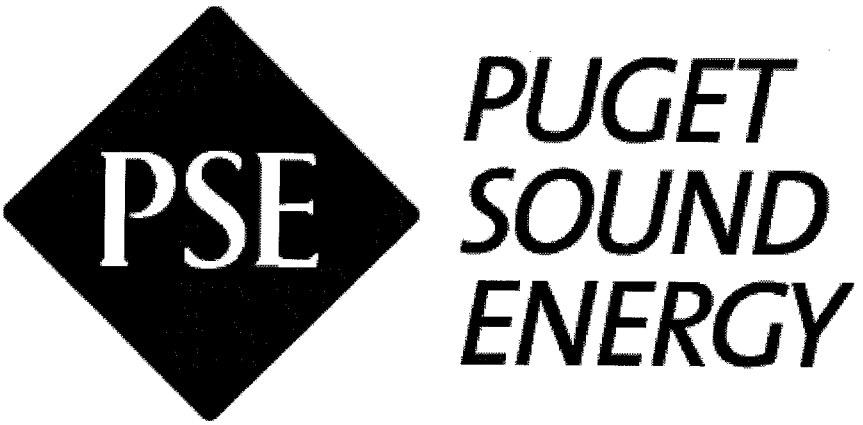
EXHIBIT NO. ___(CES-7)
DOCKET NO. UE-06___/UG-06___
2006 PSE GENERAL RATE CASE
WITNESS: CALVIN E. SHIRLEY

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY, INC.,** **Respondent.**	**Docket No. UE-06____** **Docket No. UG-06____**

SIXTH EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF CALVIN E. SHIRLEY ON BEHALF OF PUGET SOUND ENERGY, INC.

FEBRUARY 15, 2006



Appendix D

Program Measurement & Evaluation Plan

November 29, 2005

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I. Introduction

This Measurement & Evaluation (M&E) Plan for Puget Sound Energy's energy efficiency programs in 2006 and 2007, describes the means and metrics for tracking energy savings; summarizes key program specific evaluation issues; and outlines demand-side market assessment tasks in preparation for 2007 conservation supply curve analysis.

The intent is to provide a flexible framework of overall structure and guidance to M&E efforts, but permit modifications to accommodate new evaluation approaches and changes in objectives and priorities. Puget Sound Energy (the Company) will update this plan annually, with review by the Conservation Resource Advisory Group (CRAG).

Program results for each calendar year are reported to the Washington Utilities and Transportation Commission semiannually on August 15 and February 15. Summaries of program results and expectations will be presented to the CRAG. The Company reports energy savings expressed as kWh or therms achieved in the first year of the life of an energy-efficiency measure.

Measurement and reporting of program performance is an ongoing, systematic process, with monthly tabulation. Puget Sound Energy uses a database system, with links to internal customer information and accounting systems, to track customer participation, energy savings achieved and payments of energy-efficiency incentives for most programs. Where a contractor is employed to implement a program or programs, tracking of energy savings and incentive expenditures may be the contractor's responsibility. In such cases, the Company reserves the right to audit the contractor's records and databases.

Evaluation results will be used to plan and improve energy-efficiency programs in current and subsequent years. Program impacts for completed program years will be measured in a manner that is consistent with how the program targets were estimated, updated with actual customer participation, installed measures, and cost data that are tracked for each program. Findings from Measurement and Evaluation activities will be integrated with program implementation wherever possible, in the form of ongoing quality assurance and improvement.

The Company will seek partnerships with other organizations to leverage evaluation and research funding, and will use secondary sources and data where applicable. Puget Sound Energy will often rely on Regional Technical Forum findings and estimates for prescriptive measure energy savings, measure lives and qualification criteria.

II. Measurement

The Company's Energy Efficiency Services programs can be classified into four categories:

- Informational
- Prescriptive Savings
- Calculated Savings
- Other

Informational

Informational programs include electric schedules 200 and 260 and gas schedules 206 and

260; electric and gas Residential and Commercial Energy Efficiency Information. The Company is not tracking energy savings for these informational services at this time. Instead customer contacts by phone, mail and internet are tracked and quantified on a monthly basis. As an ongoing quality assurance measure, a sample of customers who participate in the Company's informational programs are surveyed with a brief set of questions to provide feedback regarding their experience. Informational expenditures are required to be less than 10% of total electric Rider and gas Tracker expenditures. The electric Rider and gas Tracker are mechanisms that enable collection of funding from customers for the Company to implement energy-efficiency programs.

