar year 2008 over calendar year 2007.**

3 A. Such increases are driven primarily by changing customer expectations;
4 permitting and construction practices; increased inspection and maintenance
5 requirements and regulatory compliance; emergency response preparation;
6 damage prevention; vandalism repair; vegetation management; and Operation and
7 Maintenance Related to Capital ("OMRC"). Not only is PSE performing more
8 operational and maintenance work, but such efforts are compounded by cost
9 increases that I will address in my testimony such as:

- 10 • Increased staffing and expenses to support ongoing electric and gas energy
11 delivery system compliance requirements of approximately \$2 million.
- 12 • Increased staffing and expenses to provide electric and gas energy delivery
13 system first response of approximately \$6 million.
- 14 • Increased expenses to provide needed ongoing electric and gas energy
15 delivery system operations and maintenance of approximately \$9 million.
- 16 • Increased staffing and expenses to meet ongoing customer service and
17 revenue management requirements of approximately \$7 million.
- 18 • Increases in other areas such as Accumulated Provision for Uncollectible
19 Accounts, OMRC and vegetation management.

20 ///

21 ///

22 ///

23 ///

24 ///

25 ///

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

**II. CUSTOMER SERVICE, COMMUNITY PARTNERSHIP,
AND ACCOUNTABILITY**

**Q. What is PSE doing to improve its customer service and to maintain its
connection with the communities that it serves?**

A. PSE has targeted customer service improvements in several areas during 2008,
including but not limited to: (1) improving service reliability; (2) improving storm
communications with customers; (3) improving customer information tools; (4)
improving PSE's billing and metering performance process; and (5) improving
new customer construction services.

A. Improving Reliability of Service to Customers

**Q. What are some of the main challenges that PSE faces with regard to
reliability?**

A. PSE continues to target reliability improvements throughout its service territory
by evaluating industry best practices, analyzing new practices, and implementing
these new practices as appropriate. PSE recognizes that its customers are more
reliant on electronic equipment for business and personal use (telecommuting,
email, etc.) than they were in the past. According to the latest U.S. census, 4.3%
of Washington state residents work from home full time, which represents
approximately 43,000 customers or more in PSE's service territory. Additionally,
according to Washington State Department of Transportation Commute Trip

1 Reduction program data, "telework" (working some days of the week from home)
2 is continuing to grow as the largest method of reducing commuter trips and has
3 not yet reached its full potential.

4 The increasing reliance on electronic equipment for business and personal use has
5 created a greater customer demand for energy reliability. This is particularly
6 apparent as urban customers relocate to more rural settings where both power
7 quality and reliability is a greater operational challenge. Urban environments
8 have system redundancy in the form of alternative energy paths that result in
9 fewer and shorter disruptions. Bringing electric service in rural, less densely
10 populated areas, up to the same levels of urban reliability is often not possible due
11 to the physical location of many rural customers where circuits cannot be fed
12 from multiple substations. Additionally, many rural circuits are much longer than
13 urban circuits due to the lower customer density, thereby increasing the tree and
14 wind exposure on a per customer basis in the rural areas.

15 **Q. What ongoing initiatives does PSE have in place to improve electric system**
16 **reliability?**

17 A. PSE continues to investigate additional initiatives for improving electric system
18 reliability – particularly the System Average Interruption Duration Index
19 ("SAIDI"). As part of the annual planning process, PSE reviews the performance
20 of the circuits in each planning area with an emphasis on developing projects to
21 specifically target reliability improvement. In 2008 PSE developed a "Reliability

1 Roadmap” which quantifies methodology and spending levels necessary to make
2 significant reductions in SAIDI. PSE is evaluating the Reliability Roadmap for
3 sensible, operational and economic efficiencies and has begun to implement some
4 additional infrastructure investments such as placing additional reclosers and
5 gang operated switches on feeders to allow for additional sectionalization during
6 outage events.

7 **1. Aging Infrastructure Management and Costs**

8 **Q. How does PSE allocate its resources to support gas and electric system**
9 **reliability and minimize costs?**

10 A. PSE has an ongoing process to effectively plan and prioritize its gas and electric
11 system infrastructure investments. This process utilizes a variety of engineering
12 modeling, financial analysis, and analytical hierarchy decision-making tools to
13 measure the benefits versus the costs of a given project in detail and provides
14 judicious decision options from a portfolio of hundreds of gas and electric
15 projects. This process does not favor either gas projects or electric projects. All
16 electric and gas projects are compared against one another, with an emphasis on
17 maximizing the benefits across the total project portfolio.

18 **Q. Is aging infrastructure a significant issue for PSE?**

19 A. Yes. Gas and electric infrastructure have a limited lifespan and a significant
20 percentage of the infrastructure will be reaching the end of its useful life in the

1 coming years. For instance, 20 percent of PSE's gas mains (approximately 2,200
2 miles) were installed prior to 1970 and will likely be candidates for replacement
3 in the near future. Approximately 4% of PSE's wood distribution poles (13,000
4 poles) were installed prior to 1955 and are also likely replacement candidates in
5 the near future. In addition, 69% of the entire population of substation
6 transformers are more than 30 years of age and will come to the end of their lives
7 over a short number of years.

8 **Q. How does PSE determine when infrastructure needs to be replaced?**

9 A. PSE systematically maintains and inspects its major equipment assets so that they
10 are in proper working condition. When equipment is approaching the end of its
11 useful life, PSE endeavors to proactively replace the equipment before the safe
12 and reliable operation of the system is compromised. Replacing infrastructure in
13 this manner maintains the reliability of the electric and gas delivery system and
14 minimizes the impact of having to replace large quantities of equipment or
15 distribution facilities in a short period of time due to sudden decreases in
16 performance.

17 **Q. Please generally describe PSE's ongoing maintenance and replacement of**
18 **electric infrastructure.**

19 A. PSE's transmission and distribution equipment includes, among other things,
20 substation equipment, transmission and distribution poles and crossarms, and

1 underground cables. Certain equipment requires continual maintenance such as
2 substation transformers, circuit breakers, control hardware, and switches. This
3 type of equipment is maintained by using condition-based inspections as well as
4 by closely monitoring the equipment's age, make and model, number of
5 operations performed, maintenance history, and inspection results until the
6 equipment is no longer economical to maintain based on its condition or the
7 availability of spare parts. For other types of equipment, such as wood poles and
8 underground cable, it is often more economical to replace them based upon
9 condition as determined by field observations of PSE employees or service
10 providers or by systematic inspection programs. One such systematic inspection
11 program is PSE's pilot project to test and treat older wood poles to extend their
12 lifespans by 10 years or more.

13 **Q. Please generally describe PSE's ongoing maintenance and replacement of gas**
14 **infrastructure.**

15 A. PSE's gas infrastructure includes PSE-owned gas mains, services, valves, meters,
16 cathodic protection sites, and pressure-regulating stations necessary to provide
17 gas service to PSE customers. The Company's gas replacement and remediation
18 projects target system components that are impacted by leakage, compliance
19 initiatives, age, and damage caused by unplanned events such as dig-ups.

20 As gas mains age, they eventually become more susceptible to leakage, which
21 directly affects gas system reliability and safety. PSE continually evaluates aging

1 gas systems to determine which ones should be replaced. Additionally, PSE has
2 programs such as a bare steel pipe replacement program to systematically replace
3 certain gas mains. Under this program, the Company has been replacing bare
4 steel pipe, which was installed prior to the advent of wrapped steel or plastic pipe,
5 for several years and plans to have over 200 miles of bare steel main and
6 associated services replaced by 2014. PSE replaced over 21 miles of older bare
7 steel main in 2008 and expects to invest over \$200 million dollars over the life of
8 the replacement program to eliminate bare steel mains and services from PSE's
9 system. PSE is also evaluating wrapped steel service lines that were installed
10 prior to 1972 (when new cathodic protection requirements were established) in
11 order to identify services that will be proactively replaced as they near the end of
12 their service lives.

13 Gas mains that are not currently under a programmatic replacement program are
14 evaluated for replacement based upon condition reports generated when the gas
15 main is exposed for repairs or other work and based upon leak surveys performed
16 on the system at regular intervals. Other gas facilities such as district regulator
17 stations are replaced based upon their age, condition, and maintainability as
18 reported in regular inspection reports.

19 **Q. Are any new electric infrastructure replacement programs anticipated?**

20 A. At this time, PSE is anticipating that upcoming NERC standards revisions could
21 result in additional costs for communications upgrades, as well as significant

1 improvements or replacements of PSE's backup control center and backup data
2 center. The Company anticipates that these requirements will become effective in
3 2009, with the requirement that operators become compliant within 24 months.

4 **Q. Are any new gas infrastructure replacement programs anticipated?**

5 A. Yes, a new federal rulemaking requiring Distribution Integrity Management
6 Programs ("DIMP") for gas distribution systems is expected to be issued in 2009,
7 with the expectation that programs must be in place by 2010 or 2011 in order to
8 be in compliance. PSE has had preliminary discussions with state regulators to
9 develop a regional framework for how PSE and other utilities will move forward
10 under this federal rule. The Company has already begun to implement DIMP-like
11 processes and evaluations in PSE's system planning activities.

