EXHIBIT NO. \_\_\_(CES-8)
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.	Docket No. UE-06 Docket No. UG-06
PUGET SOUND ENERGY, INC.,	
Respondent.	

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



# Appendix A

# **Program Descriptions**

November 29, 2005

Revised December 21,2005

#### **Table of Contents**

Energy Efficiency Information Services	
Energy Education	4
Residential New Construction	
Gas Single Family Weatherization	
Energy Efficiency Pilots	
Multi-family Retrofit	12
Residential Low-Income Retrofit	14
Manufactured Housing Energy Efficiency	16
Residential Energy Efficiency Rebates	17
Commercial and Industrial Retrofit	19
Commercial and Industrial New Construction	23
Resource Conservation Manager (RCM)	27
Small Business Lighting	31
Commercial and Industrial Gas Boiler Tune-up Pilot	33
LED Traffic Signals	34
Large Power User Self-Directed	35
Commercial Energy Efficiency Rebates	37
Local Infrastructure and Market Transformation	40
Energy Efficient Technology Evaluation	41
Northwest Energy Efficiency Alliance (NEEA)	42
Not Matering for Customer Congretors	42

As of December 21, 2005 this document, originally dated November 29, was edited to reflect corrections to the electric energy savings and budgets for Residential New Construction and Residential Rebates programs on pages 6 and 17.

# **Energy Efficiency Information Services**

Tariff Schedule(s):

E200, E260, G206, G260

Program Type:

**Energy Management Information Services** 

Energy Type:

**Electricity and Natural Gas** 

Market:

All - Residential, Small Commercial, Commercial, and

Industrial

Projected2006/2007 Savings:

Not quantified

Projected 2006/2007 Costs:

\$1,900,000 Residential (\$1,330,000 electric, \$570,000 gas)

\$406,000 Commercial (\$268,000 electric, \$138,000 gas)

# <u>Purpose</u>

Provide customers with quality information that will assist them in making cost-effective energy-efficient decisions. Motivate customers to participate in eligible programs while simplifying the process to take action. Provide guidance to customers on how and where to find appropriate solutions, e.g. products, retailers, product vendors, contractors, and installers.

# **Description**

The program consists of three components that compliment each other to provide information on customer programs and efficiency improvements tailored to customers' interests and energy-use concerns.

#### **Online Services**

#### Online Home/Business Energy Centers

To assist customers with information and questions, significant number of pages and links on the Company's web site, <a href="www.pse.com">www.pse.com</a>, are dedicated to energy efficiency and energy management tools for customers.

As part of 'Your Home', customers can select 'My PSE Account' and conduct a free energy self-audit online survey, which produces a report with specific and customized energy efficiency recommendations. This service identifies current energy costs and consumption by end-use, and provides a list of specific prioritized recommendations for energy efficiency opportunities and associated savings estimates. There are several specific 'energy use calculators' for lighting and various appliances. As of summer 2005, the tool now incorporates customer's actual bill history and bill details, with a 'Bill Analyzer' tool that helps explain why bills maybe high. Customers can understand what changes can be made to reduce energy usage. This new application also allows customers to view their daily online energy use. An energy audit is no longer available to customers by mail.

In the 'Your Business' section, business customers will find the 'Business Energy Resource Center' with online energy audit and calculator tools to allow customers to analyze energy use, and determine prioritized recommendations for improvements. There are appropriate links to available PSE grants and rebates. The Resource Center also contains a library to enable customers to explore energy efficiency technologies in greater depth.

#### **Electronic Newsletters**

PSE provides "Energy at Home", a quarterly e-newsletter promoting energy efficiency services, to customers who elect to subscribe using an e-mail address. This free service contains articles about energy efficiency, timely seasonal tips, and links to PSE program information and rebates for energy efficient products. A similar bimonthly "Energy in Business" e-newsletter features case studies of energy efficiency projects at PSE customer sites, as well as announcements of upcoming training opportunities.

#### **Energy Advisors**

Energy Advisors are specially trained and dedicated telephone staff that provide energy efficiency information and qualify customers for programs. Energy Advisors provide service to all customer sectors. Through a toll-free number: 1-800-562-1482, customers have direct access to Puget Sound Energy's array of energy efficiency services and programs. Energy Advisors discuss with customers, the potential benefits of various conservation programs, and introduce related products and services. The goal of the Energy Advisor is to guide and direct the customer to energy solutions and to make certain the customer is aware of eligible PSE programs, services and incentives to help with their specific energy efficiency needs. Advisors also make referrals to Low Income agencies to encourage low income customers to participate in weatherization programs and other services

#### **Energy Efficiency Brochures**

PSE provides brochures and how-to guides on various energy efficiency opportunities, including behavioral measures, low-cost equipment, weatherization measures, major weatherization improvements, and equipment upgrades. This information includes guidelines and estimates for required investments and savings estimates where appropriate. PSE brochures are available to customers in paper form and online at the PSE Web site. The Energy Advisors will send out over 50,000 brochures & rebate forms to customers in 2005. Brochures are also distributed at numerous customer events, Home shows and trade shows throughout the year.

#### **Brochure Revamp Project**

In 2005 and 2006, PSE will make comprehensive updates to all of its energy efficiency information, to incorporate energy efficiency advances and newer technologies, to insure consistency with information available on pse.com, and to create more streamlined, easy to use brochures for residential customers. The brochures will be designed with 'longevity' of the printed material as a consideration, and will be supplemented by timesensitive materials involving available programs, incentives and rebates.

#### **Marketing**

Targeted promotions for brochures, Energy Advisors, information services, including online tools and 'My PSE Account' is made via dedicated bill inserts. Customers simply check the desired request for information on the bill insert and return the slip with their bill payments.

The Energy Advisors toll-free number (1-800-562-1482) is published in all relevant *Energy Wise* newsletter articles, and on all related reference materials, brochures, and related PSE conservation program description materials in addition to bill inserts.

Other promotional activities include participation in trade shows and homeowner and trade ally association presentations.

# **Customer Incentives**

General energy management information tips, brochures, referrals, and advice concerning energy use, and savings opportunities are provided free of charge. Customers are referred to targeted programs for which they are eligible. Upon their request, customers also can be referred to contractors for 'no-obligation' bids on installation of energy efficiency measures.

#### **Operations**

In 2006, increasing attention will be given to providing information on-line and utilizing the e-newsletter to deliver relevant information to the interested parties, in addition to the hotline phone services. Residential customers who request information through this program are routinely contacted via outbound surveys to ensure customer satisfaction and follow-through.

# **Contingency Planning**

Informational services, including the Energy Advisors Hotline, provide information for customers and guide customers to appropriate energy efficiency programs and solutions. If energy efficiency programs are not meeting target expectations, the Company will more heavily promotes its information, brochures, and Advisors' expertise, as methods to engage more customers. In particular, greater numbers of bill inserts designed to generate energy efficiency calls and/or solicit specific customer responses will be distributed to PSE residential and commercial customers. Energy Advisors plan to maintain high call response rates, with the flexibility to also support program work directly during low volume periods.

# **Energy Education**

Tariff Schedule(s):

E202, G207

Program Type:

6-8th Grade Environmental Education

Energy Type:

**Electricity and Natural Gas** 

Market:

Residential

Projected 2006/2007 Savings: 1,814 MWh, 121,000 Therms

Projected 2006/2007Costs:

\$1,048,000 (\$681,000 electric, \$367,000 gas)

# **Purpose**

Increase awareness of how students and families consume natural resources and the impacts of this use on the health of the Puget Sound ecosystem.

# Description

Powerful Choices for the Environment is an environmental education program that is changing how Washington State's middle school students and their families think about and use natural resources in their daily lives. Powerful Choices offers Puget Sound area schools a comprehensive energy and environmental curriculum based on Washington State Essential Learning in environmental education for 6-8<sup>th</sup> grade students. The program consists of weeklong in-classroom classes presented by PSE facilitators trained in science education and local resource use.

The curriculum is based on the question, "What are the connections between my personal choices and the health of the Puget Sound ecosystem?" Students gain an understanding of how to answer this question through inquiry-based activities, discussion, journal writing and home assignments. Students examine specifically how their actions connect to the quality of local air and land, the local water supply, and the impact of different sources of electricity.

PSE partners with over 20 other utilities, cities, and agencies responsible for energy, water, and waste management programs in the Puget Sound area to fund the program in over 70 schools with a reach of over 10,000 students annually. In 2004 partner funding brought in close to \$100,000 in support of program costs. The program is offered in PSE gas and electric territory school districts at no cost to the schools.

Key stakeholders include local school districts, teachers, students, and partnering agencies that manage energy, water, solid waste and clean air.

# Marketing

Communication and promotional materials are used to maintain and expand partnerships and provide information to program teachers. The Washington State education requirements for school districts mandate a natural science curriculum; however, there are limited funds to support this curriculum. Powerful Choices enables teachers and schools to meet the natural science need in a cost effective manner. Hence there is not a current need for a large marketing campaign.

# **Operations**

PSE schedules Powerful Choices classroom presentations, meets with teachers, delivers the program, and works with partners to incorporate messages. Powerful Choices is a well-received program throughout the region. Testimony from students, teachers, parents, and partners has been overwhelmingly positive.

PSE will continue to work with curriculum and evaluation experts to ensure that the program fits the needs of teachers and students. Facilitators will receive scheduled training to keep up with the highest standards in teaching methodology. Students will be periodically evaluated to ensure that the program as delivered meets the educational objectives of the curriculum. In 2006 the program will be aligned with Washington State GLEs (Grade Level Expectations).

# **Contingency Planning**

The program will continue in 2006/2007 to evaluate program effectiveness and look to expand energy content in the curriculum as well as partner funding and participation.