Prescriptive Savings

Programs such as electric and gas schedules 214, Residential Energy Efficiency Rebates, or electric schedule 257, LED Traffic Signals, use deemed savings values or deemed savings calculations per unit to quantify energy savings. Rebate programs track units by verifying authenticity of the rebate form, proof of purchase, and confirmation of the purchase in Puget Sound Energy's service area. Inspection of sites to confirm installation may be performed as necessary to verify accurate reporting by contractors.

Powerful Choices for the Environment, under Energy Education, electric schedule 202 and gas schedule 207, is an educational program for which deemed savings values are applied. In this case, numbers of participating students and their location in the Company's service area are tracked to assign kWh or therm savings per student.

Electric schedule 201 and gas schedule 203, electric and gas Residential Low Income Retrofit, provide funding to low income customers for the installation of specific energy saving measures. PSE contracts with the Washington State Department of Community, Trade and Economic Development (CTED) to administer the program. CTED distributes the funding to local low income weatherization agencies, who provide assistance to low income customers by reducing energy bills through energy-efficiency education and installation of conservation measures. Additional funding, available from the Company for low-income housing weatherization through the Bonneville Power Administration (BPA) Conservation and Renewables Discount (C&RD) or beginning October 2006 the Conservation Rate Credit (CRC), and the Company's commitment under gas schedule 209, is also administered by CTED.

Previously, the number of low income homes served was reported by CTED to Puget Sound Energy, from which energy savings estimates were prescriptively calculated. Beginning in 2006 energy savings will be tracked and reported based on measures reported by the LIW agencies as installed. To facilitate this, a web-based data entry and reporting system will be launched in 2006, in cooperation with CTED and the LIW agencies.

Several prescriptive energy-efficiency measures offered by the Company will utilize BPA C&RD/CRC funding. Energy savings for these C&RD/CRC funded measures will be recorded and tracked as required by BPA.

Pilot programs may use preliminary deemed savings values that will require verification. In some cases, the energy savings estimate is based on previous evaluation studies, including energy use analysis, or metering studies. Others may apply calculated estimates of an average or prescriptive value using what is known about efficiency factors and usage patterns.

Residential programs and pilots are listed in Table 1, with their current per unit savings values and measure lives.

Table 1

Schedule Nos.	Program Name/Measure	Savings per Unit	Measure Life (years)
E202 & G207	**Energy Education**		
		97 kWh and/or 11 therms per student, subject to service area distribution	10
E203	**Manufactured Housing Retrofit**		
	Duct Sealing	1,037 kWh per home	20
	Conversion to Heat Pump	3,236 kWh per home	18
	Showerheads	158 kWh per home	6
	Faucet Aerators	60 kWh per home	6
E214 & G214	**Residential Rebates**		
	CFL Bulb	33 kWh	6
	CFL Fixture	102 kWh	15
	Refrigerator Decomissioned	Will vary depending of Vintage, 950 kWh average	6
	Dishwasher	33 to 163 kWh depending on energy factor and water heat fuel, 98 kWh with gas water heat	9
	Energy Star Clothes Washer	MEF 1.8 or higher: 214 kWh	14
		MEF 1.42-1.79: 123 kWh	14
	Manufactured Home	2523 kWh or 106 Therms per home	30
	High Efficiency Gas Water Heater	18 therms	20
	High Efficiency Gas Furnace	89 Therms	20
	Heat Pumps	600 kWh unit	18
E249	**Pilot Programs**		
	Multi-family Fuel Choice Pilot	600 kWh per gas space heat unit	25
	Residential Heat Pump Maintenance Pilot	1,303 kWh per home for CheckMe Retrocommissioning	10
		4,284 kWh per HP Dog replacement	18
E201 & G203	**Low Income Retrofit**		
		See electric schedule 201 and gas schedule 203	Variable
G216	**Gas Single Family Weatherization**		
		124 therms per home, average	30

Commercial and Industrial measures using deemed or deemed calculation methods to quantify energy savings are listed in Table 2, with their current per unit savings values and measure lives.