12 **Q. What is the magnitude of PSE's electric infrastructure capital spending?**

13 A. Actual and anticipated electric capital investments are summarized in Exhibit No.
14 ___(BAV-4C). PSE expects that 2009 electric capital investment of \$294 million
15 for all types of work will exceed 2008 investment of \$249 million by
16 approximately \$45 million, an 18% increase.

17 **Q. What is the magnitude of PSE's gas infrastructure capital spending?**

18 A. Actual and anticipated gas capital investments are summarized in Exhibit No.
19 ___(BAV-5C). PSE's expected 2009 gas capital investment of \$181 million for

1 all types of work is lower than 2008 investment of \$186 million by \$5 million, a
2 3% decrease.

3 **Q. Please explain the reason for the changes in electric and gas investments.**

4 A. The large increase in electric spending represents the increased investment
5 necessary to remain in compliance with NERC reliability standards. Gas
6 spending remains relatively constant and no major new compliance-driven
7 programs are expected to impact planned 2009 spending levels.

8 **Q. How has the economic downturn impacted capital spending?**

9 A. In 2008, PSE began to see a decrease in new customer construction due to the
10 economic downturn. In contrast, PSE saw an increase in jurisdictional public
11 improvement projects and unplanned maintenance and repair activities that offset
12 the budget decreases for new customer additions. In 2009, PSE continues to
13 experience decreases in new customer additions and is in the process of
14 evaluating overall capital spending needs based on economic forecasts for the
15 next several years.

16 **Q Is PSE making investments in system infrastructure that are greater than**
17 **were forecast in the last general rate case?**

18 A. Yes. During 2009, PSE expects – despite the decreases in new customer
19 additions – to make system infrastructure investments in excess of \$475 million.

1 See Exhibit No. ____ (BAV-6C). This exceeds by \$54 million, or 13%, the
2 Company's 2008 planned investment of \$421 million that was included in the
3 2007 general rate case. These investments are necessary to meet customer service
4 expectations and regulatory requirements.

5 **Q. What are the main drivers of increases to PSE's costs of infrastructure**
6 **replacement?**

7 A. The two main drivers of increases to PSE's costs of infrastructure replacement are
8 increases in costs of materials and increases in labor costs.

9 i. **Increases in Costs of Materials**

10 **Q. Can you please provide examples of how costs of materials have changed?**

11 Yes. To illustrate this point, the cost to replace an aging pole today should be
12 compared to the cost of its original installation, which, on average, was almost 30
13 years ago. In 1978, the cost to purchase and install a 45-foot distribution pole
14 was \$612; by 2008, the cost increased to over \$3,600. During 2007 and 2008
15 PSE purchased approximately 1,000 45-foot distribution poles. Likewise, cost
16 increases are an issue relative to replacing aging gas infrastructure. For example,
17 the cost to purchase and install two-inch diameter plastic gas main has increased
18 from \$3 per foot in 1978 to \$29 per foot in 2008. During 2007 and 2008 PSE
19 purchased approximately 1.7 million feet of two-inch diameter plastic gas main.
20 These are just two examples of the magnitude of cost increases that PSE faces.

1 Increases in the cost of raw materials (metals, resins, concrete, wood products and
2 petroleum products) have significantly increased the costs of commonly used
3 transmission and distribution materials (poles, wire, pipe and transformers). In
4 just the five-year period from 2003-2008, the cost of 2-inch and 4-inch plastic gas
5 main has increased by 55%; the cost of 45-foot wood poles has increased by 25%;
6 electrical conductor costs have increased by 63%; and the cost of single phase
7 transformers has increased by 132%. Some of these cost increases are beginning
8 to temper given the economic slowdown, although most buyers do not expect
9 finished goods pricing to return to early 2000s levels. For example,
10 manufacturers of finished goods are experiencing cost pressures in this market
11 and are reducing their work force and production capacity, which will partially
12 mitigate price pressure by reducing supply. In addition, if demand for finished
13 goods increases, which is anticipated in 2010, production capacity will lag this
14 demand and have an upward impact on prices.

15 **Q. Is PSE alone in facing increasing costs to install and replace aging**
16 **infrastructure?**

17 A. No. Growing U.S. and international demand for infrastructure materials is
18 contributing to inflationary pressure. A recent general utility construction cost
19 report from the Brattle Group demonstrates the tremendous increase in
20 construction costs. The Brattle Group reports that electric distribution plant costs
21 (poles, conductor, conduit, transformers and meters) tracked the general inflation
22 rate very closely between 1991 and 2003. However, the costs then increased 34%

1 between January 2004 and January 2007, a rate that exceeded four times the rate
2 of general inflation. Electric transmission plant costs followed a similar trend.
3 During the same 2004 to 2007 time period, the price of line transformers
4 increased 68%; the price of pad mount transformers went up 79%; the price of
5 overhead conductors and devices went up by 34%; and the price of station
6 equipment rose by 38%. The full report by The Brattle Group is at Exhibit No.
7 ____ (BAV-7).

8 **Q. Does PSE use procurement practices to manage the volatility of prices that**
9 **you have just described?**

10 A. PSE's procurement team obtains favorable pricing and preferential terms through
11 ongoing competitive sourcing initiatives, targeted and direct negotiations with key
12 suppliers, and leveraging relevant market data to ensure cost of ownership is
13 consistently competitive. Further, the procurement team incorporates financial
14 risk, such as supplier solvency and liquidity, into large request for proposal
15 templates and evaluation forms. As a result, the evaluation team and procurement
16 professionals are positioned to make efficient and risk-adjusted business decisions
17 for PSE.

18 **Q. Does PSE employ other procurement cost management practices?**

19 A. Yes. Provided below are several examples of the procurement cost management
20 practices employed by PSE:

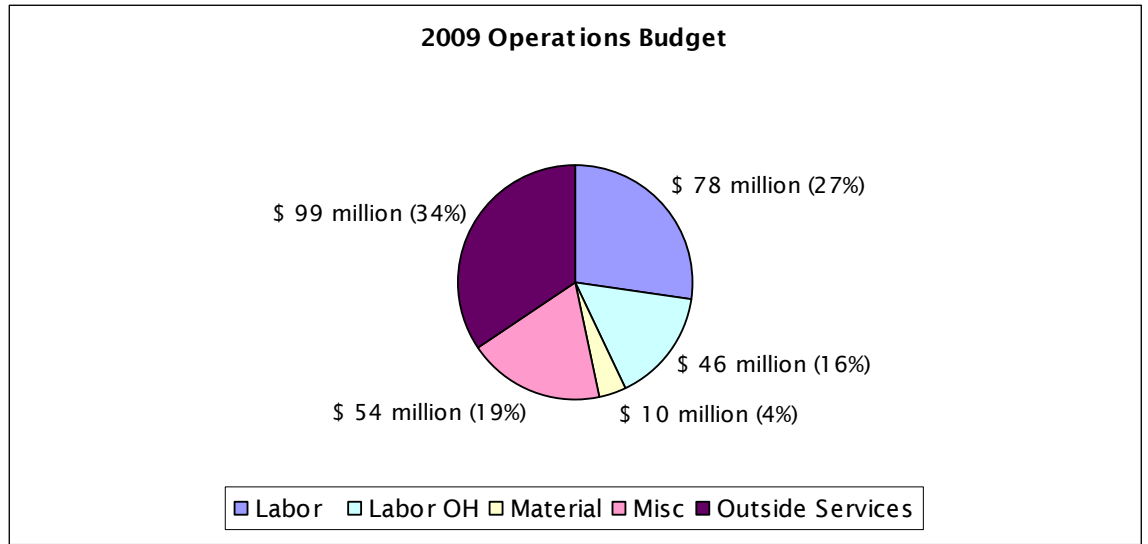
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

- Early involvement with planning, engineering and project management through procurement's role in co-chairing an internal major equipment committee to introduce contract strategies to reduce schedule and resource constraint risk;
- Enlisting internal customers and industry experts, as needed, to provide market expertise for introducing competition with multiple bid solicitations;
- Striving to qualify a sufficient number of suppliers so as to optimize value even during emergencies or situations where only one acceptable supplier historically could meet the required project timeline;
- Structuring the terms of payments for projects to protect PSE and allow the work to be done in a timely manner with required quality (e.g., milestones, progress payments, retention);
- Partnering with engineering and standards to make sure that costs to purchase and maintain equipment factor in appropriate technical specifications; and
- Continuous improvement through research and benchmarking of procurement best-practices through external professional resources such as the Procurement Strategy Council of the Corporate Executive Board, the Institute for Supply Management, and the Utility Purchasing Managers Group.

ii. Increases in Labor Costs

Q. Can you please provide examples of PSE's increase in labor costs?

A. Yes. As shown by the below pie chart, approximately three-quarter of PSE's O&M budget is driven by labor and the cost of outside services, which are typically contractors performing work on behalf of PSE, whose costs are also driven extensively by labor cost impacts.



1
2
3
4
5
6
7
8
9
10
11
12

The Brattle Group construction cost report, at Exhibit No. ___(BAV-7), notes that rates for skilled craft labor predominantly used in construction are also increasing. The report further indicates that the craft and heavy construction labor costs increased 26%, or almost twice the rate of general inflation, during the period January 2001 through January 2007.