# **Residential New Construction**

Tariff Schedule(s):
Program Type:

E215, G215 New Construction

Energy Type:

**Electricity and Natural Gas** 

Market: Proiected 2006/2007 Savings:

Residential Customers and Builders 11.892 MWh. 584.200 Therms

Projected 2006/2007 Savings:

6086 MWh. 584,200 Therms

Projected 2006/2007 Costs: Projected 2006/2007 Costs:

\$5,918000 (\$3,596000 elec, \$232,000 C&RD/CRC, \$2,090,000 gas) \$4,471,000 (\$2,149,000 elec, \$232,000 C&RD/CRC, \$2,090,000 gas)

#### **Purpose**

To implement cost effective, targeted, residential new construction energy savings using a menu of prescriptive efficiency measure rebates. Prescriptive rebates are intended to facilitate participation by, builders, owner-builders and trade allies, and provide administrative efficiencies for PSE in meeting energy efficiency goals.

#### **Description**

PSE will offer prescriptive energy efficiency measure rebates to qualifying residential new construction customers and builders (customer of service, at the time the home is being constructed) new construction. Rebate amounts are based on regionally accepted energy savings estimates and incremental efficiency measure cost. Rebates may be subject to change in response to revisions in savings estimates, average incremental cost or changes in Federal appliance efficiency standards or State codes

# **Marketing and Promotion**

PSE employs a variety of marketing, promotion and communication strategies and tactics to insure customer awareness and participation in the rebates for each measure/product. These are selected based on effectiveness/cost. They may include, but are not limited to:

- Customer bill inserts, Energy Wise customer newsletter, E-news and brochures
- Energy Efficiency Advisors, Hotline (phone staff)
- PSE corporate web site
- Media interviews and press releases
- Internal employee communications and training
- Cooperative retail and wholesale trade ally advertising
- Co-promotion with other utilities, local governments, agencies and non-profit organizations
- Event participation and sponsorship
- Paid print and other media advertising
- Displays for model homes.

#### **Operations**

Qualifying customers receive incentives by submitting a rebate form or receive an "instant" discount through participating trade allies. Rebate requests are screened for completeness of customer entries, and for submittal of additional required documentation, such as copies of purchase invoices or receipts. Rebate processing complies with PSE internal audit standards and, BPA audit requirements.

# **Customer Incentives**

The table below lists rebates with basic eligibility criteria that are effective January 1, 2006. A list of all requirements for rebate eligibility and participation can be found on individual rebate or program application forms.

**Residential New Construction Gas Service** 

Measure	Rebate Amount	Eligible Housing type
Energy Star Gas Furnace	Amount may vary. Maximum rebate \$250	Single-family, New Construction
High Efficiency Gas Water Heater (>or equal to .62EF)	Amount may vary Maximum rebate \$40	Single-family, New Construction
Energy Star Homes Gas Rebate (Homes must be Certified Energy Star Homes NW)	Amount may vary. Maximum Rebate \$50	Single-family, New Construction

**Residential New Construction Electric Service** 

Measure	Rebate Amount	Eligible Housing type
Energy Star Dishwasher	\$20 in 2006	Single-family, New Construction
Energy Star Clothes Washer (Energy Star qualified Washing machine (> or equal to 1.8 MEF)	\$50	Single-family, New Construction
Energy Star CFL Bulbs	Amount may vary Maximum rebate \$4/bulb	Single and Multi-family, New Construction
Energy Star CFL Fixtures	Amount may vary. Maximum rebate \$20/fixture	Single and Multi-family, New Construction
Energy Star Homes Electric Rebate (Homes must be Certified Energy Star Homes NW)	Amount may vary Maximum Rebate \$50	Single-family New Construction
Energy Star Heat Pump Rebate	Amount may vary. Maximum Rebate \$250	Single-family New Construction

In addition to the incentive, PSE may provide promotional assistance to qualifying customers and trade allies in the form of cooperative funding, ads, signage, articles and consumer education to support the implementation of the program.

# **Contingency**

The recovery rate of the economy, the inventory of homes on the market and available building space is expected to have an impact on new building starts in the next few years. Incentives will be adjusted according to market conditions.

# **Gas Single Family Weatherization**

Program Tariff Schedule(s): G216
Program Type: Retrofit
Energy Type: Natural Gas

Market: Residential – Single Family

Projected 2006-2007 Savings: 400,000 Therms
Projected 2006-2007 Costs: \$2,280,000

# **Purpose**

Increase the installation of certain weatherization measures for gas-heated single family homes. These measures will target existing gas heated single-family and small multifamily (<4 units) homes typically constructed before 1978. These homes typically lack floor insulation (above unheated crawl space), lack heating supply duct insulation (located in unheated spaces of the home) and have inadequate ceiling insulation. In addition, the program aims to educate customers and contractor/installers regarding efficient measures while fostering positive relationships between PSE, customers, and weatherization contractors.

# **Description**

Eligible customers are single family customers using natural gas for space heat. Tenants may participate in the rebate program with written permission from homeowner.

PSE will offer fixed, per measure rebates to qualifying residential customers who install under floor, heating duct, wall or attic insulation using the services of a trained and authorized energy services contractor.

Combustion diagnostic testing will be provided as an optional measure to customers at a cost.

PSE will develop contractor training and quality control criteria to avoid customer problems with moisture, mold, lead paint, and gas appliance back drafting. PSE is highlighting services from weatherization service contractors and/or Third Party Program Implementers (TPI) in its Request for Proposal (RFP) to conduct the installation of measures, in an effort to improve cost-effectiveness of this program.

# <u>Marketing</u>

PSE will use an existing database of housing stock and customer records to identify candidate homes in specific geographic areas. PSE will develop and distribute marketing materials using direct mail (e.g., bill stuffer, newsletter, solicitation letter) as well as other marketing channels in order to contact and solicit program participants. PSE will also provide marketing and training support to the authorized network of contractors.

#### **Customer Incentives**

Per unit incentives have been established for floor, ceiling, wall, and duct insulation as itemized above. Incentives will be paid upon completion of the work, and submittal of documentation. Field inspections will be conducted at random for each participating contractor to ensure quality installations and verify completion of work.

Measure rebates include:

•	Attic Insulation (R-11 or less to R-38)	\$300 maximum
•	Floor Insulation (R-0 to minimum R-19, up to R-30)	\$300 maximum
•	Wall Insulation (R-0 to R-13)	\$300 maximum
•	Duct Insulation (R-0 to R-11)	\$100 maximum
•	Duct Sealing	\$100 maximum

# **Contingency Planning**

Issues regarding weatherization of homes have increased since PSE operated weatherization programs for electrically heated homes in the 80s. Moisture and mold is more of an issue in today's more tightly sealed homes. Gas appliance back drafting could potentially result from tightening homes. Weatherization at times can result in uncovering lead paint or asbestos; the homeowner will be required to mitigate those situations at their expense prior to weatherization. The pilot weatherization program (completed in 2005) has demonstrated that these are not significant market barriers to installation of weatherization measures.

The success of and experience with the weatherization pilot indicates that a weatherization program is needed and viable in the market. PSE anticipates having to deal with some problem solving with customer issues that may arise during program implementation.

If the program is underachieving, PSE will increase contractor recruiting and support as well as undertake a more aggressive marketing approach.

# **Energy Efficiency Pilots**

Tariff Schedule(s):

E249/G249

Program Type:

**Pilots** 

Energy Type:

Electric

Market:

**Various** 

Projected 2006/2007 Savings: Heat Pump Maint., 1,059 MWh;

ME Tarrata I Tuel Obside 200 M

MF Targeted Fuel Choice, 230 MWh

Projected 2007/2007 Costs:

Heat Pump Maint., \$306,000;

MF Targeted Fuel Choice, \$995,000

# Multi-family Fuel Choice Pilot

This pilot began in 2004-5 to assess the cost effectiveness and market acceptance of choosing natural gas in retrofit and new construction multi-family structures. Market research and technical assessment work has been completed and is being reported as of 2005. In 2006 the Company plans to conduct up to two demonstration projects to gain experience with market, logistical and cost findings of the assessment. A final report for this pilot is planned for 2007.

#### **Residential Heat Pump Maintenance Pilot**

The purpose of this pilot program is to demonstrate the energy savings and market acceptance of heat pump retro-commissioning and minor modifications repairs directed by an advanced diagnostic field protocol with all system adjustments/repairs recorded and centrally reported by a single management contractor. The pilot will also demonstrate the efficacy of providing an incentive to customers with heat pumps performing at very low levels of measured efficiency to replace them with Energy Star® – qualified models (offer of replacement incentive based on initial diagnostics/adjustments and determination that additional repairs cannot cost-effectively restore reasonable efficiency).

This pilot program has been modified to incorporate a contractor proposal submitted and selected under PSE's 2004 Energy Efficiency RFP. Additional modifications to the proposed pilot program were made during the first six months of 2005 to insure the protocol and measures offered in the pilot conform to the most current findings and recommendations of the Regional Technical Forum.

Under PSE's contract with the program management contractor, payments for diagnostic procedures conducted, including system airflow adjustment plus outdoor thermostat installation are made to participating trained and certified local residential HVAC contractor technicians. A proprietary database and reporting process operated by the management contractor records all data relayed by phone from field technician, including results of system adjustments and repairs. The database uses internal algorithms and controls to identify faulty or fraudulent data. The management contractor makes payments monthly to the participating local HVAC contractors, based on work completed by the HVAC field technicians. Job data is reported to PSE with a statement of corresponding dollar expenditures.

Eligibility will be limited to targeted single family residential customers heating their homes primarily with an older heat pump. Key stakeholders include residential HVAC contractors and suppliers, third party technical certification, training and reporting

contractors.

PSE will use customer records to identify areas of high heat pump concentration. PSE also plans to rely heavily on participating residential HVAC contractors to identify eligible customers from their service records and incoming service and repair calls. PSE may develop a contractor incentive program to increase program activity.

Payments for completed CheckMe!® diagnostics, outdoor thermostat installations and adjustments as well as the incentive for installation of an Energy Star® qualified replacement heat pump are made to the participating HVAC contractors. Customers are offered improved services and product at little or no added cost.