Table 2

Tariff Schedule	Program Name/Measure	Savings per Unit	Measure Life (years)
E257	**LED Traffic Signals**		
		494 kWh, Green 12" ball	7
		584 kWh, Red 12" ball	6
		808 kWh, Red arrow	4
		498 kWh, Small Pedestrian	3
E262 & G262	**Commercial Rebates**		
	Vending Miser Controllers	1,000 kWh per unit	10
	HE Washing Machines	2,167 kWh for Electric WH & Electric Dryer	8
		1,916 kWh and 105 therms for Electric WH & Gas Dryer	8
		479 kWh and 105 therms for Gas WH & Electric Dryer	8
		229 kWh and 105 therms for Gas WH & Gas Dryer	8
	T'stat Setback/ Portable Classrooms	3,548 kWh for 365 day programmable T-stat	10
		765 kWh for occupancy sensor damper control done with 365 day t-stat	10
		315 kWh for occupancy sensor lighting control done with 365 day t-stat	10
	Pre-Rinse Spray Heads	163 therms per 1 6 gpm spray head with water heated by PSE gas	5
		136 therms per 5 gpm aerator with water heated by PSE gas	5
		8,742 kWh per 1 6 gpm spray head with water heated by PSE electricity	5
		2,423 kWh per 5 gpm aerator with water heated by PSE electricity	5
	LED Exit Signs	245 kWh per incandescent base exit	12
		114 kWh per compact fluorescent base exit sign	12
	Occupancy Sensors and Timers with 100 or greater Watts connected	Calculeted with: Connected load x 0 4 x hours of operation.	10
	Solid Door Refrigerators	1 door: 563 kWh Energy Star or 1,179 kWh Super Saver	10
		2 door: 826 kWh Energy Star or 1,774 kWh Super Saver	10
		3 door: 1,088 kWh Energy Star or 2,370 kWh Super Saver	10
	Solid Door Freezers	1 door: 1,654 kWh Super Saver	10
		2 door: 2,810 kWh Super Saver	10
		3 door: 3,966 kWh Super Saver	10
	ECM for variable speed fan boxes	0.6 kWh per sq. ft.	15
	VFD for Fans and Pumps	Calculated, based on horse power, hours of use, motor and vfd effiencies	15
	Packaged HVAC units, CEE Tier II	0.2 kWh per sq. ft.	15
	Evaporator Assist on 100+ ton	0.2 kWh per sq. ft.	15
	Transformers, Energy Star	0.2 kWh per sq. ft.	15
	Commercial Laundry Gas Boilers and Water Heaters	3 therms per MBH for Boilers 92% efficient	15
		2 therms per MBH for water heaters 94% efficient.	7
	Programmable Thermostats	500 kWh for electric and 96 therms for gas.	10
	Gas Boiler Tune-up	Calculated by efficiency difference reported by technician	2
	Premium HVAC Service	Deemed savings based on various adjustments, control packages and repairs	3

Calculated Savings

Programs such as electric schedule 250 and gas schedule 205; Commercial & Industrial Retrofit, quantify savings using standard engineering practice, establishing baseline usage and determining the savings of the proposed energy-efficiency measure. This analysis often considers interaction between end-uses and measures, and may involve onsite monitoring of equipment performance. Energy Management Engineers calculate energy savings and grant amounts by measure and project. Projects are reviewed by a peer for accuracy and analysis methodology, and approved by management before payment of a grant. Grant payments are processed through Puget Sound Energy's integrated tracking and accounting systems, and posted to the correct program as conservation incentives.

Commercial programs that use site-specific, calculated energy savings estimates are listed in Table 3.

Table 3

Tariff Schedule	Program Name
E250 & G205	Commercial & Industrial Retrofit
E251 & G251	Commercial & Industrial New Construction
E253 & G208	Resource Conservation Manager
E255	Small Business Lighting
E261 & G261	Energy Efficient Technology Evaluation
E258	Large Power/Self Directed
G259	Gas Boiler Tune-up Pilot

Other

A number of programs included under Puget Sound Energy's electric Rider and gas Tracker program funding mechanisms do not fit the previous categories. Electric schedule 150 offers **Net Metering**, interconnection services for self-generating customers. Net Metering does not contribute to the Company's energy savings targets.

The Company is a contributing member of the **Northwest Energy Efficiency Alliance** (Alliance), under electric schedule 254. Regional market transformation programs funded in part by Puget Sound Energy and implemented by the Alliance will be tracked and evaluated by the Alliance. As needed, Puget Sound Energy will cooperate and partner with Alliance evaluation activities. Periodically, the Alliance reports the Company's share of regional energy savings from Alliance activities, net of utility program impacts.

