EXHIBIT NO. ___(SML-1T)
DOCKET NO. UG-10___
WITNESS: SUSAN MCLAIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of **PUGET SOUND ENERGY, INC.'S** **Natural Gas Tariff Increase**	**Docket No. UG-10____**

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF SUSAN MCLAIN ON BEHALF OF PUGET SOUND ENERGY, INC.

OCTOBER 1, 2010

PUGET SOUND ENERGY, INC.

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I. INTRODUCTION AND OVERVIEW

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

A. My name is Susan McLain. My business address is 10885 N.E. Fourth Street, Bellevue WA 98004. I am the Senior Vice President Operations for Puget Sound Energy, Inc. ("PSE" or "the Company").

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

A. Yes. Exhibit No. ___(SML-2) describes my educational and professional experience.

Q. What are your duties as Senior Vice President Operations?

A. I have overall responsibility for activities associated with the planning, design, construction, operation and maintenance of PSE's gas and electric delivery systems. This includes: System Planning, Gas Operations, Electric Operations, Customer Construction Services, Project Management, Engineering and Contractor Management. Additionally, I am responsible for the selling of excess

bulk transmission services as well as purchasing, materials and fleet services for the Company.

Q. Please describe PSE's commitment to providing natural gas service.

A. For over 130 years, PSE has been providing safe and reliable natural gas service to more than 100 communities in Western Washington and parts of Central Washington.

The Company mains and service lines consist of a mixture of steel and plastic pipe in various ages and conditions. Working with the State's Office of Pipeline Safety, PSE has demonstrated a strong commitment to gas pipeline safety. Company employees and management are not simply interested in safety, but are steadfast that our actions must demonstrate that commitment. The replacement of pipe that is more prone to leakage, responding to gas emergencies in a prompt fashion, reviewing and fine-tuning standards and work practices, overseeing construction and maintenance work through quality control and quality assurance efforts, improving recordkeeping systems, learning from and acting on observations from Office of Pipeline Safety audits are all pieces of this commitment.

On average, PSE delivers more than 302 million cubic feet (MMcf) per day of natural gas through a 12,000 mile pipeline network of mains and another 13,000 miles of gas service lines. The delivery system, however, must be designed and

built for more extreme cold weather conditions – where gas throughput will exceed 800 MMcf and cold morning sendouts will exceed 165 MMcf.

Q. Please summarize your testimony.

A. I will discuss PSE's natural gas delivery operations, including:

- Factors that are impacting costs,
- Why operations and maintenance (O&M) costs and capital investments are increasing even though the economy has been in a recession,
- How technology and customer behaviors create under-recovery, and
- Steps we have taken, and are taking, to control cost escalation.

II. FACTORS IMPACTING COSTS

Q. What factors are affecting PSE's cost to provide natural gas service to its customers?

A. Several factors affect PSE's cost to provide natural gas service, including the increasing size of the natural gas distribution system, municipal and county permitting requirements, recent changing economic conditions, and pipeline safety requirements. These factors are discussed more fully in this testimony.

A. Cost impacts due to increased miles of natural gas system to maintain

Q. How has the size of PSE's natural gas system changed over the past few years?

A. The number of miles in PSE's gas system has increased over the years. For example, PSE's system of gas mains has grown from year-end 2004 to year-end 2009 by an average of 180 miles per year. All other factors being equal, adding more miles to the system increases the size of the system that must be inspected, maintained and eventually replaced, and hence increases costs.

B. Cost impacts due to municipal, county and other requirements

Q. Please describe the municipal, county and other requirements that have increased PSE's cost of natural gas construction.

A. There are a number of new municipal and county construction requirements that increase PSE's natural gas construction costs. For example, the full cost to install one foot of 4-inch diameter gas main has increased from $15 per foot in 1989 to nearly $84 per foot in 2009. This is due, at least in part, to the fact that increasingly in many jurisdictions current requirements for permitting and municipal or county inspections, traffic control plans and associated equipment, preventive actions to minimize soil erosion and the contamination of streams and drainages, and partial and, in some cases, full roadbed and paving restoration

were not necessarily required in installations twenty or in some cases even five years ago, as they are today.