The management contractor is currently (as of fall '05) in the process of identifying and training qualified HVAC contractors/technicians. The goal will be to provide adequate coverage for the PSE electric service area. The contractors will sell the services to their qualifying customers. The management contractor will make contractor payments and provide data tracking and reporting to PSE. Participating customers will receive a certificate mailed from the management contractor, following performance of the CheckMe!<sup>®</sup> services.

The main program uncertainty is the number of quality contractors willing to add the extra steps involved in the diagnostic process. There are also unknowns about contractor skill in presenting and successfully selling the added services to customers. The management contractor has developed supporting informational materials for use by HVAC contractors with customers. PSE may need to conduct additional market research to identify heat pump customers.

# Kitsap Peninsula Targeted Energy Efficiency Pilot

PSE plans to implement a pilot to reduce peak electric demand in Kitsap and Jefferson counties to defer construction of a transmission line upgrade by improving overall energy efficiency. This pilot evolved from PSE's participation in the Non-Wires Solutions initiative, a regional collaborative sponsored by BPA, and fulfills a commitment from the 2005 PSE Least Cost Plan to further explore the feasibility of demand response programs as a strategy to reduce peak loads.

Targeted energy efficiency would be designed to achieve high levels of market penetration for energy efficiency measures to mitigate area-specific transmission and distribution system constraints, as well as more general reductions in the need for new electric generation resources. A specific program design must be developed as a first step, with a focus on measures that produce early morning/early evening savings. The total cost of this pilot is estimated to be \$250,000.

# **Multi-family Retrofit**

Tariff Schedule(s): E217
Program Type: Retrofit
Energy Type: Electricity

Market: Residential – Multifamily

Projected 2006-2007 Savings: 4,845 MWh Projected 2006-2007 Costs: \$1,383,000

#### **Purpose**

PSE's new multi-family retrofit program is being proposed to increase the installation of certain measures in existing, multifamily (MF) buildings. These measures will target existing MF structures with 5 or more residential units. MF structures typically have both in-unit and common area energy-efficiency opportunities that can include shell, appliance, lighting, HVAC and water heating measures. The program will target Installation of energy efficient measures in MF facilities occurring on a retrofit (e.g., planned project) or "replace upon failure" (RUF) basis.

# **Description**

Eligible customers are MF property owners, managers and tenants. The PSE MF program will include rebates and grants as well as subsidies for the distribution and installation of low cost or no cost measures to qualifying MF facilities.

PSE will offer fixed, per measure rebates to qualifying participants who install measures listed in the "Customer Incentives" section below.

# **Marketing**

The MF market is populated by large institutional firms that own substantial numbers of MF properties, large property management firms that manage substantial numbers of MF properties, and small MF property owners. These market actors interact with a network of distributors and contractors that sell and install energy efficiency measures in MF buildings. PSE will develop a database of housing stock, MF owners and managers, and contractors/installers and related MF and condominium trade associations. PSE will develop and distribute marketing materials using direct mail (e.g., bill stuffer, newsletter, solicitation letter) as well as other marketing channels in order to contact and solicit program participants. The PSE MF program manager will take an active role in promoting MF energy efficiency resources to MF property owners and managers. PSE will also provide marketing and training support to MF contractors/installers.

# <u>Customer Incentives</u>

Per unit incentives have been established for the measures as itemized above. The incentives will be paid upon completion of the work and submittal of documentation. Field inspections and audits will be conducted at random for to ensure quality installations and verify completion of work.

In-Unit CFL Fixtures	\$20/ fixture
Common Area Lighting	\$40 / fixture average
Energy Star Dishwashers	\$20 each
Coin-Op Washers	\$200 each
Windows	\$1 / sq. foot
Showerhds & Aerators	No cost to cust.
CFL Bulbs	No cost to cust.

PSE will provide grants based on calculations involving standard engineering practices to qualifying participants who undertake facility retrofit projects:

- Common Area Lighting
- □ Space Heat Equipment
- □ Water Heat Equipment
- Building shell Insulation
- □ High efficiency Windows to replace qualifying existing aluminum frame windows

# **Contingency Planning**

This is a new program for the PSE residential team. PSE has conducted disciplined market research to develop a comprehensive understanding of the MF market. PSE anticipates reviewing bids submitted in response to the 2005 RFP.

If the program is underachieving, PSE will increase contractor recruiting and support, undertake a more aggressive marketing approach, and work with property managers to determine more attractive offerings.

# Residential Low-Income Retrofit

Tariff Schedule(s):

E201, G203

Program Type:

Retrofit and Public Purpose **Electricity and Natural Gas** 

Energy Type: Market:

Residential

Projected 2006/2007 Savings: 3.414 MWh. 23.500 Therms

Projected 2006/2007 Costs:

\$2,404,000 (\$1,820,000 electric, \$584,000 gas)

In addition:

Up to \$1,600,000 BPA C&RD or CRC funding

Up to \$600,000 Schedule 209 funding

# Purpose

Assist low-income residential customers with energy efficiency improvements for their homes.

# Description

This program provides funding of cost-effective home weatherization measures for lowincome gas and electric heat customers. Funds are used for single-family, multifamily, and mobile home residences.

Program participation takes place through referrals from low-income and crisis service agencies. PSE customers who are having difficulty paying heating bills are also referred to the appropriate serving agency when they apply for energy bill payment assistance. Income qualification for the low-income weatherization program takes place at the local weatherization agency or other designated agency. Local agencies assume responsibility for getting permission from rental property owners to install weatherization measures. The elderly, disabled, and households with very young children receive priority in scheduling of the weatherization work. In addition to the structure audit and measures installation, agencies might provide energy use education to participants.

Key stakeholders are low-income gas and electric customers; county and municipal lowincome weatherization agencies in the PSE service area. Washington State Office of Community Development (OCD), low-income rental property owners and participating weatherization contractors and suppliers.

# Marketing

PSE provides a weatherization program brochure, which explains the program and basic eligibility requirements, and lists the agency contact phone numbers. This brochure is normally available to customers during many public events in which PSE participates. The brochure has been distributed by OCD to local agencies and to other State agencies serving the low-income population. Brochure information is available in multiple languages.

PSE coordinates targeted bill inserts with OCD and local agencies to specific geographic area's, based on Spanish language barriers, describing the program and offering more information for qualifying customers.

Any additional promotion of the program will be done in close coordination with OCD and

the local agencies.

# **Customer Incentives**

Grant funding for measures and customer eligibility are specified in tariff schedules E201 and G203. Funding is disbursed to local agencies for completed work and work-in-progress. Local agencies and OCD are permitted fixed percentages for administrative costs under the existing tariff. There are no costs to low-income participants in the weatherization program. Other funding is available from gas and electric tariff schedules 209 and BPA's Conservation and Renewables Discount program.

Under the Matchmaker agreement with OCD, Puget Sound Energy's low-income Schedules E201 and G203 funding is combined with per capita public funding to support a "whole house" approach to weatherizing single and multifamily structures. Rental property owner funding is sometimes added for measures not funded by PSE or public money.

# **Operations**

A PSE program manager handles program and contract administration. OCD provides monthly expenditure reports to PSE and assembles job data, which is provided periodically to PSE. PSE funding for completed work and work-in-progress is released at intervals, depending on the production levels of the agencies.

Work has begun on a newly developed database that will allow more accurate calculation and reporting of measure energy savings for the program. When these modifications are complete, it will permit a more detailed picture of the program results and should provide the basis for an initial program evaluation.

# **Contingency Planning**

The participating agencies are experiencing great challenges maintaining historic work rates in the face of lead paint mitigation requirements and potential safety and liability issues like moisture and mold, and gas appliance back-drafting. PSE is working to support their administrative efficiency.

# **Manufactured Housing Energy Efficiency**

Tariff Schedule(s): E203
Program Type: Retrofit
Energy Type: Electricity
Market: Residential
Projected 2006/2007 Savings: 2,792 MWh
Projected 2006/2007. Costs: \$1,370,000

### **Purpose**

Acquire cost-effective energy savings from mobile (HUD code, manufactured) home electric heating system duct repairs and electric furnace conversions to Energy Star® qualified heat pumps. Provide information and incentives to encourage residential customers to understand and take action to effectively improve heat delivery (duct) efficiency of their electric heating systems and, as needed, replacement of ducted electric resistance forced air furnaces with qualifying heat pumps.

# **Description**

This pilot program targets residential customers living in targeted existing manufactured homes with ducted electric heating systems. Key stakeholders include homeowners, duct sealing specialists and qualified HVAC contractors specializing in mobile home heat pump applications.

The program will be implemented by trained, certified contractor(s) who follow regionally-accepted protocols for duct leakage testing, sealing and heat pump installation. Contractor(s) may also install qualifying, cost-effective hot water savings and lighting savings measures, and distribute PSE customer energy efficiency information and appliance rebate materials

#### Marketing

The contractor(s) will perform effective field marketing to target manufactured and mobile home parks. Puget Sound Energy will provide printed material, signage, and field support to the contractor. Puget Sound Energy's conservation information materials and compact fluorescent lamp rebate coupons will be distributed.

#### **Customer Incentives**

Incentives will be paid to the duct-sealing contractor based on the number of homes tested and sealed, plus hot water savings measures installed. These services are at no cost to the participating customer. HVAC contractor(s) replacing operable forced air electric resistance furnaces providing the primary space heat with qualifying heat pumps will receive incentive payments from PSE, to be negotiated in RFP process. In addition it is anticipated that a customer contribution will be required.

#### **Operations**

Selected contractor(s) (in the RFP process) will provide PSE with monthly invoices and detailed job reporting. PSE will track completed jobs with associated kWh savings.

# **Residential Energy Efficiency Rebates**

Tariff Schedule(s): E214, G214
Program Type: Rebates

Energy Type: Electricity and Natural Gas

Market: Targeted residential customers and housing types

Projected 2006/2007 Savings: 105,582 MWh, 671,300 Therms
Projected 2006/2007 Savings: 111,388 MWh, 671,300 Therms

Projected 2006/2007 Costs: \$12,122,000 electric, \$3,065,000 C&RD/CRC, Projected 2006/2007 Costs: \$14,125,000 electric, \$3,065,000 C&RD/CRC,

\$2,172,000 gas

#### **Purpose**

To implement cost effective, targeted, residential energy savings using a menu of prescriptive efficiency measure rebates. Prescriptive rebates are intended to facilitate participation by customers and trade allies, and provide administrative efficiencies for PSE in meeting energy efficiency goals.