Increasing labor rates are also a contributing factor in the amounts that PSE must pay for contracted construction services, as labor costs are typically a significant component of the cost for these services. The National Association of Electrical Contractors labor rate for contractors serving PSE’s service territory has experienced journeyman lineman wage increases of 4.5% between February 2008 and February 2009 and another 3.5% on February 1, 2009.

1 **Q. Are there other factors that are driving up costs?**

2 A. Yes. The current requirements for construction, permitting and inspection, traffic
3 control, and mitigation and preventive actions to minimize soil erosion were not
4 required in original installations to the extent they are today. In recent years,
5 federal, state and local jurisdictions have increased their permitting requirements,
6 raised their inspection fees, imposed work hour restrictions and added new traffic
7 control plan and paving requirements.

8 **2. Vegetation Management**

9 **Q. Please provide a summary of PSE's various vegetation management**
10 **programs and cycles.**

11 A. PSE's vegetation management activities include the following:

- 12 • Transmission System: Using aerial and ground inspection techniques,
13 PSE inspects approximately 320 miles of transmission lines annually. As
14 needed, PSE performs planned and follow-up maintenance on an annual
15 basis.
- 16 • High Voltage Distribution System: PSE inspects 1,840 miles of 55 and
17 115 kV lines annually. The purpose of this activity is to remove hazard
18 trees, perform planned maintenance, perform mid cycle pruning on trees
19 that exceed normal growth rates, and respond to customer concerns.
20 Planned Maintenance of 1,840 miles of 55kV and 115kV overhead
21 conductor is performed on a three-year cycle.
- 22 • Distribution System Vegetation Management: PSE has 10,500 miles of
23 overhead distribution system. The maintenance cycles for this portion of
24 PSE's system vary between a four and a six-year cycle. Mid cycle
25 activities include pruning, herbicide applications, and responding to
26 customer concerns.

- 1 • TreeWatch: PSE's TreeWatch activity is intended to remove and prune
2 hazard trees that are off PSE's right-of-ways and threaten the overhead
3 conductors.
- 4 • Right-of-Way Management: In addition to its primary vegetation
5 management activities, PSE also secures and maintains its cross-country
6 rights-of-way routes and performs access and road maintenance.

7 **Q. Given that vegetation plays a significant role in system reliability, has PSE**
8 **taken the initiative to evaluate the effectiveness of its vegetation management**
9 **program?**

10 A. Yes, PSE regularly reviews the effectiveness of its vegetation management
11 programs. Recently, Ecological Solutions Incorporated ("ECI") performed a
12 comprehensive review of PSE's vegetation management programs on both
13 distribution and transmission circuits. See Exhibit No. ___(BAV-8) for the final
14 report, dated March 2009.

15 **Q. Did ECI make any conclusions or recommendations about PSE's vegetation**
16 **management program?**

17 A. ECI concluded that virtually no reliability improvements are available through
18 more frequent pruning. Current trim cycles are adequate and outages from tree
19 growth into the conductors are low. ECI concluded that any improvements to
20 reliability will need to be obtained by limiting the potential for trees to fall into
21 the conductors and the majority of the improvement will come from limiting trees
22 outside of the rights-of-ways from falling into the electrical system.

1 **Q. What conclusions were made, if any, about the funding levels for the**
2 **vegetation management program?**

3 A. The study showed that PSE's vegetation management is adequate in that outages
4 from growth into PSE's conductors are low. However, the funding required to
5 address outages from trees outside of the right-of-way has become inadequate and
6 should be increased. Furthermore, more funding than the current TreeWatch
7 funding of \$2 million per year will be needed to remove hazard trees from the
8 area outside the rights-of-way if PSE is to achieve any significant reduction in
9 hazardous tree related outages.

10 **Q. What unique challenges do off right-of-way trees present to PSE's**
11 **TreeWatch vegetation management program?**

12 A. Because off right-of-way trees are located on private property, PSE has no
13 inherent right to remove those trees. Increasingly, PSE finds that property
14 owners, local jurisdictions, and community groups oppose wholesale removal of
15 trees. Negotiating with these various stakeholders substantially increases the
16 time, complexity, and cost of removing these trees.

17 **Q. Has PSE launched initiatives to get access to trees outside of its right-of-way?**

18 A. PSE has and is working on various legislative initiatives to strengthen a utility's
19 ability to gain access to trees outside of right-of-way areas. Some of PSE's
20 activities include:

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

- Participation in a Work Session with the Washington State House of Representative Technology, Energy and Communications Committee to address key policy issues relating to vegetation management near electric utility corridors.
- Participation in a follow-up round table discussion meeting to further discuss items from the work session.
- Working with other electric utilities to introduce legislation to amend RCW 64.12.035 (Cutting or removing vegetation-Electric utility – Liability – Definitions) in the 2009 legislative session.
- Participation as the utility representative on the Evergreen Communities Partnership Task Force, which through the Evergreen Communities legislation (passed by the Legislature in 2008 session) will create model tree ordinances for cities and counties in Washington. Work is being done to assure “Right Tree Right Place” philosophy is followed, and that trees left during development will be healthy long term viable, not the current trend of “unhealthy buffers”.

Q. How does PSE compare with other Northwest utilities for tree exposure?

A. ECI's evaluation determined that PSE's transmission system tree exposure risk is substantially greater than that seen at some other Northwest utilities due to the height and density of the forested areas in PSE's service territory compared to other utilities.

Q. What actions is PSE considering as a result of the study?

A. PSE is evaluating increasing the frequency of hazard tree patrols along transmission lines of 55 kV and greater. Further, PSE will be looking into the feasibility of removing identified hazard trees located within 30 feet of a transmission or high voltage distribution conductor. As discussed previously, identification and removal of these additional hazard trees adds cost and

1 complication to the vegetation management program due to the fact that most of
2 these trees are on private property.

3 **Q. Do you expect that vegetation management costs will level off or decrease in**
4 **the future?**

5 A. No. Vegetation management activities and costs are not going away. They will
6 increase with the cost of labor, with the ongoing expansion of development into
7 forested areas, and to improve customer reliability and quality of service. As
8 noted above, PSE is currently evaluating additional strategies to address more
9 aggressive vegetation management strategies.

10 **B. Improving Storm Preparedness**

11 **Q. Please describe PSE's efforts to improve storm communication processes.**

12 A. Immediately following PSE's December 2006 storm events, the Company
13 engaged in a comprehensive effort to review its storm responsiveness and to
14 discover and implement a number of improvements to its processes and
15 communications protocols. This review revealed that customers highly value
16 receiving timely communications regarding the expected overall duration of
17 storm-related outages and any local or area-specific restoration information.

18 PSE is committed to delivering the following storm communications milestones
19 to its customers:

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

- Within 24 hours of the event, PSE will provide a general service-area wide “characterization” of the storm (e.g., the expected overall duration of significant outages (in days), areas expected to take the longest to restore);
- Within 48 hours of the event, regional estimated restoration times by county or regional area will be provided to customers both on PSE’s website and through its Access Center; and
- Within 72 hours of the event, area-specific restoration times will be provided on a sub-county and sub-regional level (e.g., “North Bellevue”, “East Snoqualmie Valley”). During this time period, PSE will attempt to move to providing the most granular information possible.

Q. Has PSE evaluated the ability of its electric system to withstand storm events?

A. Yes. In 2007 PSE contracted with KEMA consultants to evaluate “Storm Hardening” techniques for its electrical distribution system. In 2008, PSE retained KEMA to assist in developing a damage assessment strategy based on historical data (system damage, weather, restoration times, etc.) to further enhance PSE's ability to provide early restoration estimates. Additionally, KEMA was tasked with examining leading damage assessment practices in the industry in modeling storm damage and corresponding restoration time estimates. KEMA completed its survey and provided PSE a report in May 2008. In general, the results of the survey affirmed that PSE’s current damage assessment practices are valid based upon the current outage technologies PSE utilizes.

Through training, damage assessors are now made aware of PSE’s commitment to provide Company-wide and regional estimates to customers by the 24, 48, and 72 hour time frames. They are also made aware of their role and how it fits into

1 determining these estimates. These efforts are aimed at providing better
2 information on restoration times to PSE's customers so they can plan accordingly
3 for dealing with extended outage events.

4 Additionally, PSE is currently determining whether to invest in a Geographical
5 Information System and Outage Management System ("OMS") that could further
6 aid in outage identification and restoration, as well as provide additional methods
7 for keeping customers advised of restoration efforts and estimates.

8 **Q. How has PSE enhanced its organization and training to address the KEMA**
9 **recommendations?**

10 A. PSE has made several enhancements to the storm training process. As part of
11 normal emergency response processes training, an additional orientation was
12 completed for storm personnel (e.g., damage assessment). In addition, four mock
13 storm/emergency communication exercises were also conducted. PSE also hosted
14 2008 "pre-winter storm" meetings in late-September to mid-October with eight
15 county emergency management agencies to explore opportunities for further
16 collaboration during major events. PSE's electric first response supervisors as
17 well as Potelco operating base managers participated in these county agency
18 meetings, to ensure contact information is shared between all parties. Topics of
19 the presentation included information on PSE's storm planning, employee storm
20 training, mock exercises, lessons learned from the December 2006 windstorm,
21 actions taken as a result of the KEMA recommendations and the Governor's After

1 Action Review. Meetings were held in Whatcom, Skagit, Island, King, Pierce,
2 Thurston, Jefferson, and Kitsap Counties.