To further illustrate the changes in construction practices that are often now required, Exhibit No. ___(SML-3) consists of a series of comparative photographs. Figures 3-1, 3-2 and 3-3 demonstrate how costs vary both with the location of the pipeline construction in the roadway and changing road restoration requirements. For example, in Figure 3-1 PSE was able to use the road shoulder area to replace the existing pipeline because municipal infrastructure facilities (e.g., stormwater drainage) either were not present in the shoulder area or their location did not conflict with PSE's placement of its pipeline. Thus, Figure 3-1 shows an installation which required an approximately three-foot strip of asphalt on a roadway shoulder. In contrast, Figures 3-2 and 3-3 show the installation of a new natural gas supply pipeline where the shoulder area was not available due to existing municipal infrastructure conflicts. As the Company installs or replaces more pipe in urban areas, it more often finds that the existing municipal infrastructure or anticipated municipal infrastructure plans preclude PSE from installing in the shoulder and require that construction be in the roadway. Figure 3-2 shows the installation of an approximately five-foot temporary strip of asphalt patch on a four-lane roadway, which subsequently required a full roadway (curb-to-curb) asphalt overlay (Figure 3-3) in some locations and partial overlays in other locations. The paving costs associated with the project shown in the photograph in Figure 3-1 were roughly $300,000 per linear mile as compared to

the costs of over $900,000 per linear mile for the project shown in the photographs in Figures 3-2 and 3-3.

Figure 3-4 displays the replacement of roadbed soils with materials that meet specific compaction requirements that are often mandated by the municipality or county construction permit. When specific soil materials are mandated the removal and disposal of native roadbed soils is also required. These directives result in increased roadbed restoration costs as compared to the restoration costs that were previously required.

Another construction requirement being placed on the Company by some municipalities and counties is an increase in the depth at which natural gas facilities must be installed. Figure 3-5 shows a three-foot depth installation, while Figure 3-6 shows a seven-foot depth installation. For worker safety purposes the seven-foot installation depth requires the use and continual movement of shoring and the incremental associated labor and equipment needed to periodically relocate the shoring as the project progresses.

More complex traffic control plans and additional workers often become necessary when there is additional equipment at the construction site or if PSE is required to perform work during nighttime hours. This can include off-duty law enforcement personnel or traffic control cameras and equipment that allow the municipality to manage traffic lights remotely. Figure 3-7 shows the traffic control cameras that PSE was required to install and then remove upon project

completion and demonstrates another factor that creates higher costs in the present day. In this project, traffic control camera installation and removal were required in order to secure the construction permit, and the costs were approximately $300,000. This practice is becoming a more common requirement in urban areas.

Construction permits may also require traffic mitigation in the form of dictating the times during which construction may take place. Municipal requirements are often influenced by requests from the community in which construction is taking place; e.g., keeping businesses open and accessible, minimizing construction noise, keeping traffic flowing. Figure 3-8 shows a project in which performing the work at night was a condition of the construction permit. Working at night can increase worker wage rates, and usually requires additional personnel and lighting equipment.

Finally, Figure 3-9 reflects an example of the type of actions that may be required for environmental protection in water quality and runoff shielding. In the past, an acceptable practice was to naturally filter water by discharge through a grass field or hillside. More recent regulations require a water quality treatment and monitoring system as is shown in Figure 3-9.

Q. Have construction costs also been affected by state or local construction permit requirements?

A. Yes. There have been general permit rate increases and an increasing number of PSE natural gas projects now require a permit and fee. For example, in 2006, the Department of Ecology changed the threshold for new storm water discharge requirements from five acres of work site area to one acre of work site area. Although the majority of the Company's natural gas construction projects fell below the five-acre threshold, many projects do not fall below the one-acre threshold. Therefore, an increasing number of PSE's natural gas construction projects are now subject to the storm water discharge requirements, which include obtaining a National Pollutant Discharge Elimination System (NPDES) permit, a State Environmental Policy Act (SEPA) permit, and a Shoreline Substantial Development Permit (SSDP) as well as preparing a Storm Water Pollution Prevention Plan.