# **Description**

PSE will offer prescriptive energy efficiency measure rebates to qualifying residential customers and housing types. Rebate amounts are based on regionally accepted energy savings estimates and incremental efficiency measure cost. Rebates may be subject to change in response to revisions in savings estimates, average incremental cost or changes in Federal appliance efficiency standards or State codes The most current list of Residential Energy Efficiency Rebates is maintained by the Company and available upon request. Measures may be added or removed from the Residential Energy Efficiency Rebates list in anticipation of market, standard or code changes. The table in "Customer Incentives" below, lists rebates with basic eligibility criteria that are effective January 1, 2006. Measure rebate application forms, provided by PSE to customers, will list all requirements for rebate eligibility and participation.

# **Marketing and Promotion**

PSE employs a variety of marketing, promotion and communication strategies and tactics to insure customer awareness and participation in the rebates for each measure/product. These are selected based on effectiveness/cost. They may include, but are not limited to:

- Customer bill inserts and Energy Wise customer newsletter
- Other customer communications, including *E-News* and brochures
- Energy Efficiency Hotline (phone staff)
- PSE corporate web site
- Media interviews and press releases
- Internal employee communications and training
- Cooperative retail and wholesale trade ally advertising
- Co-promotion with other utilities, local governments, agencies and non-profit organizations
- Event participation and sponsorship
- Paid print and other media advertising

#### **Customer Incentives**

	Residential En	orgy Elitoidi	i i i i i i i i i i i i i i i i i i i	A 17	
				Applic	cable To
				Existing	New
	Measure	Maximum Rebat	Eligible Housing Type(s)	Structures	Constructio
lectric Service Cu					
Lighting	Energy Star® qualified CFL Light Bulbs	\$ 4.00	Single & Multi Family	X	X
	Energy Star qualified CFL Light Fixtures	\$ 20.00	Single & Multi Family	x	x
	Energy Star qualified Washing Machines*				
Appliances	(≥ 1.8 MEF) (C&RD/CRC measure	\$ 50.00	Single & Multi Family	x	x
					х
	Energy Star qualified Dishwashers*				Builder
	(C&RD/CRC measure)	\$ 20.00	Single & Multifamily		Payment On
	Refrigerator decommissioning	\$ 35.00	Single Family	х	
Heating	Energy Star qualified Heat Pump	\$ 250.00	Single Family	х	Х
	Energy Star Manufactured Homes				
	(electrically heated) (C&RD/CRC		HUD Code Mfg. Housing		
Housing	measure)	\$ 300.00	(mobile home)		×
as Service Custo					
Water Heating			Single Family	X	х
Heating	Energy Star qualified Gas Furnace	\$ 250.00	Single Family	Х	х
·	Energy Star Manufactured Homes (gas		HUD Code Mfg. Housing		
Housing	heated)	\$ 150.00	(mobile home)		l x

<sup>\*</sup> Washing Machine and Dishwasher rebates will be revised for 2007 to reflect changes to Federal energy standards

#### **Operations**

PSE's program fulfillment contractor processes lighting and appliance rebates. Data for these rebates is reported monthly to Energy Efficiency Services. Rebates for other measures are processed in-house. Rebate forms are screened for completeness of customer entries, and for inclusion of additional required documentation, such as copies of purchase invoices or receipts. Rebate processing complies with PSE internal audit standards and for BPA audit requirements in the case of C&RD funded rebates,

# **Contingency Planning**

Participation in each measure rebate is impacted by numerous market variables. These can include:

- Product availability
- Changes in incremental product cost
- Changes in governmental requirements and standards
- Contractor availability, knowledge and skills,
- Customer knowledge, motivation and available resources to purchase a particular measure

Individual program managers maintain current market knowledge of these multiple variables and propose and implement operational adjustments to insure customer participation in the rebates.

# Commercial and Industrial Retrofit

Tariff Schedule(s):

E250, G205

Program Type:

Retrofit

Energy Type:

**Electricity and Natural Gas** 

Market:

All C/I customers except E448 and E449 and

transportation-only (non-bundled) gas customers.

Projected 2006/2007 Savings: 126,000 MWh, and 800,000 therms

Projected 2006/2007 Costs:

\$22,985,000 (\$21,091,000 electric, \$1,894,000 gas)

# Purpose

Encourage Puget Sound Energy's existing Commercial and Industrial (C/I) customers to use electric and natural gas efficiently by installing cost-effective energy-efficient equipment, adopting energy-efficient designs, and using energy-efficient operations at their facilities. In addition, incentives will be available for fuel switch measures that convert from electric to natural gas while serving the same end use.

# Description

PSE works with C/I customers to review energy consumption at the customer's facility, and to assess cost-effective energy savings or fuel switching opportunities from equipment, building shell, industrial process, or O&M improvements. These services are provided on the customer's behalf and, where specified by the customer, will be developed in conjunction with design engineers, contractors, and/or vendors. PSE will review third-party savings estimates and analyses. Where the project meets PSE costeffectiveness funding criteria, PSE will provide grants toward energy savings projects. PSE works with the customer to make sure financial decision-makers at the customer's facility are aware of the cost-savings opportunities. Upon notice of installation or implementation, PSE will verify the project as complete and operational, and payment will be issued.

All C/I customers receiving electricity or bundled natural gas service from PSE are eligible except Rate Schedule 449 Retail Wheeling customers. Projects must be approved for funding prior to installation/implementation. Customers must be purchasing both electricity and natural gas from the Puget Sound Energy to be eligible for fuel switch incentives.

Typical types of measures available for incentives (as listed in either electric schedule 250 and/or gas schedule 205) are shown below. This may not be an all-inclusive list.

# Maximum Measure Life (years)

HVAC and Refrigeration:	
HVAC – unitary	15
HVAC – central	15
BoilersHot water	24
BoilersSteam	30
Heat Recovery Systems	15
Chillers	20
Economizers	11
VAV boxes	20
Controls	
Energy Management Systems	10
Direct Digital Control Systems	10
Lighting Control Systems	10
Process and Other Efficiency Control Systems	10
Process Efficiency Improvements:	
Refrigeration Systems	15
Motor and Drive Systems	15
Fan, Compressor and Pump Systems or Stations	15
High Efficiency Motors	17
Energy Star Transformers	15
Reciprocating Engines	20
Other Process Modifications	15
Lighting Improvements:	
Fluorescent Luminaries	12
Compact Fluorescent Luminaries	12
HID Luminaries	12
LED and EL Exit Signs	12
Building Thermal Improvements:	
Roof and Ceiling Insulation	24
Exterior Roof Insulation	15
Wall Insulation	24
Insulated Windows	20
Duct Insulation	15
Water Heating Improvements:	
Water Heaters	7
Piping Insulation	15
Low Flow Devices	10
Commissioning:	
Commissioning Energy Systems	5

Customers may also be eligible for prescriptive measure rebates using Schedules E261 and G261; small business customers may also be eligible for prescriptive lighting rebates using Schedule E255.

At the customer's request, PSE staff may participate in selection of a commissioning

agent. Partial funding of retro-commissioning for energy-use systems is available based on a site assessment by PSE.

Efforts are made to align the program with other local utility and regional offerings.

Upon completion, PSE may offer the building occupant responsible for energy bills online energy-use access for the purposes of monitoring energy use and reviewing opportunities for further efficiency improvements.

# Marketing

PSE will work through traditional customer and trade ally channels to target program participants. These include targeting interested customers, business and trade associations, professional associations, energy conferences and outreach efforts, referrals through other PSE contacts, referrals and proposals from trade allies and vendors, and word–of–mouth from customers. In addition, PSE will provide information for customers through the PSE Web site and e-mail newsletters sent to business customers.

# **Customer Incentives**

Customers provide PSE with project costs and estimated savings. Customers assume full responsibility for selecting and contracting with third-party service providers. Projects must be approved for funding prior to installation/implementation. A grant agreement will be required.

Maximum grants for hardware changes are based on the Company's cost-effectiveness standard. Grants for projects are made available as a percent of the measure cost. Electric measures may receive incentive grants up to 50% of the measure cost where the grant incentive does not exceed the cost-effectiveness standard less program administration costs. Measures that exceed the cost-effectiveness standard will receive grants that are on a declining scale and will be less then 50% of the measure cost. Similarly, gas measures may receive incentive grants up to 70% of the measure cost where the grant incentive does not exceed the cost-effectiveness standard less program administration costs. Measures that exceed the cost-effectiveness standard will receive grants that are on a declining scale and will be less then 70% of the measure cost. Electric and gas measures that have a simple payback of less than a year are not eligible for a grant incentive.

Energy-use monitoring: PSE may provide secure web site access to facility energy-use data for building occupants, free of charge for up to two years. More typically, access will be free of charge for one year to allow the occupant to verify building and/or measure performance according to energy-use projections. To be eligible, customers must be on a rate schedule with demand (kW) as well as energy (kWh) charges. Compatible metering and remote data retrieval capability must be in place at the customer's facility. PSE is not obligated to replace or upgrade nonconforming meters. Customers should use the monitored information to improve energy efficiency at the facility. Customers will demonstrate annual energy savings potential through energy management operations and maintenance as well as identification of further efficiency measures and equipment upgrades.

# **Operations**

The PSE Energy Management Engineer (EME) and the manager of C/I Conservation oversee all incentives and program operations. EME's update project changes in the tracking system and review monthly results. The manager of C/I Conservation reviews the cost-effectiveness of all efforts. A review of results and refinement of program strategies are conducted annually.

# **Contingency Planning**

Incentives for short and long payback projects will be adjusted as needed, according to market conditions.