3 For the 2007/08 storm season, PSE documented its Local Area Coordination
4 ("LAC") and Transmission Restoration Team plans and inserted them into
5 Emergency Operations Center and Operating Base Plan documents. Preliminary
6 LAC sites have been identified and associated resource plans completed. PSE
7 contracted with Base Logistics (the leading provider of logistics management
8 during Hurricane Katrina with a depth of expertise in this category) to provide
9 documented process flows, logistics vendor management and contacts, and site
10 plans for regional staging areas as well as LAC sites.

11 **Q. Has PSE improved customer and stakeholder communication for major**
12 **storm events?**

13 A. Yes. For the 2008/09 storm season, PSE enhanced a Web-based Service Alert
14 Map display (www.PSE.com) that is available during Level 2 and 3 events to help
15 communicate the overall outage impact and restoration progress across PSE's
16 service area.

17 PSE also implemented improved community messaging through its local carrier
18 phone network. The plan uses Qwest's (local carrier) EZ Route Interactive Voice
19 Response Unit ("IVRU") in conjunction with PSE's IVRU to route overflow
20 callers to a recorded message with information specific to their community based
21 on their automatic number identifiers ("ANIs") (for PSE's IVRU) or zip code (for

1 Qwest IVRU). Customers will have the opportunity to be re-routed back to PSE
2 if they wish to speak to a live representative. The Community Messaging System
3 was placed into operation in May 2008.

4 **Q. What steps does PSE take to prepare in advance of expected storm events?**

5 A. Following the Hanukah Eve storm of 2006, and based on recommendations from
6 the KEMA report, PSE began pre-positioning damage assessment and restoration
7 crews in advance of expected wind events based on weather forecasts and storm
8 advisories issued by the National Oceanic and Atmospheric Administration
9 ("NOAA"). PSE proactively prepares for storms by staging material (storm kits)
10 and arranging for additional crews in advance of the event. For example, in 2008,
11 in response to several NOAA advisories in December, PSE pre-positioned eight
12 tree crews and 17 foreign line crews and reserved an additional 20 foreign line
13 crews for use if needed.

14 **Q. What are the advantages of preparing for storms in advance?**

15 A. While there is a cost exposure to this proactive approach to storm preparation, the
16 associated premium is worth the cost. By pre-positioning crews in anticipation of
17 major storms, PSE can respond more quickly to restoration efforts as soon as the
18 winds subside, rather than waiting for damage assessors to determine the extent of
19 damage received and then ordering crew resources to respond from outside PSE's

1 service territory. Another advantage is that PSE can provide more timely and up-
2 to-date communications with customers.

3 **C. Improving Customer Information Tools**

4 **Q. Please describe PSE's efforts to improve customer information tools.**

5 A. As part of its storm communications efforts described above, PSE has improved
6 its website to provide customers current information regarding storm restoration
7 efforts. For instance, customers can view a detailed PSE service area map that
8 indicates estimated restoration time for their location.

9 PSE has steadily expanded its online tools to meet evolving customer needs and
10 interests. The Company has offered customers online access to their accounts
11 since 2000, when PSE started automating more than 1.6 million natural gas and
12 electric meters. With an inserted Automatic Meter Reading ("AMR") Module,
13 the meters record energy-use data daily and provide customers with access to
14 information about how much energy they use every day. In 2005, the utility
15 expanded this service with MY PSE Account, which allows customers to sign up
16 online to view and pay their bills electronically. As of December 2008, nearly
17 400,000, or a quarter, of all PSE customers now access the Web to track their
18 energy use, view their statements and pay their monthly utility bills online.

19 Twice as many PSE customers during the winter months use the utility's bill
20 analysis tool to take energy-saving measures; a steadily growing number go to

1 www.PSE.com year-round to manage their account and pay their monthly electric
2 and natural gas utility bill. In fact, during 2008 PSE has experienced considerable
3 growth in new sign ups for Web services, with nearly 100,000, or a 25 percent
4 jump, in the number of customers choosing online transactions. The current
5 economic slowdown may be among several factors motivating PSE's customers
6 to seek convenience and savings by reviewing and managing their bills online;
7 however, in looking toward the future, PSE expects the demands for customer
8 information will not decrease, but instead will increase resulting in an increase in
9 costs to provide the service.

10 **D. Improving the Billing and Metering Performance Process**

11 **Q. Please provide an overview of PSE's efforts to improve the billing and**
12 **metering performance process.**

13 A. The Company has been successful in its efforts to improve customer billing and
14 meter performance processes. PSE currently has approximately 1.8 million
15 natural gas and electric automated meters in service. While these automated
16 meters have benefits to customers, there are also some associated challenges. For
17 example, a key challenge has been meter problems – and resultant back billing
18 issues – related to the AMR technology.

1 **Q. Has PSE identified the primary meter and operational issues that give rise to**
2 **meter problems and the issuance of retroactive bills?**

3 A. Yes. A fraction of a percent of the 1.8 million automated meters currently give
4 rise to the Company's retroactive billing challenges resulting in customer
5 complaints. PSE has identified the primary meter and operational factors that
6 give rise to these issues, such as: (1) a “stopped meter” where a meter or AMR
7 module has stopped reading usage, but has not been replaced or repaired; (2) a
8 “lost meter” where a meter is transmitting usage properly yet a proper associated
9 account in PSE’s billing system is absent; (3) an “Unidentified Energy Usage”
10 account where there is no customer specific information for a meter location; and
11 (4) a “meter mix” where a meter is assigned to the wrong customer account.

12 **Q. What is PSE's timeframe for resolving these meter and retroactive billing**
13 **issues?**

14 A. The Company and the other parties reached a Partial Settlement in PSE’s 2007
15 general rate case, Docket Nos. UE-072300 and UG-072301 that includes an
16 agreement that PSE implement an operating standard to identify and resolve
17 existing and future meter problems and resulting retroactive billing problems.
18 The agreement, termed the “Meter and Billing Performance Plan” includes a
19 phase-in period, quarterly reporting requirements, a ratemaking adjustment to
20 revenues in the 2007 general rate case, and performance standards for identifying

1 and resolving meter-related problems. This plan includes the following
2 commitments:

- 3 • For natural gas meters, PSE will resolve identified potential gas meter and
4 billing problems for each monthly vintage within four months of
5 identification and 75% will be resolved within two months of
6 identification.
- 7
- 8 • For electric meters, PSE will resolve identified potential electric meter and
9 billing problems for each monthly vintage within two months of
10 identification and 50% will be resolved within one month of
11 identification.
- 12
- 13 • Additionally, as of June 2008, the Company had identified potential
14 problems with 17,276 meters and has committed to resolving 100% of this
15 legacy population (as well as problems identified between July 1, 2008
16 and December 31, 2008) by June 30, 2009.
- 17

18 **Q. Has PSE made any significant progress in meeting these commitments?**

19 A. Yes. PSE has seen significant progress in implementing new operating
20 procedures to address and resolve these meter and retroactive billing issues. For
21 example, by mid-October 2008, PSE met and exceeded the initial goal of
22 completing 75% of the legacy population, which was not required to be met until
23 December 31, 2008. As of December 31, 2008, 93% of the legacy group was
24 complete.

25 **Q. Did PSE add resources to help resolve these meter and retroactive billing**
26 **issues?**

27 A. Yes. PSE conducted an assessment to identify staffing shortfalls and to determine
28 the appropriate staffing levels to meet the ongoing meter and billing standards.

1 The results of this assessment indicated that PSE would need an additional 24
2 customer service positions and 44 field positions to deliver the standards. As of
3 December 8, 2008, all 68 positions were filled.

4 **Q. Do PSE's customers benefit from the automated reading system?**

5 A. Yes. PSE receives approximately 1.8 million daily energy consumption reads
6 from the meters as well as 15 minute load profile data from approximately 6,800
7 meters. This information is beneficial to customers as it allows customers easier
8 and quicker access to billing and metering information and also allows PSE to
9 respond more quickly to outages. For example, the information received from the
10 automated meter reads is available for both load research and customer
11 presentment at www.PSE.com links entitled "My PSE Web Page for Residential
12 Customers" and "Energy Information Service for Commercial/Industrial
13 Customers". These on-demand meter reading capabilities allow a customer to
14 request and collect a current read (within the past five minutes). Furthermore,
15 automated meters immediately report preliminary indication of power outages,
16 prior to a customer call. This allows an earlier indication of outages so that PSE
17 can more quickly deploy restoration staff. It also provides a greater ability to
18 troubleshoot and track field metering problems.