C. Cost impacts due to changing economic conditions, technologies and an increase in peak natural gas demand

Q. What effect has the economic downturn had on PSE's O&M spending and capital investment in its natural gas system?

A. The recent downturn in the economy has decreased the Company's spending on construction infrastructure to serve new homes and buildings, and the Company has reduced its staffing accordingly through both attrition and layoffs. At the

same time, increases in some O&M work areas are also being driven by the economy (e.g., meter turn-on and appliance re-lights after a customer has been disconnected due to non-payment of a bill).

There are other factors that can cause both O&M and capital construction costs to be higher irrespective of the economic downturn. For example, system inspection costs are not affected by the economy as they are based upon the size of the installed system; and as I previously discussed, the size of PSE's natural gas system is increasing. In addition, increased regulatory and municipal and county compliance requirements and increases in peak natural gas demand also impact both O&M and capital costs.

Q. How do the increased peaks in natural gas demand affect capital investments in the delivery system?

A. The delivery system is, and must be, designed for anticipated peak loading so that natural gas is available for customers during all times and conditions of the year. Therefore, the PSE winter-peaking natural gas system must be designed and built to serve customers on a cold day, not on an average temperature day. Increased peak usage drives capital investment at all levels of the delivery system, and a reduction of overall usage has little impact on the delivery system unless it impacts the peak. For example, if more customers are added to a section of main such that on a cold morning the customer residences tied to that system are causing a significant drop in pressure, the Company must either shut off gas to

some customers to prevent the system pressure from collapsing or manually bypass regulators in order to get more gas through the pipe, preventing a pressure collapse. These actions increase O&M costs, while an alternative capital investment and longer term action would be to replace the existing section of main with a larger pipe in order to prevent reoccurrence.

Q. Has the Company seen a change in the peak demand for natural gas?

A. Yes. Since 2004, the Company has broken its record for sendouts on the natural gas system several times. On January 4, 2004, the Company delivered 719,000 decatherms, breaking the previous record of 698,000 decatherms set on December 21, 1998. Then on November 28, 2006, PSE delivered nearly 748,000 decatherms; followed by a 785,000 decatherm record on December 20, 2008. In 2009, PSE exceeded the 2008 record three times, setting a new record by delivering 812,000 decatherms on December 8, 2009.

Q. What is driving the increased peaks for natural gas?

A. Aside from cold weather, new customer additions continue to add to higher peak sendouts. Additionally, new consumer products, such as on-demand gas hot water heaters can add to the peak if they are used during morning peak periods. On-demand gas hot water heaters typically require larger and more expensive services per home in order for the required volume of gas to be delivered. On an annual basis an on-demand hot water heater uses less natural gas, but when it is in

operation it requires more gas than a conventional hot water heater, thus adding to the peak volumes.

Q. Excluding weather impacts, has the Company seen an increase in natural gas usage on a per-customer basis?

A. No. The amount of weather adjusted natural gas used per residential customer has declined from 975 therms in 1999 to 811 therms in 2009, an average annual decline of 1.7%. This appears to be primarily due to energy efficiency improvements in appliance technologies, changing housing characteristics (such as better insulation, windows, building code changes, etc.), and behavioral changes by customers due to PSE energy efficiency efforts and offerings and as a result of the more recent uncertain economic times.

D. <u>Cost impacts due to regulatory compliance requirements</u>

Q. Are O&M and capital costs affected by changes in regulatory compliance requirements?

A. Yes. Although a regulatory change may not always drive a change in a particular work practice, regulatory change often results in changes in record keeping, technology systems, oversight and administrative processes because the Company must be able to demonstrate compliance with the regulation. In some cases, however, the Company must also change its work practices as a result of

regulatory change (e.g., the requirement to install excess flow valves on new residential gas meters).