# **Commercial and Industrial New Construction**

Tariff Schedule(s): E251, G251
Program Type: New Construction

Energy Type: Electricity and Natural Gas

Market: All C/I customers including mixed use and multi-family

facilities except E448, E449 and transportation-only (non-

bundled) gas customers.

Projected 2006/2007 Savings: 8,000 MWh, and 300,000 therms

Projected 2006/2007 Costs: \$1,429,000 (\$1,124,000 electric and \$305,000 gas)

#### **Purpose**

Encourage efficient design, building components and equipment in new buildings by working with designers and builders of new Commercial and Industrial (C/I) facilities. Provide incentives for installation of cost-effective energy efficient equipment to achieve savings beyond the applicable Energy Code.

#### Description

Owners and developers of facilities to be served by PSE with electricity or natural gas are eligible for new construction incentives. PSE works with owner-assigned designers and developers of new C/I facilities or major remodels, to propose cost-effective energy efficient designs, and equipment/systems that are at least 10% more efficient than the applicable energy code. Mixed use and only multifamily facilities that have a central heating-cooling system are also eligible under this program. In most cases the applicable energy code is Washington State Energy Code, also referred to as "NREC" – Non-Residential Energy Code. Gas projects in Seattle fall under the Seattle Energy Code provisions. PSE funding is available towards the cost of installing energy efficient measures using the whole building approach, component measure approach or prescriptive rebates available under Schedule E262 and G262.

The preferred method for participation is to have the project achieve 10% or more overall energy savings reduction from energy code requirements using the whole building approach. PSE will work with owner's designated designers and others to select and help fund designs and/or measures to meet the savings goal. PSE participates in an integrated design approach to suggest recommendations for achieving a first level energy goal of 10% savings beyond code requirements. Whole building incentives are available for buildings that meet or exceed the 10% goal, as demonstrated using accepted energy modeling. Performance beyond the 10% minimum will receive a proportionally higher incentive up to 30% level of performance better then a code baseline. The incentive will max out at the 30% level while the performance maybe higher.

A component measure approach, similar to meeting energy code compliance using the code's prescriptive path, is another way to qualify for PSE funding. PSE reviews measures and design elements contributing to going beyond energy code requirements. Where a recommended measure achieves savings beyond the applicable energy code, PSE provides grant funding in accordance with cost-effectiveness guidelines. Individual measures selected for funding must be at least 10% more efficient than a baseline measure meeting code in order to receive an incentive. Certain new construction

measures are available for prescriptive rebates listed under Schedules E262 and G262.

PSE staff may participate in selection of a commissioning agent, when requested. Third party commissioning will be eligible for an incentive in addition to the design related incentives: whole building, component or rebates.

Efforts are made to align the program with other local utility and regional offerings.

Upon completion, PSE may offer the building occupant responsible for energy bills online energy-use access for the purposes of monitoring energy-use, commissioning and reviewing opportunities for further efficiency improvements.

# Marketing

The new construction program targets larger commercial projects, where the owner/enduser is involved in specifying building user's functional criteria. This type project typically has the greatest potential for cost-effective savings and more opportunities for flexibility in the design.

PSE marketing primarily targets architects, designers and engineering firms, including participation in AIA, ASHRAE and Cascadia Chapter of the US Green Building Council. Recent studies indicate that these participants have the most influence on owners and developers, who are the decision-makers. Additional marketing will target NAIOP (National Association of Industrial and Office Properties) as a network to reach, educate and influence owners of large new commercial projects. For new construction program purposes, the project owner is the PSE customer. PSE will work with designers, contractors and trade allies at the request of the owner or owner's representative.

PSE will provide program information to help motivate customers and trade-allies through <a href="www.pse.com">www.pse.com</a> and e-mail newsletters. PSE hosts Better Bricks workshops targeting education and awareness for architects and the design community; brown bag events at engineering firms, and round tables to promote problem solving for new design issues.

#### **Customer Incentives**

Customers provide PSE with project costs and estimated savings. Customers assume full responsibility for selecting and contracting with third-party service providers. Projects must be approved for funding prior to installation/implementation. A grant agreement or signed prescriptive measure rebate application will be required.

Whole Building incentives: Provides incentive for projects designed and built more energy efficient than the applicable energy code that exceed the code by a minimum of 10%. Requires approved building simulation model and a "code baseline" building. The incentive is \$0.40/square foot of conditioned space at the 10% performance level and increases proportionally to \$1.20/square foot of conditioned space at the 30% performance level. Performance is measured by the percent reduction in energy use of the proposed building in comparison to a baseline energy code minimum building. Buildings in PSE's electric service territory but receiving gas for space heating from other providers must exceed the performance of the electric energy use by a minimum of 10% and will be eligible for 50% of the incentive rate as stated above.

Eligibility for Whole Building incentives: Whole Building Incentives are designed for buildings which will receive both electricity and natural gas service from PSE in the

future. Projects to be served only with natural gas from PSE do not qualify for Whole Building incentives. Projects using multiple energy sources, but to be served only with electricity from PSE must demonstrate that the electricity-efficiency as well as the whole-building efficiency is improved by a minimum of 10% to receive the associated incentive. Low energy-intensity facilities using less than 40,000 BTU/sf-yr for HVAC, lighting and water heating as a code-baseline (e.g. warehouses, religious facilities) do not qualify for Whole Building incentives, but may use the component or prescriptive approach. The energy modeling must follow guidelines set forth in Washington State code Appendix: Reference Standard 29 (RS-29). Fuel Switching is not allowed between the baseline systems and the proposed design.

Component Measure incentives: For energy-efficient measures with a simple customer payback greater than one year, PSE provides grants toward the installed cost of the measure. Maximum grants will be based on the Company's cost-effectiveness criteria. Electric measures may receive incentive grants up to 50% of the measure cost where the grant incentive does not exceed the cost-effectiveness standard less program administration costs. Measures that exceed the cost-effectiveness standard will receive grants that are on a declining scale and will be less then 50% of the measure cost. Similarly, gas measures may receive incentive grants up to 70% of the measure cost where the grant incentive does not exceed the cost-effectiveness standard less program administration costs. Measures that exceed the cost-effectiveness standard will receive grants that are on a declining scale and will be less then 70% of the measure cost. Typical types of measures available for incentives (as listed in either Tariff Schedule E251 and/or G251) are listed below. This may not be an all-inclusive list:

# Maximum Measure Life (years)

HVAC:	
HVAC	15
Evaporative assist cooling for HVAC equipment	
HVAC – central efficiency upgrade	
Heat Recovery Systems	15
Chiller efficiency upgrade	20
Controls:	
Direct Digital Control Systems	10
Innovative Lighting Control Systems	10
Process and Other Efficiency Control Systems	10
Process Efficiency Improvements:	
Refrigeration Systems efficiency upgrades	20
Motor & Drive Systems efficiency upgrade	
Fan, Compressor and Pump Systems	
Energy Star Transformers	15
Other Process Modifications	15
Lighting Improvements:	
Compact Fluorescent Luminaries	12
HID Luminaries	
Low voltage Halogen	
Building Thermal Improvements:	
High Efficiency class 35 Windows	30

New Construction Prescriptive Rebates: Rebate measures apply to new construction except when required by the applicable energy code and as available under Schedule E262 & G262.

Building Commissioning: Where funding for installed measures is provided, PSE requires a copy of commissioning work items completed and presented in the final commissioning report, as required by the energy code. In addition, if the customer

engages the services of a third party commissioning agent who is independent of the design and construction team, then they maybe eligible for an incentive. The commissioning agent must be involved from the initial design of the project. PSE will consider the measure cost as that portion of the commissioning agents services that will impact energy efficiency on the project. The incentive is \$0.10/square foot of conditioned space to a maximum of 50% of the commissioning fee based upon the measure cost defined above.

Energy-use monitoring: Upon occupancy, the Company may provide secure web site access to facility energy-use data for building occupant, free of charge for up to two years. More typically, access will be free of charge for one year to allow the occupant to verify building and/or measure performance according to energy-use projections. To be eligible, customers must be on a rate schedule with demand (kW) as well as energy (kWh) charges. Compatible metering and remote data retrieval capability must be in place at the customer's facility. PSE is not obligated to replace or upgrade nonconforming meters. Customers should use the monitored information to improve energy efficiency at the facility. Customers will demonstrate annual energy savings potential through energy management operations and maintenance as well as identification of further efficiency measures and equipment upgrades.

#### **Operations**

The PSE Energy Management Engineers (EME) and the manager of C/I Conservation oversee all incentives and program operations. EME's update the project status in the tracking system and review results monthly. The manager of C/I reviews the cost-effectiveness of all efforts. A review of results and refinement of program strategies and/or measures is conducted periodically.

#### **Contingency Plans**

The recovery rate of the economy and current inventory of building space is expected to have an impact on new building starts in the next few years. Incentives will be adjusted according to market conditions.

# **Resource Conservation Manager (RCM)**

Tariff Schedule(s): E253, G208

Program Type: Behavior, Operations & Maintenance, Energy

Accounting

Energy Type: Electricity and Natural Gas

Market: C/I customers with multiple facilities Projected 2006/2007 Savings: 17,500 MWh, and 800,000 Therms

Projected 2006/2007 Costs: \$1,629,000 (\$1,108,000 electric, \$521,000 gas)

#### **Purpose**

Achieve customer cost reductions for major resource utility bills through behavioral changes, operational improvements, facility maintenance, and attention to utility-cost accounting. Most of the savings are from changes in practices, and do not require major investments in equipment.

# **Description**

PSE offers Resource Conservation Manager Services (RCM) to any school district, public-sector government agency, and commercial or industrial (C/I) customer, with a focus on larger customers with multiple facilities. The utility customer employs or contracts with someone who has designated "RCM" resource management responsibilities, including accounting for resource consumption and savings. This includes oil, propane, water, sewer, garbage and recycling data as well as electricity and natural gas.