19 ///

20 ///

21 ///

1 **E. Improving New Customer Construction Services**

2 **Q. Please describe PSE's efforts to improve service related to new service**
3 **connections.**

4 A. A partial summary of PSE's Customer Construction Services ("CCS") service
5 improvement accomplishments includes the following:

- 6 • PSE has enhanced its website to increase customer usability and
7 functionality. An example of a recent service enhancement provides
8 customers with electronic versions of service application forms that will
9 allow customers to complete them in a "fill-able PDF" manner as opposed
10 to hand or type written.
- 11 • PSE is in the process of implementing a new customer construction
12 project status tracking system. This system is intended to provide
13 customers improved tracking and visibility into construction project
14 milestones and schedules.
- 15 • PSE remains involved in local Builder Associations throughout PSE's
16 service area. This involvement provides opportunities for PSE to obtain
17 feedback from the local builder community and further educate builders
18 on PSE's CCS process. PSE believes that further education will provide
19 builders with the tools and information to facilitate more effective and
20 efficient service connections, which will ultimately reduce the costs of
21 service connections both to the customer and to PSE.
- 22 • PSE has distributed its "Builder News" publication to over 3,000 entities.
23 This publication typically provides information on topics such as PSE's
24 construction standards, procedure or tariff changes, energy efficiency, and
25 build-green programs.

26 ///

27 ///

28 ///

1 **Q. Have PSE's customer's seen a benefit as a result of the above initiatives and**
2 **programs?**

3 A. Yes. PSE has reduced the 12-month average connection time (from first request
4 to project completion) for electric and gas complex projects by an average of
5 approximately 16%. In addition, in December 2008, PSE received improved
6 overall CCS satisfaction scores 11% over December 2007 levels.

7 **III. QUALITY OF SERVICE**

8 **Q. Please describe how PSE monitors the quality of service it provides.**

9 A. System performance is monitored during normal and adverse conditions to
10 determine various reliability and utilization metrics. These metrics can be placed
11 in three broad categories: safety, compliance and reliability.

12 A. **Safety**

13 **Q. How is safety a part of PSE's daily operations?**

14 A. Safety is of paramount importance to PSE. PSE continues to strengthen its
15 culture of safety and compliance by focusing on the safety of the community at
16 large, the safety of the Company's employees, and the safe and reliable operation
17 of its energy distribution system. PSE accomplishes this through embedding
18 safety throughout its comprehensive standards manuals and operating practices.

1 **Q. How does PSE’s employee safety performance measure against other**
2 **utilities?**

3 A. PSE is currently among the top third of 14 peer companies (very large
4 combination utilities) in the Natural Gas Utility and Transmission Industry
5 Occupational Injury and Illness Statistics as reported by the American Gas
6 Association. More importantly, over the last three years, PSE has improved its
7 safety performance from the 3rd quartile to the 2nd quartile. In its quest for
8 continuous improvement, PSE has targeted moving into the top quartile, or an
9 additional 4.5% improvement over the next five years. To support this goal, PSE
10 has recently implemented leading indicators of safety performance by reporting
11 near miss events to raise awareness of employee safety risks.

12 **Q. What steps does PSE take to manage external risks to its energy delivery**
13 **system?**

14 A. One of the major external risks PSE faces is the potential for damage by others
15 working in the vicinity of its facilities. PSE routinely responds to over 300,000
16 annual requests for “locates” of its gas and electric facilities. In an attempt to
17 mitigate risks, PSE presents damage prevention messages to the excavating
18 community at numerous individual and group gatherings each year. PSE also
19 continues to actively participate in damage prevention activities at a regional
20 level, including with the Underground Utility Locating Center, Washington
21 Utility Coordinating Council and local utility coordinating councils. PSE's efforts

1 in this area show significant improvement. Over the five year period, 2004 to
2 2008, PSE saw a 10% increase in the number of locate requests, and a 26%
3 decrease in the number of damages sustained to its system. The Company's
4 education and outreach efforts have resulted in improved safety to the public.

5 **Q. Are there other actions taken that address public safety risks?**

6 **A.** Yes. As noted above, on the gas side of PSE's operations the Company continues
7 to actively replace infrastructure that is reaching the end of its useful life. PSE's
8 bare steel replacement program and wrapped steel service assessment program are
9 just two examples of these types of programs. On the electric side, PSE's focus is
10 on hardening the system to withstand abnormal events such as storms, tree and
11 animal intrusions, and failures of aging infrastructure. While the primary benefit
12 may be seen as a reliability improvement, the additional benefit of increased
13 safety to the public should not be ignored.

14 **Q. Does PSE work with emergency service providers in the community to**
15 **increase safety?**

16 **A.** Yes. In its ongoing partnership with emergency first response personnel (fire,
17 police, and medical), PSE conducts training sessions to help familiarize
18 emergency personnel with PSE's system, the products the Company transports,
19 and its capabilities. These sessions help to promote safety as well as help to
20 improve PSE's working relationship with emergency first responders.

1 Additionally, PSE meets regularly with the local emergency operations centers
2 and participates in several emergency management organizations and task forces
3 in all nine counties.

4 **Q. Does PSE provide educational and other outreach activities to other**
5 **segments of the community?**

6 **A.** Yes. PSE provides public education through a number of avenues. To school
7 aged children, PSE provides classroom materials on electric and natural gas
8 safety. To its customers, PSE provides regular educational materials on the safe
9 operation of electric and natural gas equipment, how to recognize unsafe
10 conditions, and who to contact in the event of an emergency. To the public at
11 large, the Company provides educational material on recognizing natural gas
12 leaks and who to contact; safety messages regarding the safe operation of portable
13 generators and heating devices to avoid carbon monoxide poisoning; and a
14 widespread publication of the “call before you dig” message, to name a few.

15 **B. Compliance**

16 **Q. What is compliance and what general efforts has PSE made to maintain and**
17 **improve compliance?**

18 **A.** Compliance is the state of being, or the process of becoming, in accordance with
19 established guidelines, specifications, mandated regulation or legislation. From a
20 utility standpoint, compliance is important because, for example, it allows the

1 Company to demonstrate that it is maintaining a safe and reliable system. Overall
2 gas and electric compliance and safety improvement are integral and ongoing
3 components of PSE's annual performance goals, the goals of its service providers
4 and the performance appraisals and compensation of individual employees,
5 including management.

6 PSE is constantly looking for ways to enhance safety and support regulatory
7 compliance. In September 2007, PSE re-organized its compliance and safety
8 organizations. As part of this reorganization, the Company added safety
9 compliance personnel, separated standards efforts from compliance efforts and
10 separated gas compliance from electric compliance. The Director of Compliance
11 and Safety now reports directly to PSE's Executive Vice President and Chief
12 Operating Officer. The Compliance and Safety Team works closely with all areas
13 of Operations so that gas and electric transmission and distribution systems are
14 designed, built, operated, inspected and maintained in a safe and reliable manner
15 that is compliant with state and federal regulations. PSE has implemented
16 internal corporate ethics and compliance training, as well as other safeguards to
17 promote regulatory compliance. Another new process is PSE's Executive
18 Systems Integrity Committee ("ESIC"), comprised of key leaders within the
19 Company. The ESIC reports to the Company's Board of Director's Governance
20 Committee on a regular basis so that systems integrity remains a Company
21 emphasis. A copy of an organization chart for PSE Operations is attached as
22 Exhibit No. ___(BAV-9).

1 **Q. What compliance standards apply to PSE?**

2 A. Federal and state gas pipeline safety regulations mandate operational and
3 maintenance activities for gas facilities and PSE is subject to penalties if it fails to
4 comply with these standards.

5 As for PSE's electric facilities, the Federal Energy Regulatory Commission
6 ("FERC") has the power to approve reliability standards and assess penalties and
7 sanctions when users, owners and operators of the bulk-power system (such as
8 PSE) do not comply with those standards. FERC certified the North American
9 Electric Reliability Corporation ("NERC") as the Electric Reliability Organization
10 to oversee the reliability of the U.S. portion of the North American bulk-power
11 system. NERC also works with eight "Regional Entities" as part of its regulatory
12 duties and has delegated portions of its compliance and enforcement authority to
13 them. PSE, by virtue of its location and service territory in the Western United
14 States, is under the compliance and enforcement authority of the Western
15 Electricity Coordinating Council ("WECC").

16 In addition, PSE is governed by, and complies with, WAC 296-45 and WAC 296-
17 24, which regulate employee workplace safety and personal protective equipment.
18 These regulations are enforced to protect the workforce and mitigate potential
19 workplace hazards to the extent possible. Employees are expected to follow these
20 rules in order to perform their work with the greatest degree of safety possible.

1 **Q. Are there specific NERC standards that are applicable to PSE?**

2 A. Yes. PSE is registered with NERC for those functions that PSE performs as an
3 owner, operator or user of the bulk-power system. For example, PSE is registered
4 for 12 out of a possible 15 functions. These include: Balancing Authority,
5 Distribution Provider, Generation Operator, Generation Owner, Load Serving
6 Entity, Planning Authority, Purchasing-Selling Entity, Resource Planner,
7 Transmission Operator, Transmission Owner, Transmission Planner, and
8 Transmission Service Provider. The NERC standards are written such that they
9 apply to one or more functions. Any entity that registers as performing that
10 particular function is then automatically and by federal law required to comply
11 with the reliability standards and requirements associated with that function.