Funding designated as **Local Infrastructure and Market Transformation** under electric and gas schedules 270 will cover costs associated with participation in conferences and trade shows, activities increasing knowledge of energy efficiency among trade allies, and energy-efficiency demonstration projects. Puget Sound Energy does not claim energy savings from Local Infrastructure and Market Transformation activities.

In addition, Puget Sound Energy will fund program evaluation projects, as well as research needed to prepare for the Company's next iteration of Conservation Supply Curves.

III. Evaluation & Research

Puget Sound Energy evaluation and research in 2006 and 2007 can be classified in two major categories: 1) Program process and impact evaluation, and 2) Demand-side market research. Process and impact evaluation will be program specific, assess internal processes, customer satisfaction, and verify energy savings. Market research will be used to inform program planning and refine conservation supply curve results due in 2007.

Program evaluation projects and activities are expected to cost approximately $885,000 over the two-year period. Demand-side market research tasks are expected to cost about $750,000.

Process and Impact Evaluation

Prior to, or conjunction with any formal process or impact evaluation project, required tasks include research and analysis of tracking databases and other records associated with the program or measures of interest. This body of work may be done by Puget Sound Energy staff or contractors hired for the specific purpose. Most evaluation projects will be solicited from evaluation contractors and research firms.

Anticipated program evaluation tasks are summarized in Table 4, below, followed by descriptions of key evaluation issues in 2006 and 2007:

Table 4

2006 - 2007 Program Evaluation Plan	Evaluation Tasks				
Program Grouping	Data Analysis/File Review	Metering	Billing Analysis	Survey or Interview Research	Objectives
New Residential Programs	✔			✔	process, quality control
Gas Water Heater Rebate	✔		✔	✔	mkt assessment, impact
Gas Furnace Rebate	✔		✔	✔	mkt assessment, impact
Compact Fluorescent Lighting	✔			✔	process, mkt assessment, impact
Other Appliances	✔	✔	✔	✔	potentail mkt assessment, process & impact
Residential Low Income Retrofit	✔		✔	✔	process, impact
Energy Education	✔			✔	process, impact
Multi-family Fuel Choice Pilot	✔		✔	✔	data quality, process, impact
Residential Heat Pump Pilot	✔			✔	market assessment
Commercial Industrial Programs	✔	✔	✔	✔	impact, process, mkt assessmant
Gas Boiler tune-up	✔		✔	✔	process, impact, mkt assessment
Miscellaneous	✔	✔	✔	✔	to be determined

New Residential Programs

Electric schedule 203, Manufactured Housing Retrofit, electric schedule 217, Multi-family Retrofit, gas schedule 216, Gas Single Family Weatherization and gas and electric schedules 215, Residential New Construction are new residential programs arising from pilot programs fielded in 2004 and 2005. Each of these programs may be impacted by the 2005 Energy Efficiency Request for Proposals. New programs such as these will require examination of service delivery processes, likely including customer and key market actor surveys or interviews.

Residential Rebates

Proposed as a new program for 2006-2007, electric and gas schedules 214 Residential Energy Efficiency Rebates combines CFL lighting, gas water heating, furnaces and other appliances under one program. Each of these measures has established processes to track energy savings and fulfill rebates. Additional measures may be added, given established protocols for estimating energy savings.

Efficient Natural Gas Water Heater and Furnace Rebates

Studies regarding market availability of efficient gas water heating and space heating equipment will be completed in 2006. In addition, the company is considering billing analysis, likely to occur in 2006, to verify energy savings.

Compact Fluorescent Lighting

Compact fluorescent bulb and fixture energy savings targets for 2006-2007 were set using deemed average savings for Indoor/Outdoor applications of 33 kWh per bulb, and 102 kWh per fixture. Puget Sound Energy will seek information regarding lagging market segments, with the intention of targeting those customer segments and lighting applications with CFL bulbs and fixtures. The Company will continue to work with regional parties to adjust deemed CFL savings as needed over time.

Other Appliances

Regionally accepted energy savings values are used for clothes washer, dishwasher, refrigerator decommissioning and manufactured home rebates. The Company will continue to work with the RTF and other parties as needed, to agree on appropriate energy savings protocols for these and other measures as new federal appliance standards go into effect during 2006 and 2007.

Residential Low Income Retrofit

Process improvements in reporting and tracking of Low Income Weatherization (LIW) measures has enabled the Company to transition from gross estimated savings values for an average home, to tracking of savings by measures actually installed, with associated costs. A web-based data entry and reporting system, under development, will further streamline the process, and improve the accuracy of data submitted by the agencies.