Puget Sound Energy's RCM program is comprised of a "menu" of service features, which can be tailored to meet the specific needs of the customer. Typical RCM support services include:

- Assist in designing and implementing an RCM program;
- Assist in hiring or contracting a Resource Conservation Manager;
- Provide assistance in developing baselines, resource policy guidelines; and facility plans;

#### **Resource Accounting Software**

- Assist in the purchase and implementation of resource accounting software;
- Perform audits of existing databases to review for inclusion of all facilities, accounts, meters, etc., sufficient facility details, missing data, and overall data integrity.

#### **Technical Assistance**

- Provide assistance with on-site walk-through audits to identify resource savings opportunities;
- Assist in analyzing and reporting savings relative to established baseline;

#### **Education & Training**

- Provide training for Resource Manager and other facility personnel such as custodians and maintenance staff;
- Provide educational materials for classroom or building occupant use;
- Energy Data Services;

- Provide PSE billing data in electronic format for import into resource accounting software;
- Provide energy-use-metering services for web viewing of facility gas and electric meter data.

# **Site-Based Incentive Programs**

- Provide cash incentive programs for specific actions by occupants and staff in individual facilities, which reduce energy consumption.
- PSE provides a grant to partially fund a start-up RCM position, provided there is a mutual agreement that the customer will match the "start-up" funding support.

The program complements educational objectives included in Puget Sound Energy's Powerful Choices program.

PSE is exploring ways to make RCM cost-effective for smaller customers. Shared RCM services among a group of smaller organizations has generated interest from local governments and other organizations with smaller facility portfolios. PSE efforts will continue to work with RCM consultants to develop this market.

PSE has also assisted schools in participating in EPA's Energy Star program. PSE will continue to help identify potential award targets, improve energy efficiency to meet award qualifications, coordinate the application and inspection process, and submit material to EPA for Energy Star awards.

# **Marketing**

PSE recruits participants through direct contact with administrators of school districts, colleges, municipalities, etc. Program awareness is also increased by contacts at trade associations and professional organizations, through partnerships with water departments, and using exhibits at seminars, workshops, and expositions. Interest in the RCM concept is growing around the region and nationwide as the program becomes recognized as an effective way to reduce operating costs.

To date, over 50 customers, mostly school districts and government agencies are developing RCM concepts. Participation is growing at five to ten customers per year with varying levels of participation. Eight largest school districts in PSE territory account for over 80% of the electricity use in that sector. For natural gas, schools and universities are the largest consumers in the market segment most appropriate for RCM services; PSE will evaluate strategies to increase participation from universities.

Interaction with C/I incentive programs provides both a source of leads for RCM marketing as well as a source of potential projects for retrofit measures identified through RCM activities.

#### **Customer Incentives**

PSE continues to develop creative incentive options to increase RCM activities for a variety of customer segments.

Resource Accounting Software – PSE will assist in selection, purchase, and set-up of resource accounting software and support annual maintenance fees if the customer agrees to maintain the system and provide quarterly consumption reports.

Initial Cash Incentive – For qualifying organizations, PSE will pay a cash incentive determined as a percentage of the typical RCM salary to help get the program started with initial set-up of utility database and program organization. PSE will fund 25% of the time spent on establishing the RCM program during the first year provided the customer completes the database set-up and develops a resource management plan. Customers receive support tailored to their needs, including staff training, technical assistance, interval metering, salary guarantees, site-based incentives, and other services.

Salary Guarantee – PSE will provide a salary guarantee that the customers' total resource bill savings achieved by RCM activities relating to occupant and behavioral practices and improvements in operational and maintenance (O&M) practices, exceed the salary of the RCM. If not, the difference will be paid to the customer up to the value of the natural gas and electrical savings achieved, as determined by weather corrected reduction of the customer's utility bills or by single measure calculations agreed to by PSE.

Site-Based Incentives – PSE may award cash incentives directly to a school for implementation of verifiable behavioral changes by the students, teachers, maintenance and custodial staff members. Awards up to \$500/school and up to \$2,500/district for implementation of RCM recommended activities.

#### **Operations**

Puget Sound Energy's RCM program manager meets with interested customers to explain RCM concept and encourage participation. An application form collects information on gas and electricity consumption and costs; costs for other energy sources; budgets for water, wastewater, solid waste; total square footage of all facilities; and estimated RCM salary.

PSE works with the customer to make a preliminary estimate of the cost-effectiveness of the program. Most organizations can reduce annual costs from 10% to 15% over a three-year period. First year savings are typically in the 3% to 5% range.

Customers enter into a three-year agreement and the salary guarantee is paid, if necessary, at the end of that period. PSE can also work with other utilities to coordinate program support and salary guarantees offered by supporting organizations.

The Company's RCM program manager coordinates implementation of resource accounting systems, training opportunities and quarterly meetings. Additional PSE staff time is required to assist and advise RCM customers as they learn about energy management issues and implement resource accounting programs. Each participating RCM reports savings results. PSE ties incentive funding and guarantees to submittal of quarterly and annual reports.

Savings are calculated using industry standard engineering practices and energy accounting methodologies. The annual savings are a variance from the previous year and given a three-year measure life. Savings are adjusted for weather and square footage as necessary.

PSE supports efforts for recruiting and training qualified RCMs and key personnel. It is a challenge to maintain RCM staffing levels after the "easy" savings have been achieved. PSE is exploring performance-based incentives provided customers meet end-of-year savings targets each year of the agreement.

Annual surveys are used to evaluate customer satisfaction, as input for additional offerings, and to improve marketability.

# **Contingency Planning**

If participation among schools continues to be sluggish, PSE may consider cost sharing first year salaries at 50% if the district commits to hiring a full time RCM.

Persistence of savings is an issue, especially for behavioral measures. If savings is dropping below estimated values, PSE may consider year two and year three cash incentives to encourage continued focus on RCM at the facilities. To maintain savings levels, PSE could further assist with energy audits, help RCMs identify savings opportunities, report savings, or complete other tasks to maintain visibility within their organization.

# **Small Business Lighting**

Tariff Schedule(s):

E255

Program Type:

Retrofit Electricity

Energy Type:

Market:

Small Commercial Customers served under Rate Schedule

24 or 08

Projected 2006/2007 Savings: 17,500 MWh

Projected 2006/2007 Costs:

\$4.048.000

# **Purpose**

Provide a menu of lighting retrofit rebate options that meets the needs of most small business customers. Maintaining a network of lighting contractors and vendors that effectively serves small businesses.

# Description

This program is a prescriptive rebate program targeting lighting retrofits. It offers a variety of fixed-incentive lighting rebates, and is designed to streamline delivery to a wide variety of small commercial businesses and building types. Eligibility is limited to Schedule 24 and Schedule 8 electric customers, i.e. electrical demand less than 50 kW per month.

Rebates cover over a dozen efficient incandescent and fluorescent lighting conversions. Lighting controls rebates are also available through another prescriptive rebate program that is available for any size commercial customer.

Participating customers complete a three-page application and submit it to PSE for approval prior to installation. Customers may hire a contractor or use in-house personnel for the installation. Customers may also take advantage of other rebate offerings. Projects do not have minimum or maximum dollar amounts, and installation can be in phases.

Lighting waste disposal documentation is required for projects that upgrade straight-tube fluorescent lighting. Documentation is evaluated to insure that disposal is through an acceptable waste recycling or storage facility.

The program also provides custom grants for small business lighting retrofit projects. These grants are similar to those provided under Schedule 250. If a proposed project is not appropriate for a prescriptive rebate, the project may qualify for a grant if it falls within the cost-effectiveness guidelines of the Grant program.

#### Marketing

Energy Advisors, lighting contractors and vendors, the PSE web site, and program administrators will provide most outreach and information for the program.

Additional promotion will be used as needed, including: bill inserts, advertising, case studies, press releases, general-interest articles in local publications and Puget Sound Energy's e-newsletter for business customers.

# **Customer Incentives**

Incentives are set at current levels to:

- Capture the small business manager's attention in an environment where many different projects compete for the manager's time.
- Cover a high percentage of the material cost for in-house (materials-only) installations.
- Enable contractors to achieve a sufficiently high sales closure rate to sustain interest in the program.
- Achieve close parity with the incentives that commercial customers receive under the C/I Grant program (Schedule E250).

General Categories of Rebate Measures	Rebate Range per unit
<ul> <li>Incandscent lamps &amp; Fixtures/Exit Signs Replacements</li> </ul>	\$3-\$45
Higher Wattage Incandscent & HID, Retrofits & Fixtures	\$55-140
4' & 8' Flourescents – Lamps & Ballasts Retrofit	\$30-\$35
4' & 8' Flourescents – Conversion Kits (NTRL Listed)	\$45-\$55
4' & 8' Flourescents – New linear T8 fixtures	\$35-65

- Measures not covered under the small business lighting rebate schedule may receive a incentive under the "Custom Analysis" line item on the rebate form.
- Custom analysis grants will be based based on the Company's cost-effectiveness standard. Grants for projects are made available as a percent of the measure cost. Custom analysis measures may receive incentive grants up to 50% of the measure cost where the grant incentive does not exceed the cost-effectiveness standard less program administration costs. Measures that exceed the cost-effectiveness standard will receive grants that are on a declining scale and will be less then 50% of the measure cost. Custom analysis measures that have a simple payback of less than a year are not eligible for a grant incentive.

# **Operations**

Management will review program results monthly and compare to targeted program costs and energy savings. Changes in program promotion, operation, retrofit options and incentives will be made when needed. Relatively few changes are anticipated in 2004.

Challenges and uncertainties include: 1) general customer concern over energy costs and the general economic climate, 2) the amount of older-style lighting present in small business facilities, and (3) how interested lighting contractors are in bidding on and following through with small jobs.

All participating customers are asked to complete an evaluation form that rates their experience with the program. The form also gives them the opportunity to make suggestions and comments.

# **Contingency Planning**

Retrofit options, marketing and the fulfillment process will be modified, as needed, to respond to developments in technology, customer acceptance and supplier/contractor pricing.