12 **Q. How many standards are there and when did they become effective?**

13 A. As of June 18, 2007, NERC had 83 standards applicable to PSE and by June 4,
14 2008, the number of approved standards had increased to 142. These standards
15 comprise over 1,000 requirements and sub-requirements and PSE must be able to
16 document compliance with them. The standards address various aspects of the
17 operation and planning of the bulk-power system such as: real-time transmission
18 operations, balancing load and generation, emergency operations, cyber security,
19 vegetation management, disturbance reporting, connecting facilities to the grid,
20 certifying load office system operators, and personnel training.

1 **Q. Have these new compliance requirements resulted in an increased cost to**
2 **PSE?**

3 A. Yes. In previous years, PSE had seen an increase in the cost of meeting
4 compliance requirements in the gas delivery system as both the federal and state
5 gas pipeline safety regulations had been expanded to mandate more operational
6 and maintenance activities. PSE modified its operational and budgeting structure
7 to accommodate these regulatory requirements. In 2008, PSE's operating costs
8 were primarily impacted by increased regulation by FERC, NERC and WECC.
9 For example, in general the electric transmission infrastructure and equipment to
10 which the NERC Reliability Standards apply are all facilities operating at greater
11 than 100kV. Traditionally, PSE considered transmission to be 230 kV and
12 above. NERC's definition of the transmission or Bulk Electric System expanded
13 the field work, process, and documentation structures previously in place. The
14 new standards also require PSE to develop and maintain a
15 Transmission Maintenance and Inspection Plan ("TMIP"), which impacts relay
16 packages that include equipment such as batteries, relays, and dc circuitry.
17 Maintenance and inspection must be preformed based upon the specific NERC
18 requirements and PSE's documented schedule and process. Failure to perform
19 and document inspection and maintenance can result in a violation and penalty.

20 ///

21 ///

1 **Q. Are the NERC standards continuing to evolve?**

2 A. Yes. The standards are in a continual state of development and refinement which
3 means PSE's compliance program must also be in a continual state of
4 development and refinement. Over the last year, PSE has worked to comply with
5 the new Critical Infrastructure Protection ("CIP") standards that became effective
6 for PSE on June 30, 2008 and another subset of the standards that become
7 effective on June 30, 2009. The effective dates mark the timeframe that
8 sanctions and penalties can be assessed for violations. PSE has developed over
9 100 plus processes, procedures, policies, methodologies and technological
10 solutions to meet the CIP standards. These actions take significant effort to
11 initiate, but even more to provide on-going adherence through proper
12 training, oversight testing and documentation to prove compliance. PSE is an
13 active participant in working groups, Compliance User's Groups, and industry
14 peer and auditor discussions, which keep PSE aligned with how compliance with
15 these standards is measured and audited.

16 **Q. How does PSE verify its compliance with the NERC reliability standards?**

17 A. All registered entities such as PSE are audited on-site for compliance every three
18 years by a team of WECC and NERC auditors. PSE's first compliance audit took
19 place in November 2007. In addition to the on-site audits, there are random spot-
20 checks where WECC notifies PSE to provide documentation of its compliance
21 with a selected standard or standards within 30 days of being notified; self-

1 certifications where a PSE manager, director and senior officer each self-certify in
2 writing to be in compliance with designated standards and requirements for a
3 specified time period (such as a month, a calendar quarter, or the entire preceding
4 calendar year); and self-reports where PSE self-identifies a potential violation and
5 formally reports it to WECC along with a prescribed mitigation plan to correct the
6 violation. Submitted mitigation plans may require monthly or quarterly progress
7 reporting depending upon the mitigation timeframe allowed by WECC.

8 **C. Reliability**

9 **Q. How did PSE's electric system perform during 2008 with regard to outage
10 frequency (the System Average Interruption Frequency Index ("SAIFI"))?**

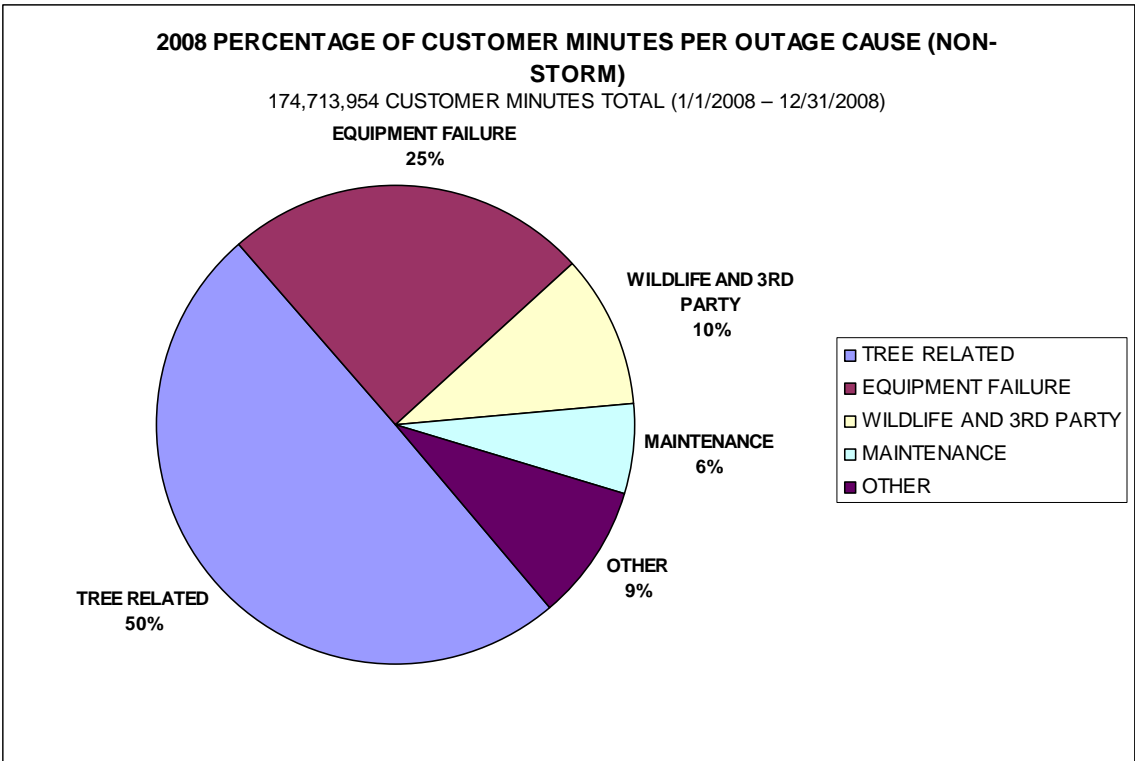
11 A. In 2008, PSE's SAIFI performance was 1.01 interruptions per customer, which
12 met the established Service Quality Indices ("SQI") benchmark of 1.3
13 interruptions per year per customer. For the past 10 years, PSE's performance has
14 been better than the SQI benchmark.

15 **Q. How did PSE's electric system perform during 2008 with regard to outage
16 duration ("SAIDI")?**

17 A. PSE's 2008 SAIDI performance was 163 minutes, which did not meet the SQI of
18 136 minutes of outage duration per customer, per year. While PSE missed the
19 overall SQI target, the average customer outage duration was reduced in 2008 by
20 four minutes over PSE's 2007 performance. SAIDI is predominantly influenced

1
2
3
4
5
6
7
8
9

by damage to the system by vegetation (trees) and wind. Seventy-five percent of PSE's transmission and high voltage distribution system is exposed to trees. This exposure includes large, tall trees that are off PSE's rights-of-ways, but that could hit a conductor if the tree breaks or topples by a storm or other cause. Equipment failure, the second largest contributor to SAIDI, is often also caused by tree limbs and branches that come in contact with PSE's distribution system and cause fuses to open. Nearly 40% of the outages classified as equipment failure are due to the proper operation of fuses. A summary of causes for non-storm outage minutes in 2008 is included below:



10

1 **Q. What are some additional challenges that PSE faces in regard to outage**
2 **durations?**

3 A. Outage response can be complicated by many factors, including response times of
4 both PSE's first and second responders due to increasing traffic congestion in the
5 Puget Sound region. Although the Company has consistently met SQI 11
6 (Electric First Response within 55 minutes), traffic congestion continues to be a
7 challenge that must be actively managed by prudent resource staffing and crew
8 placement within the service territory. In addition, as PSE's system grows both in
9 size and complexity, the impact of operational safety requirements can increase
10 restoration times. The Company is also seeing an increase in the number of net-
11 metering customers who provide small-scale power generation (e.g., solar or wind
12 power) that supplements and/or back feeds PSE's system. When troubleshooting
13 outages that occur on circuits that contain net-metering customers, PSE's service
14 technicians must first locate these net-metering customers and perform lock-
15 out/tag-out procedures to properly disconnect the generators from the system
16 before troubleshooting and restoring the circuit. As the number of PSE's net-
17 metering customers increases, the time required to restore outages is expected to
18 increase.