Additionally, regulatory compliance requirements and settlement commitments can prescribe a specific schedule for remediation or replacement of infrastructure and the Company may not be able to defer the related capital construction and O&M costs.

Q. Please provide an overview of PSE's regulatory compliance obligations.

A. The Company is subject to many and varied regulatory compliance obligations, such as federal and state gas pipeline safety regulations; accelerated pipe replacements as a result of safety commitments, some of which are through formal proceedings with the WUTC; and state and local regulations or ordinances concerning prescribed work, safety or environmental practices which influence the quantity and skill sets of workers, equipment and materials needed to perform work.

Q. Please describe PSE's efforts to improve and maintain compliance with natural gas regulatory requirements.

A. The Company takes regulatory compliance seriously and is committed to constructing, operating and maintaining safe gas delivery systems that comply with applicable regulations. Because the regulations that govern PSE's natural gas business are complex and continue to evolve, PSE compliance activities and

associated costs have increased. PSE has taken steps over the last several years to enhance, support and strengthen its regulatory compliance procedures in concert with discussions with the WUTC's Office of Pipeline Safety. Since September 2007, PSE has added safety compliance personnel and has separated its standards efforts from its compliance efforts.

PSE has implemented internal corporate ethics and compliance training, as well as other safeguards to promote employee understanding and accurate reporting associated with regulatory compliance. PSE also has an Operational Risk Oversight Committee ("OROC") which is comprised of key leaders within the Company to ensure that system integrity remains a Company emphasis.

Q. What are some of the new pipeline safety regulations that impact PSE?

A. In 2009, the Pipeline and Hazardous Materials Safety Administration ("PHMSA") issued the final Distribution Integrity Management Program ("DIMP") rule and its final regulations for Control Room Management ("CRM"). The DIMP rule requires operators of gas distribution lines to develop and implement integrity management programs for their pipeline systems in order to identify threats, evaluate risks and implement measures to reduce risks to the distribution system. The Company's DIMP must be fully developed, implemented and operational by August 2011. In 2010 the Company added staff in order to develop its DIMP.

In addition, PSE must develop a CRM plan by August 1, 2011 and fully implement that plan by February 1, 2013. PHMSA recently released a Notice of

Proposed Rulemaking which proposes expedited implementation deadlines for many portions of its CRM rules. Irrespective of the final effective date, PSE's CRM plan must define the roles and responsibilities of natural gas controllers and provide them with the necessary information, training and processes to fulfill these responsibilities as prescribed by the regulation. Based upon the new regulations, PSE will need to add three employees to allow for sufficient off-duty times to meet the regulation, and perform the ongoing alarm system analysis, examination and modification. Even though the Company's prior staffing levels have not adversely affected safety in the past, the Company is required by the regulations to make these changes.

Although the cost to comply with these two regulations is not yet fully embedded in the rates the Company is seeking in this proceeding, these regulations provide good examples of how new or more restrictive regulations impact staffing levels, the types of work performed, record keeping requirements and systems needed to meet compliance mandates.

Q. Have the overall impacts of natural gas compliance mandates resulted in increased capital costs?

A. Yes. In 2005, the Company spent roughly $21 million in investments targeted for regulatory driven compliance mandates for natural gas. In 2009, this same category of spending grew to $58 million. Although the Company would have

ultimately made many of these investments, to a large degree the ability to choose when to do so has been removed from the Company's purview.

Q. Does the Company expect ongoing high levels of capital spending?

A. Yes, although capital spending may be slightly less than would have been the case in a robust and growing economy. PSE expects high levels of capital funding will be required for the natural gas system to meet mandated infrastructure investments, eliminate localized peak capacity constraints, and address needs associated with the Company's aging system. The extent to which there are significant increases in spending will likely be driven by housing starts; additional pipeline safety and municipal and county mandates, requirements and commitments; and the Company's own findings and system assessment – all of which could affect the quantity of system to be remediated or replaced, the timing of that remediation or replacement, or the work practices that must be followed.