CTED conducts a thorough audit of all LIW agencies annually, including verification of energy-efficiency measures reported as installed. The Company will request documentation from CTED, specifically for the verification of measures and associated costs.

Analysis in 2006 and 2007 of reported measure costs and energy savings may lead to adjustments to the list of qualifying measures, as well as their per measure funding levels and energy savings values. Implementation of any such changes will be done with the full involvement and input of CTED and low income weatherization agencies.

Energy Education

A four-day energy efficiency and environmental awareness middle-school curriculum named Powerful Choices for the Environment, is offered under electric schedule 202 and gas schedule 207, Energy Education. This program was redesigned and updated in 2004 and 2005, reducing the cost per student while maintaining a high quality, interactive curriculum meeting Washington State environmental education standards.

Student and teacher feedback regarding satisfaction with presentation and content will continue to be monitored throughout the school year. In addition, a longitudinal study to examine student attitudinal and behavioral changes over time is under consideration.

Multi-family Fuel Choice Pilot

Market assessment research, completed in 2005, included assessments of market economics and decision factors for choosing natural gas in traditionally electric multi-family end-uses. Completion of demonstration projects in 2006 will lead to a final report for this pilot in 2007. During the demonstration pilots, the Company will monitor factors including equipment costs, construction changes and any benefits that influence decisions by developers to select natural gas for space and water heating.

Residential Heat Pump Maintenance Pilot

The purpose of this pilot is to demonstrate the energy savings and market acceptance of heat pump maintenance and minor repairs that are directed by an advanced diagnostic field protocol. Contractors will be required to follow regionally accepted protocols for heat pump diagnostics and maintenance. Diagnostic measurements will be taken before and after the maintenance and repair work, to quantify changes in heat pump performance, used to verify energy savings estimates. Evaluation of this pilot will include an assessment of the ability to develop qualified contractors in a sustainable market.

Commercial/Industrial Programs

Electric schedule 250 and gas schedule 205, Commercial/Industrial Retrofit; electric and gas schedules 251, Commercial/Industrial New Construction; and electric schedule 258, Large Power User/Self Directed, share measures and technologies for which the Company wishes to verify energy savings and learn more about usage in various applications.

Lighting measures comprise 60 percent of energy savings achieved from the Commercial/Industrial sector. Previous studies have indicated that estimates of lighting hours of use are a primary, variable factor that impacts energy savings realization rates. Puget Sound Energy will conduct a study to verify lighting hours among a sample of commercial lighting projects in 2006. This study will be designed to result in realization rates for energy savings in commercial lighting applications.

Other measures of interest for further study and calibration of savings estimates include Compressed Air, Boiler Upgrades, HVAC Upgrades, Occupancy Sensor and Lighting Control applications. Much of this work will be conducted as literature reviews, and case studies as appropriate projects become available.

Commercial and industrial customers who receive grant funding for energy-efficiency measures are provided access to 15-minute interval energy-use data through the Company's automated metering, and a secure Internet protocol, enabling measurement of nearly real-time energy impacts. In addition to providing a new tool to the Company for verifying energy savings, availability of this data may empower customers to utilize energy more efficiently in day to day operations. The Company will be examining how customers use this data and what changes may result.

Ongoing, follow-up surveys among customers who have completed commercial and industrial energy saving projects provide feedback regarding customer experience relative to the project, how well the offered services met the customer's needs, and rate the performance of the Puget Sound Energy representative.

Gas Boiler Tune-up Pilot

The Gas Boiler Tune-up Pilot, gas schedule 259, while demonstrating significant energy savings in completed projects, currently lacks a sufficient number of interested contractors to provide the volume of savings necessary to move this pilot to program status. Changes in funding levels may generate more market participation. The Company expects this pilot to generate sufficient energy savings to remain cost effective and will reevaluate the pilot's status by the end of 2007.

Demand-side Market Research

Significant refinements to input data and methodology will lead to completion of the next set of conservation supply curves by early 2007. This work will include a detailed review and update of all energy-efficiency measure assumptions made in 2005. Refinements are anticipated to include:

- Changes in codes and standards
- Updated deemed savings from the Regional Technical Forum
- New cost and market penetration assumptions, based on the results of 2004-05 pilot programs and the 2005 Energy Efficiency RFP.

Load profile data from a new load research study will update load shapes applicable to the Company's service area. Measures not included in previous market potential assessments, such as conservation voltage regulation (CVR) and other emerging technologies will also be considered.