19 ///

20 ///

21 ///

1 **Q. Does PSE anticipate additional costs to improve customer reliability?**

2 A. Yes. As noted above, PSE continues to target reliability improvements and with
3 increased customer expectations in this area, PSE anticipates that reliability
4 concerns will continue to be a cost driver.

5 **IV. PRODUCTIVITY, SUCCESSION PLANNING, AND**
6 **PERFORMANCE EXCELLENCE**

7 **Q. Mr. Valdman, you have addressed the topics of safety, reliability, and**
8 **compliance. What other topics will you address before concluding your**
9 **testimony?**

10 A. In the remaining portions of my testimony, I will discuss the productivity that
11 PSE has achieved through its service provider model, the steps that PSE is taking
12 to attract and develop its manpower resources, and how PSE's service providers
13 and employees work together to achieve performance excellence.

14 A. **Service Provider Model**

15 **Q. How has PSE historically used construction contractors?**

16 A. PSE has historically used outside contractors to complete major capital
17 construction projects, provide specialized services, and augment the internal
18 construction and maintenance workforce. For example, PSE has for many
19 decades used contractors for vegetation management, locating underground

1 facilities, gas leak inspections and gas and electric system construction. During
2 the 1990s approximately 45 percent of PSE's construction was performed by
3 outside contractors. In 2000, PSE decided to proceed with increasing the scope of
4 outsourcing construction and related services and contracts with two of PSE's
5 major service providers were executed in 2001.

6 **Q. What is the current scope of service providers and their respective costs to**
7 **PSE?**

8 A. Currently, PSE has service provider relationships with five significant
9 contractors. The work performed by these service providers includes: new
10 customer construction, second response, system operation and maintenance,
11 electric system storm restoration, system construction, natural gas leak surveys,
12 vegetation management, utility facilities location services, and street lighting
13 maintenance and construction services.

14 **Q. Have PSE's customers benefited by the decision to outsource these duties?**

15 A. Yes. PSE's customers have benefited by the decision to utilize service providers.
16 PSE assesses the value of the service provider model on both a qualitative and
17 quantitative basis. These measuring factors include: the size and stature of the
18 service providers selected, the resulting strategic alignment and seamless
19 workflow between the PSE and service provider workforces, the quality of

1 customer service and the operational efficiency cost savings achieved by entering
2 into service provider agreements.

3 PSE has selected large contractors that have national presence for the majority of
4 its outsourced work. Because of their relative size, these entities are able to
5 provide many benefits that a stand alone utility could not provide with its own
6 internal workforce. These benefits include:

- 7 • A regional pool of trained and specialized workers that can be easily
8 transported into PSE's system territory.
- 9
- 10 • A larger, national pool of trained and specialized workers that can be
11 transported to Washington for an emergency event or a unique
12 construction project that is limited to the Washington region.
- 13
- 14 • A significant inventory of specialized equipment (e.g., tracked vehicles,
15 snow cats, etc.) that would likely sit idle for periods of time, yet would be
16 required to be purchased and maintained to provide availability for unique
17 situations.
- 18
- 19 • A division of work scope that provides for "optionality" depending upon
20 operating conditions. For example, during normal operating conditions,
21 PSE is able to focus on emergency or first response service calls leaving
22 its service provider to focus on second response calls, system construction
23 and new customer construction. During periods of storm disruption the
24 two forces can act in a more coordinated fashion to meet the immediate
25 needs of the system and PSE's customers.

26 **Q. How does PSE measure and manage the performance of its service**
27 **providers?**

28 A. At the heart of PSE's service provider management efforts are its Contractor
29 Management and New Customer Construction Management departments.

30 Combined, these organizations are charged with the responsibility of managing

1 the activities of PSE's service providers as well as negotiating and administering
2 the attendant contracts. These organizations allow PSE to measure the
3 performance of its major service providers through operational metrics. In 2008,
4 the Company utilized 46 different service metrics, including metrics that measure
5 quality of work performed, budget forecasting, project scheduling, safety,
6 customer satisfaction and the like. In total, PSE's three major service providers
7 achieved over 90% of their combined metrics for the year.

8 **Q. Does PSE anticipate any changes to the service provider model?**

9 A. No, PSE does not anticipate any major changes. However, several of the master
10 service agreements have been in place for over seven years. This period of time
11 has seen significant changes in the marketplace and operational environments.
12 PSE's customers are enduring a challenging economic period that includes
13 volatile commodity costs, high unemployment rates, and capital cost impacts
14 from increasing energy demands for more reliable and better quality service.
15 Therefore, it is an ideal time to review the design of PSE's existing service
16 provider contracts. In the face of these dynamic and challenging economic
17 conditions, PSE has initiated a review of its service provider model that is
18 scheduled to be completed prior to Summer 2009. PSE's evaluation will consist
19 of:

- 20 • Benchmarking PSE's service provider performance with that of other
- 21 utility service providers nationwide;
- 22 • Evaluating PSE's service provider value; and

1 • Assessing the future value of PSE’s current service provider model.

2 **Q. Has the downturn in the economy affected PSE’s service providers?**

3 A. Yes. The downturn in the economy has affected PSE’s service providers
4 significantly. In particular, the number of permits for single family homes and
5 duplex/twin homes dropped significantly from 2007 to 2009. Given that a large
6 portion of PSE's service providers’ business is dependent on new customer
7 construction, this downturn has affected PSE's service providers’ revenue. This is
8 of particular concern given the backdrop of rising commodity and labor prices.
9 PSE's service providers have relied heavily on new business to maintain their
10 crew levels during the summer season and to achieve their financial expectations.
11 The table below illustrates both the dramatic decline in new customer
12 construction as well as the declining service provider revenues.