# Commercial and Industrial Gas Boiler Tune-up Pilot

Tariff Schedule(s): G259

Program Type: Operations & Maintenance

Energy Type: Natural Gas

Market: Commercial and Industrial

Projected 2006/2007 Savings: 300,000 Therms

Projected 2006/2007 Costs: \$185,000

# **Purpose**

Encourage Puget Sound Energy's C/I customers to have the air to fuel ratios tuned up on their large boilers on a regular basis by providing a one-time incentive.

# **Description**

It has been the experience of PSE Energy Management Engineers, City of Seattle boiler inspectors and mechanical contractors that commercial customers seldom have the air to fuel ratios tuned on their boilers. A boiler that has not been tuned for many years can use as much as 20% more gas fuel. This pilot program will consist of working with mechanical contractors to provide sufficient incentive to persuade customers to have their boilers tuned up for the first time and may generate a checklist of additional boiler plant improvements. The customer maybe eligible for incentives for the additional measures under schedules G205 or G262.All firm, non-transportation PSE gas C/I customers with gas boilers that can be tuned are eligible. Funding will be limited to one time per boiler per site.

# **Marketing**

Contacts will be made with mechanical contractors who perform boiler tune-ups. Targeted mailings will be directed to customers of the size and type that might have a boiler. There may also be a mailing list available through appropriate sources, e.g., from the state, listing boiler owners. Brochures are available; customers calling the Hotline are queried as to eligibility and interest.

#### **Customer Incentives**

PSE will rebate up to \$600 per boiler tune-up, or 100% of the cost, whichever is less.

# **Operations**

A program manager works with contractors, solicits participants, and screens customers for eligibility. A brochure, and boiler tune-up rebate forms are available. The application and boiler tune-up work must be pre-approved for incentive funding.

# **Contingency Planning**

With this larger set of eligible customers, if response remains lower than predicted, calls will be made to contractors and customers to evaluate the reason for the negative response, and additional mailings may be sent.

# **LED Traffic Signals**

Tariff Schedule(s):

E257

Program Type:

Lighting Retrofit

Energy Type:

Electricity

Market:

Cities, Counties, Washington State DOT

Projected 2006/2007 Savings: 2,000 MWh Projected 2006/2007 Costs:

\$150,000

# Purpose

Increase local and state installation of energy-efficient red and green LED traffic lights.

# Description

The program educates public-sector customers with traffic control authority (cities, counties, and DOT's) on the benefits of installing red, yellow and green LED traffic signals. PSE provides an LED informational packet along with a rebate application by mail or in person. Customers must receive electric service from PSE to qualify for the rebates, and customers with unmetered accounts must document all connected load at the intersection. New installations after 01/01/07 will not be eligible for an incentive as the LED will be required by code.

# Marketing

PSE will continue to partner with the Association of Washington Cities, send direct mailings, and make personal contacts with customers to promote the program.

Customers will be encouraged to find additional ways to save energy in office buildings through the cross selling of other PSE energy efficiency commercial programs.

# **Customer Incentives**

Rebate amounts are presented in the following table:

Description	RED	GREEN
Thru <sup>1</sup>	\$10	\$20
Arrow	\$10	\$20
Walk	\$10	\$20

Note 1: Additional \$5/yellow if Yellow Thru light is replaced in conjunction with Red & Green

# **Contingency Planning**

PSE has been operating an LED program since 1999 and expects steady participation levels. Projects have required long lead-times for budget approvals and coordination with ongoing maintenance cycles at the jurisdictions.

# Large Power User Self-Directed

Tariff Schedule(s): E258

Program Type: Self-Directed Retrofit

Energy Type: Electricity

Market: Large C/I Power Users (Rate Sch. 40, 46, 49, 448 and 449)

Projected 2006/2007 Savings: 5,000 MWh Projected 2006/2007 Costs: \$731,000

#### **Purpose**

Acquire cost-effective energy savings from large Commercial and Industrial (C/I) customers by providing incentives that support self-directed energy efficiency projects that the Customers themselves propose.

# **Description**

This program provides an Energy Efficiency Project Request for Proposal (RFP) to C/I customers receiving high-voltage electrical service under Schedules 40, 46, 49, 448 and 449. The RFP will offer incentives for new energy efficiency projects conceived, developed, and implemented by customers for their facilities. Customers submit a project information form with supporting documents for the Company's review and approval. Customer proposals will be evaluated by the Company's engineering staff for cost-effectiveness, and for energy code and tariff compliance. The customer then signs a standard PSE Conservation Grant Agreement, defining the total project cost and the Company's incentive amount, prior to installation of project measures. All projects will be field-verified by the Company as completed and operating before the grant payment is made.

Forty customers are anticipated to be eligible for this program. All of them will be notified of the opportunity via direct mailing of an introductory letter and RFP package. Eligible customers owning additional facilities in the Company's service area that are served under other primary or secondary service schedules can include such facilities in their project proposals. Schedule 40,46 and 49 - customers will also be eligible for other PSE conservation programs after they have used their Schedule 258 incentive allotment.

Key stakeholders include the high voltage customers, Industrial Customers of Northwest Utilities (ICNU) association, vendors, contractors, engineering firms, and regulating authorities.

# **Marketing**

Effort will be made with the program to ensure that these customers have every opportunity to take advantage of the incentive allocation. If it becomes evident early in the schedule that some customers are having difficulty initiating the program process, the Company will offer extra assistance to identify projects and perform any required follow-through.

#### **Customer Incentives**

Each eligible customer will be allocated an incentive amount proportional to the Schedule 120 Conservation Rider revenues they contributed to the Company's Conservation Program.

The incentive budget will be the electric schedule 120 revenues less deductions made for the Company's administrative program costs (7½%) and for the Northwest Energy Efficiency Alliance (NEEA) budget line item (10%). The total electric schedule 120 revenue amount and customer allocation will be determined by the Company's Rate Department.

Conservation projects will be subjected to Company's Total Resource Cost Test to determine the grant amount to be paid. For projects with a Total Cost less than 100 percent of the Company's Full Avoided Cost (FAC) for electricity, the customer can use all the allocated incentive (or a portion thereof). For projects with a Total Cost over 100 percent of the FAC, the incentive will be reduced proportionally out to 150 percent of FAC where it becomes zero.

#### **Operations**

A PSE Coordinator oversees all aspects of the process, from program planning through the final verification of installed projects and the delivery of the grant payments.

Sufficient training and program information will be provided to customers to facilitate the process of defining, submitting, and implementing conservation projects. Customer meetings will be held as needed for program initiation and updates. Also, email reminders will flag upcoming milestone dates and other critical information.

A dedicated project tracking system will be developed to ensure that customer projects reach the program milestones on schedule. Surveys will be sent at the end of the program year to some of the customers to determine program satisfaction and process effectiveness. Internally, PSE will determine cost-effectiveness by reviewing actual program costs and energy savings compared to the budget figures.

# **Contingency Planning**

The project tracking system and milestone schedule will signal any slow-down in project activity. When a project is detected to be off-schedule, PSE will work more closely with the customer to help facilitate the process and mitigate any obstacles preventing project implementation.

# **Commercial Energy Efficiency Rebates**

Tariff Schedule(s):

E262, G262

Program Type:

Retrofit Rebates

Energy Type:

**Electricity and Natural Gas** 

Target Market:

Existing facilities, All Commercial and Industrial customers

as appropriate, target markets emphasized for select

measures

Projected 2006/2007 Savings:

14,000 MWh, and 300,000 Therms

Projected 2006/2007 Costs:

\$1,405,000 (\$1,175,000 electric, \$230,000 gas)

# **Purpose**

Expedite installation and streamline commercial and industrial retrofit program administrative costs by encouraging installations to select electric and gas efficiency measures in commercial buildings.

### Description

PSE will offer fixed rebates for select, commonly applied measures to commercial customers. Rebate measures are those with energy-savings that can reasonably be standardized over a wide variety of applications, and that have competitive market pricing to ensure cost-effectiveness. The current list (effective January 2006) of eligible Commercial Rebates is maintained by the Company and made available upon request. Rebate amounts are updated as market conditions change.

The Premium HVAC Service program was a pilot and is now being incorporated as a general offering under the commercial rebate program. This program as designed trains HVAC contractors to offer enhanced ("Premium Service") maintenance services to their customers. The premium service adds a focus on energy saving measures while continuing to offer the standard maintenance services.

## Marketing

- Brochures, e-news articles and promotion via energy advisors and other PSE reps
- Coop advertising with Manufacturer promotion of PSE rebate
- Selected Contractors, supply houses and/or retailers
- Participation, announcements in Customer Associations such as BOMA, WAMOA, Washington Restaurant Association, Retailers Association, Associated Grocers, Hospital Association.
- Coop promotion with water utilities for water-savings measures

Rebate measures are targeted to appropriate commercial markets. HVAC rebates are based on modeling for office and retail occupancies. Other measures are targeted to one or more of the following additional segments: Large office, Small office, Large Retail, Small and Specialty Retail, Restaurants, Hotels/Lodging, Groceries, Convenience Stores, Hospitals, HealthCare/ Assisted Living, schools and Property Management.

# **Measure Analysis**

For measures with a flat rebate per unit amount, PSE uses regionally or nationally accepted energy savings estimates. Where not readily available, incremental costs are

based on best determination of the "incremental" cost of the measure, that is the additional cost above a standard installation using a less efficient model. PSE monitors "incremental" cost in the marketplace and will adjust rebates as these costs change.

# **Customer Incentives**

The Commercial and Industrial measure rebate list is maintained and current list is available from the Company. In some cases, rebates are a flat dollar amount, usually for a "measure" or "device" that is a "stand alone" unit. Customers can generally select from among qualifying models (e.g. washing machines) or the product may be unique in the marketplace (e.g. single manufacturer for vending machine controllers). In other cases, rebates are a flat amount per "unit size" of the measure, where unit size may be "per ton" or "per horsepower". In several cases, PSE has worked with consultants on studies to develop rebates tied to square feet of conditioned space, because engineering savings depend on the size of the building more heavily than the size of the equipment. For example, ECM Motors are rebated per square foot of conditioned space.