Q. How much capital does the Company anticipate investing in 2011 for the natural gas system?

A. Although the 2011 budgets have not yet been finalized, the Company anticipates capital spending in the following categories:

- Gas compliance and/or mandated construction (the construction of infrastructure to meet regulatory commitments and timelines, often replacing older components) approximately $53 million;
- Gas new customer construction (the construction of both main extensions and services requested by customers) – approximately $49 million;

- Gas increased capacity (the construction and/or upgrade of facilities to support current and future anticipated system demands) – approximately $10 million;

- Gas external commitments (the construction and/or relocation of facilities as required by jurisdictions as a condition of the franchise) approximately $17 million;

- Gas unplanned construction (the construction of infrastructure that fails during the course of the year) approximately $6 million; and

- Gas planned remediation/replacements (the construction of infrastructure that the company deems necessary above compliance requirements, such as additional gas gauges and SCADA points) approximately $2 million.

Q. How does capital investment affect O&M spending?

A. In certain instances capital investment has a direct effect on the Company's O&M expense. For example, when PSE installs energy delivery system assets where there were previously none, the result will be an increase in ongoing O&M expenses since the newly-installed assets will need to be inspected and maintained for compliance with regulatory requirements and for system integrity purposes.

Energy delivery system assets that are installed to replace existing assets (e.g., as part of aging infrastructure replacement programs) may result in a reduction in the ongoing maintenance costs (e.g., fewer leaks requiring monitoring). However, replacement does not always mean lower maintenance costs. For example, the replacement of gas mains and services would not eliminate maintenance since these replaced mains and services must be inspected at regular intervals or may have cathodic protection systems that can short-out due to third party interference or action. The monitoring of these cathodic protection systems to identify a

problem and its ultimate repair is not necessarily driven by age, but often by the inadvertent action of others.

In addition, increasing capital investments may generate an associated O&M expense related to the construction cost. As prescribed by Federal Energy Regulatory Commission accounting practices under the Uniform System of Accounts, when certain construction activities take place, there is an associated operations and maintenance component. For example, when an older gas main is replaced and the service lines going to residences and businesses are not replaced, the work associated with tying the existing services into the new gas main is required to be accounted for as O&M expense.

E. <u>Other</u>

Q. In the testimony of Mr. John Story, there is a $3.1 million increase from a unit cost basis for customer account expenses. What are the key elements of this increase?

A. The key elements of this increase include additional on-going meter reading expenses and the addition of customer service staffing. The customer service staffing changes resulted from the Company's meter-to-cash process review to provide more timely follow-up on meter accuracy inquiries and the addition of staffing to perform on-going customer records and collection activities associated with the current economic conditions.

III. COST CONTROL MEASURES

Q. What is PSE doing to address the cost pressures discussed in your testimony?

A. The Company has historically been very cost conscious. Managers and employees engage in process improvement techniques, participate in industry benchmarking and best practice studies, and prioritize the use of investment dollars.

Q. Has the Company taken steps to control costs over the past several years?

A. Yes. The Company created a Performance Excellence Department which focuses on process improvement techniques. Through the Performance Excellence Department, PSE has increased management and employee focus on cost control and implemented a number of process changes and new technologies which result in cost reductions or improved service levels at the same cost.

As examples, through a procurement initiative, PSE realized savings in the purchasing of goods and services, and through a natural gas operations initiative, PSE realized a reduction in Gas First Response overtime costs. In addition, PSE eliminated a number of positions which resulted in layoffs of employees in Customer Construction Services that supported new customer construction activity and in Major Projects that supported new capacity projects. The volume of work in these areas has decreased with the effects of the recession and the Company reprioritized its work accordingly. And, although almost a decade ago,

the Company outsourced repetitive construction and maintenance work, in 2010 the Company initiated a Request for Proposal process to review the value received from its primary natural gas construction service provider and to ensure that PSE construction work is being performed in both an efficient and high quality manner. The results of the Request for Proposal process are expected to be completed in early 2011.