13 ////

14 ////

15 ////

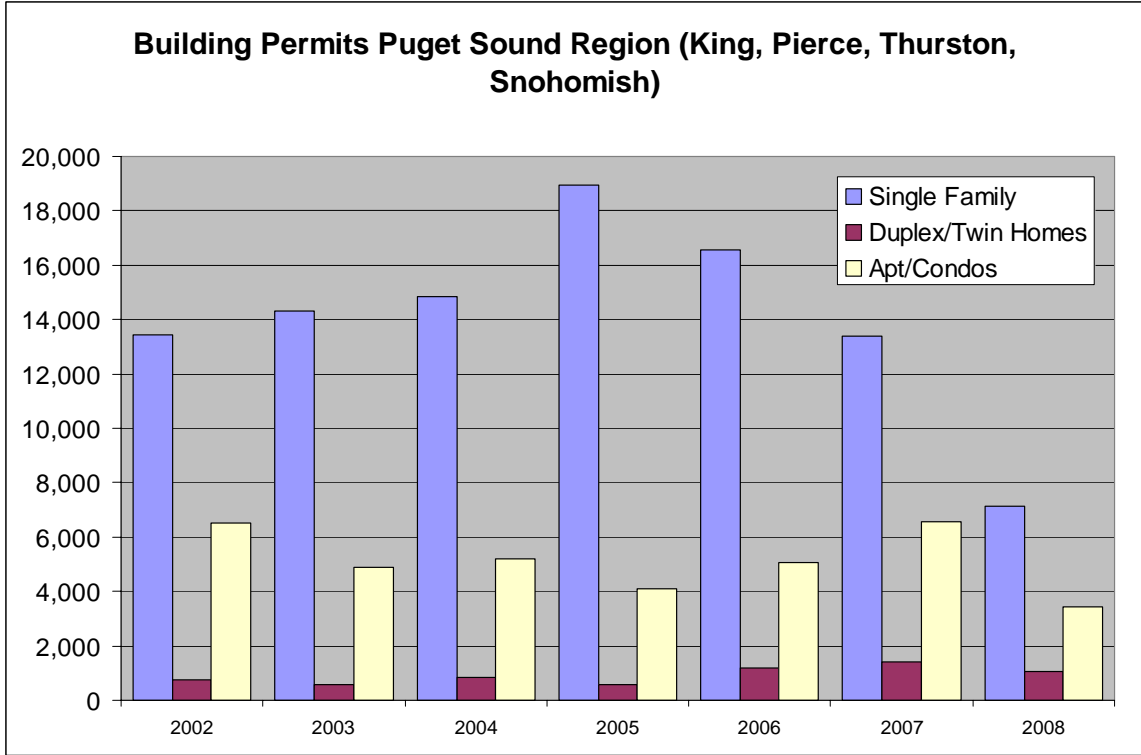
16 ////

17 ////

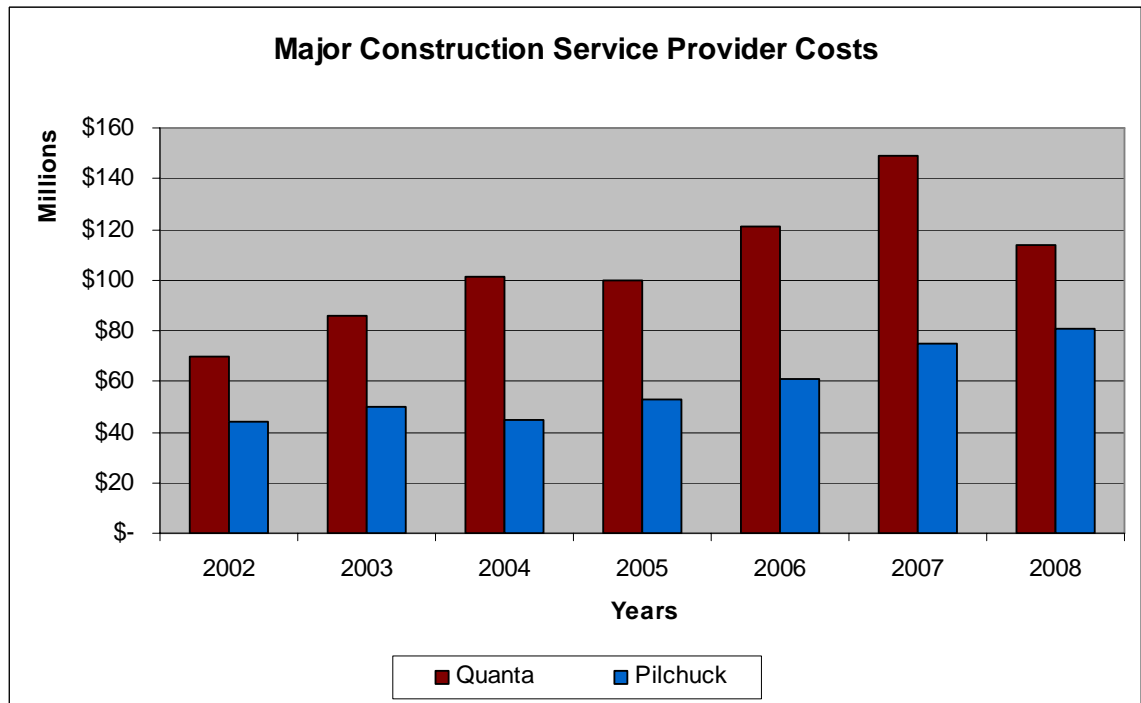
18 ////

19 ////

1



2



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

In response to the declining amount of construction activity, PSE's service providers are cutting hours or laying off management, crews and administrative support.

Q. Will these service provider impacts affect PSE's operations?

A. Although minor fluctuations in service provider personnel is to be expected and is an inherent design of the service provider model, deep reductions in crew strength constitute both an immediate and a long-term concern for PSE. There is a point at which trained service provider personnel will leave the region to search for stable employment. This potential migration could affect both PSE's ability to prepare for system restoration in the upcoming winter and the long-term pools of skilled electric crews. PSE is currently, in conjunction with its service providers, determining the critical crew levels needed to meet both the short-term and long-term restoration and operational reliability requirements. The retention of the critical skill set, irrespective of whether it is within PSE or its service providers, is necessary for the safe, sustainable, and reliable operation of PSE's system.

////
////
////
////

1 **B. Succession Planning**

2 **Q. Please describe PSE's efforts to retain, train and develop key employees**
3 **necessary for the safe, sustainable, and reliable operation of PSE's system.**

4 A. PSE has taken steps to identify and develop training strategies for key positions
5 that are core to Company operations. Further, given that retirements of skilled
6 utility workers across the United States could exceed 50% in the next five years,
7 PSE has implemented initiatives designed to help "grow our own replacements"
8 through training individuals with very little utility experience. This approach
9 reduces the need for costly and lengthy candidate searches, provides PSE specific
10 job training and increases the potential supply of workers. Key personnel areas
11 where the Company is focusing are gas workers, electrical workers, engineers and
12 its utility leaders. I will discuss the Company initiatives briefly below. For a
13 more thorough discussion of PSE's overall employee acquisition and retention
14 plans and policies, please see the Prefiled Direct Testimony of Thomas M. Hunt,
15 Exhibit No. ___(TMH-1T).

16 **Q. Please summarize PSE's needs for gas workers and what it is doing to retain**
17 **and train gas workers.**

18 A. Gas worker development is essential for PSE to be able to deliver safe and
19 effective gas service. PSE is focused on assuring it has skilled workers ready to
20 replace retiring employees and that gas workers are trained to perform safely and

1 in compliance with regulations. The Gas Operations Training Department, which
2 consists of staff from PSE and the use of the PSE/United Association of
3 Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the
4 United States and Canada ("UA") Training Trust, was formed to support this goal.
5 With the UA's investment in specialized training facilities, staff from both
6 organizations are able to provide training for PSE's gas operations organization in
7 four essential areas: operator qualification, gas worker program, mobile
8 workforce, and other operations work practices.

9 **Q. Describe PSE's needs for electrical workers and what it is doing to retain and**
10 **train electrical workers?**

11 A. PSE continues to build additional craft employees in the electric operations,
12 metering and power generation groups through five craft apprenticeship
13 programs. The apprenticeships provide training for specific crafts that do not
14 have large qualified candidate pools and have an aging workforce. These joint
15 labor-management programs are a combination of on-the-job training and
16 academic and blended learning opportunities to train craft employees to a
17 standard level of competence identified in the Apprenticeship Standards adopted
18 by the Washington State Apprenticeship and Training Council.

19 ///

20 ///

1 **Q. Describe PSE’s needs for engineers and what it is doing to retain, train and**
2 **develop engineers?**

3 A. PSE’s need for qualified engineers to support the design, construction, and
4 operation of operating systems is growing. PSE’s ability to attract and retain
5 engineering talent is very important to the Company's continuing operations.
6 PSE’s Engineer In Training ("EIT") program is designed to attract and train new
7 engineers. In this program, the engineer will rotate to learn various parts of the
8 organization before moving into a specific job, where on the job training
9 continues in a more specialized engineering area. The purpose of this program is
10 to expand the entry-level engineer's professional work experience and build
11 relationships among employees so that they can grow into assignments based on
12 PSE's needs, the candidate's skills, training, and interests.

13 **Q. What does PSE do to retain, attract and train its operations leadership?**

14 A. PSE continues to focus on building the management capability of its leadership
15 team. The large number of prospective retirements in the Company's
16 management has placed increasing importance on preparing current and future
17 leaders for greater levels of responsibility. The Company's strategy is to provide
18 the training and development needed to help managers perform effectively in their
19 jobs and to develop a “pool” of talent with the skills and desire to progress to
20 higher levels of management over time. Some of the programs and resources
21 include:

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29

- "Managing with Influence" is a three-day program for Skilled Craft Leads. In addition to introducing the participants to core supervisory skills it helps the Company identify and motivate individuals to consider progressing to the next level of management. Twenty individuals from the gas and energy generation crafts completed the program in 2008.
- "Real World Supervision" is a program that helps new supervisors quickly learn about the most important responsibilities of their new job. Core topics include performance management, team development, staffing and policy management. Fifty participants engaged in the program during 2008.
- "PSE Leader I" is a program designed to increase managerial effectiveness through self-awareness and structured development actions. Participants in the program receive extensive feedback from their manager, direct reports and peers on their managerial strengths and weaknesses. Each participant creates and executes a personal development plan with the support of his/her direct manager. Twenty participants completed the program in 2008.
- PSE's annual "management assessment and development program" is part of a broader effort to assure PSE is preparing talent to step into executive level roles. Program participants are often given new assignments to help broaden their management experience. The program further enables PSE to keep the Board Compensation and Succession Planning Committee apprised of the status of executive level talent. Ten directors participated in 2008.

Q. How have PSE's increased efforts to retain, train and develop key employees resulted in a benefit to the customer?

A. The above programs work to better equip PSE managers and leaders to create a positive work environment that retains, trains and develops key employees who in turn provide safe and reliable operation of PSE's system.

///
///
///

1 **C. Performance Excellence – Continuous Improvements**

2 **Q. What is performance excellence and why is it important?**

3 A. The Performance Excellence Team was formed by PSE in 2008. The Team is
4 charged with identifying opportunities, developing, and implementing end-to-end
5 process improvement initiatives that enhance service, reliability, and productivity.
6 The two main functions of the group are to drive sustainable process
7 improvements across the organization and to make performance visible. The
8 Team utilizes a collaborative approach between both PSE staff and service
9 providers to help improve performance in certain areas of PSE's operations such
10 as gas and electric operations, new customer connection times, timeliness of gas
11 leak repair, and KEMA storm recommendations/implementations. The Team
12 provides process improvement and root cause analysis skills development to
13 several PSE work teams and also provides rotation opportunities for PSE staff so
14 that they gain experience with, and oversee, process improvement work. As
15 noted below, these process improvements allow PSE to provide better service to
16 customers and also help to provide efficient, safe and reliable operation of PSE's
17 system.

18 **Q. Please provide an update on PSE's performance excellence efforts.**

19 A. During 2008, PSE's Performance Excellence Team saw improvements in the
20 following areas:

1
2
3
4
5
6
7
8
9
10
11
12
13

- 11% improvement in overall CCS customer satisfaction levels;
- 93% improvement in billing backlog since June 30, 2008 and reduced average age of back billing issues by 37% from June 30, 2008 to December 31, 2008;
- Nearly 200 storm operations, logistics, technology, and communication recommendations from KEMA have been put in place; and
- 85% improvement in timely gas leak repair compared to 2007.

V. CONCLUSION

Q. Does this conclude your testimony?

A. Yes it does.