Q. Please describe the objective of the procurement initiative.

A. The objective of the procurement initiative is to generate an aggregate savings of at least two percent on purchases of parts, material, supplies, temporary staffing, and third party services.

Q. What have been the results of the procurement initiative?

A. For the period July 1, 2009 to June 30, 2010, the Company achieved 2 percent savings, or approximately $11 million of savings on a purchasing spend of $480 million. Specific natural gas system related savings are estimated to be approximately $1.6 million during this period. Savings that are not included in the $1.6 million may be attributable to either a combination of electric and gas, as in the case of savings related to contract consolidation of crane services, or electric costs as is reflected in lower transformer pricing through contract re-negotiation.

Q. Do savings affect both O&M and capital accounts?

A. Yes, savings can affect both O&M and capital accounts. For example, the savings resulting from the purchase of a natural gas system pre-built regulator loop assembly will be realized via a lower installed cost. This savings will be accounted for in accordance with the nature of the work performed as this assembly may be used in maintenance work (O&M) or the installation of a new natural gas service pipe (capital).

Q. Please describe the objective of the natural gas operations initiative.

A. The objective of the natural gas operations initiative was to improve the timeliness of repairing gas leaks while maintaining or improving service levels.

Q. What were the results of the natural gas operations initiative?

A. The natural gas operations initiative resulted in a reduction in overtime for Gas First Response workers. For the period of July 1, 2009 to June 30, 2010, the Company achieved a 42 percent reduction in overtime labor hours, as compared to calendar year 2008. This labor hour savings equates to almost $1 million for all types of natural gas work. The O&M savings are estimated to be nearly $0.8 million and are one of several factors in the decrease in distribution expense discussed in the Prefiled Direct Testimony of John H. Story, Exhibit No. ___(JHS-1T).

Q. Was PSE able to maintain or improve Gas First Response times while achieving these labor hour savings?

A. Yes, during the period of July 1, 2009 to June 30, 2010, as compared to the period of July 1, 2008 to June 30, 2009, PSE improved its *average* response time to natural gas emergencies by nearly four percent as measured by SQI – 7, Gas Safety Response Time (average response time within 55 minutes). Additionally PSE improved the *frequency* of its on-site response to gas emergencies within 60 minutes by nearly three percentage points. In the period July 1, 2008 through June 30, 2009 the Company was able to arrive on-site to natural gas emergency situations within 60 minutes 90.9 percent of the time. In the July 1, 2009 through June 30, 2010 period the Company's response performance improved to 93.4 percent.

Q. What are the drivers of the $1.1 million decrease in distribution expenses discussed in Mr. Story's testimony?

A. In addition to the lower overtime expenditures discussed earlier, PSE is nearing completion of the O&M work related to remediation of its natural gas isolated facilities program. The objective of the program is to identify and remediate natural gas services that may be isolated from PSE's cathodic protection systems. With the near completion of this O&M work, PSE resources have been reassigned to other compliance efforts, including those focused on capital investments.

Q. You mentioned the Company reprioritized some of its work. Please describe PSE's recent reprioritization efforts.

A. In June 2010 the Company deferred approximately $18 million in natural gas infrastructure projects which were tied to expected growth in demand. As discussed previously, the Company eliminated a number of positions related to these projects which resulted in the layoff of a number of employees.

Q. Will these layoffs reduce test year or rate year O&M expenses?

A. No. The layoffs reflect PSE's decision to defer or eliminate certain planned natural gas capital projects due to the downturn in the economy and the slow pace of economic recovery. This means near-term natural gas capital spending will be lower than previously predicted while near-term natural gas O&M expense is expected to increase as a result of DIMP and CRM regulations, local jurisdiction mandates and permit increases, the overall larger size of the system requiring inspection and maintenance, and the economy.

Q. Does this conclude your testimony?

A. Yes, it does.