As of January 2006 the Commercial Rebate List, showing customer incentives for each measure is as follows. For each measure, comments regarding the incentives are below.

- Vending Machine Controller: Direct install program that installs the vending miser at customer's site at no charge to customers. Customers who purchase the vending miser and install the device in-house will receive \$80 per vending miser unit.
- Thermostat Controllers for Portable Classrooms. There are three options available.
  - Option A 365-Day Programmable Thermostat rebate is 100% of thermostat cost up to \$250 maximum.
  - Option B 365-Day Programmable Thermostat with integral occupancy sensor that controls ventilation OR lighting rebate is 100% of cost up to \$300 maximum
  - Option C -- 365-Day Programmable Thermostat with integral occupancy sensor that controls ventilation AND lighting rebate is 100% of cost up to \$350 maximum
- Solid Door Refrigerators meeting Energy Star or "SuperSaver" CEE Tier II standards.
  Customer incentives range from \$30-\$50 for Energy Star, and \$125-\$175 for CEE
  Tier II Refrigerators, depending on size, one-, two-, or three-door units. For
  Freezers meeting "SuperSaver CEE Tier II standards, incentives range from \$150\$200; Energy Star freezers are already prevalent in the market place and do not
  require incentives.
- High-Efficiency Washing Machines, for high-use commercial applications, including multi-family laundry rooms. \$200 incentive for washers using either PSE electricity or natural gas to heat water. PSE will coordinate with regional utilities for additional incentives when available and where applicable.
- Pre-Rinse Sprayheads: Installed at the customer's site at no charge to the customer. Savings are electric and natural gas water heat.
- LED Exits Signs \$35 per unit for retrofit applications only. (This measure is considered standard practice in new construction.)
- Occupancy Sensors (OS) and Timer Controls: There are two rebate options:

Option A: OS & Timer Controlling 100-200 Watts rebate is \$35/installed unit Option B: OS & Timer Controlling >200 Watts rebate is \$60/installed unit

- Variable –Speed Drives: \$50 per HP for fan applications & \$65 per HP for pump applications, where not required by Energy Codes. Variable Speed Pumps in Heat Pump and other HVAC Water Distribution Loops in retrofit applications are eligible for rebates. For new construction, VF Pumps for HVAC water distribution loops are required by State and Seattle Energy codes, except where installed in Multi-family and systems under 10HP.
- Electronically-Commutating Motors driving series variable air volume zone terminal fans: Rebate = \$0.12 per square foot of controlled area, not to exceed 50% of measure cost. This measure is required by Seattle Energy Code, and is only available for projects not required to meet the Seattle Code.
- CEE Tier II Rooftop Packaged HVAC units. Rebate \$30/ton, not to exceed 50% of the incremental cost of the unit.
- Energy Star TP-1 Transformers: \$2.50 per kVA, not to exceed 50% of the incremental cost of the unit. This rebate will no longer be available to new construction projects after 01/01/07.
- Premium HVAC Service: Three rebate incentive levels, ranging from \$350 to \$750
  per unit, have been established depending on the level of Premium Services and
  amount of equipment repair or replacement required at the site.

# **Operations**

The Rebate Program Manager and Administrative Specialist collect tracking data, monitor program performance, and report results and trends. Manager works with equipment suppliers/vendors. This program is coordinated closely with Commercial Industrial Retrofit, Rate Schedules E250 and G205. Measure costs in marketplace are monitored. Program refinements and cost-effectiveness are reviewed with engineering staff and the CI manager as necessary on an ongoing basis. Challenges include customer economic concerns in the current economic climate.

# **Contingency Planning**

Rebate measures, marketing and the fulfillment process will be modified, as needed, to respond to developments in technology, customer acceptance and/or changes in supplier/contractor delivery and pricing.

# **Local Infrastructure and Market Transformation**

Tariff Schedule(s):

E270, G270

Program\_Type:

Market Transformation Electricity and Natural Gas

Energy Type: Market:

Residential, Commercial, Industrial

Projected 2006/2007 Savings:

Not quantified

Projected 2006/2007 Costs:

\$200,000 (\$150,000 electric, \$50,000 gas)

# **Purpose**

Provide education, and/or services to develop long term energy-efficiency products and practices, which are designed to achieve long term kWh savings benefits for customers receiving electrical service. Conduct research in support of developing new conservation measures and programs.

# **Description**

Measures to be delivered will be developed on a project by project basis, primarily dealing with education about energy efficiency and information about Puget Sound Energy's energy efficiency services. Measures can include participation in conferences and energy efficiency trade shows aimed at reaching a broad array of customers and trade allies. The company may provide support or fees to energy efficiency industry, trade ally and customer associations with interest in education and promotion of energy efficiency benefits. Special, small-scale demonstration projects or engineering pilot tests of measures not included in current programs may be eligible, at the Company's discretion.

Under this program the company will receive indirect or longer term kWh savings benefits, difficult to measure in the short term. Support will be based on the ability to provide education and information on electricity savings to a wide variety of customers, in order to enhance the overall effectiveness of the Company's Electricity Conservation Programs.

# Marketing

The company may provide financial support for energy efficiency activities available to, or projects designed to benefit Puget Sound Energy's customers, undertaken by local energy efficiency organizations, including activities designed to leverage NEEA-funded projects in the Company's local service territory.

# **Energy Efficient Technology Evaluation**

Tariff Schedule(s):

E261, G261

Program Type:

Market Transformation

Energy Type:

Electric & Gas

Market:

Residential, Commercial, Industrial

Projected 2006/2007Savings:

Not quantified

Projected 2006/2007 Costs:

\$320,000 (\$220,000 electric, \$100,000 gas)

# **Technology Evaluation**

PSE will review available literature to find information on new, energy efficient technologies and products. PSE will draw on the experience and research of others; e.g. E-Source, NEEA, WSU and other utilities. "New" measures must be significantly different from measures already qualifying for grants on the PSE program.

The focus of the research will be on practical, cost effective technologies and measures that can be immediately implemented. Technologies must be based on generally accepted engineering or scientific principles. Savings must be quantifiable, using generally accepted engineering calculations.

PSE will demonstrate actual performance, as needed, through laboratory tests or in customer installations. For demonstration projects, PSE may provide customer incentives of 50% of the installed measure cost. Demonstration grants are not required to meet normal program funding requirements; however, preliminary calculations must show reasonable expectation that the measure will qualify using normal funding criteria.

After a measure is approved for a grant or rebate program, it may be listed on the Bonus List if it needs temporary additional funding to support "technology transfer".

All commercial and industrial customers receiving electricity and/or bundled natural gas service from PSE are eligible. The customer must be a willing participant and understand the risks and uncertainty. There is no PSE guarantee of savings or product suitability. (Note: NEEA is currently developing a waiver for manufacturers to agree not to take legal action if product evaluation results are not favorable.)

# **Northwest Energy Efficiency Alliance (NEEA)**

Tariff Schedule(s):

E254

Program Type:

**Market Transformation** 

Energy Type:

Electricity

Market:

Residential. Commercial and Industrial

Projected 2006/2007 Savings: 29,000 MWh Projected 2006/2007 Costs:

\$3,305,000

# Description

Puget Sound Energy has been a major financial supporter of the Northwest Energy Efficiency Alliance, and is represented through a position on the Alliance's Board of Directors. The primary function of the Alliance is market transformation for the benefit of energy efficiency at the manufacturing and retail level. PSE staff participates in review and development of Alliance funded projects. PSE leverages Alliance information to develop energy efficiency programs for the benefit of PSE Customers. Puget Sound Energy's current representative on the Board of Directors is Bob Stolarski.

# **Net Metering for Customer Generators**

Tariff Schedule(s):

E150

Program Type:

Regulatory Requirement

Energy Type:

Electricity

Market:

Residential, Commercial, Irrigation

Projected 2006/2007 Savings: Not quantified

Projected 2006/2007 Costs:

\$180,000

# **Purpose**

To provide interconnection services for qualifying customer-generators in accordance with State legislation enacted into law in February 11,1999 and amended June 8, 2000.

# Description

PSE provides interconnection services to qualifying customer generators who operate fuel cells or hydroelectric, solar or wind generators of no more that 50 kW. Service under this schedule is limited to a total of 4.5 MW of cumulative nameplate generating capacity, of which no less than 2.25 MW of cumulative nameplate generating capacity shall be attributable to net metering systems that use either solar, wind, or hydroelectric power as its fuel. Customer generation can be used to offset part or all of the customergenerator's electricity use under Schedules 7, 24, 25 or 29 of Electric Tariff G. Detailed requirements may be found in the following documents:

http://www.pse.com/account/pdfs/elec sch 150 web 2004 05 13.pdf

http://www.pse.com/account/pdfs/elec\_sch\_150\_attch\_a\_web\_2004\_05\_13.pdf

# Marketing

PSE's Energy Efficiency Hotline provides a packet of net metering information to customers inquiring about renewable energy generation, or PSE's solar PV (residential) rebate. When the current rework of the PSE Corporate web site is completed, net metering will be accessible the from the Home and Business Solutions global navigation header. Renewable energy businesses and organizations such as Solar Washington and Washington State University Energy Programs normally make customers aware of the new metering program when they inquire about renewable energy generators.

#### **Customer Incentives**

No direct customer incentives are provided under this tariff. Energy produced by customer generator systems directly reduces energy used in the home or business. When energy generated exceeds home or business electrical loads, the excess energy flowing to PSE is separately metered and credited to the customer.

# **Operations**

Energy Efficiency Services serves as point of contact for prospective customer generators. Energy Efficiency Services administers customer-generator agreements and inter-departmental notification and coordination of field inspection, meter installation, establishment of net billing and other required actions associated with each

interconnected generator.

# **Contingency Planning**

Net metering has been offered to customers since 1999. Fifty-five systems are presently interconnected. A decision to voluntarily implement SSB 5101 is likely to significantly increase program volume and costs particularly in field checking systems, meter replacement and need for improved tracking and reporting. Availability of the Federal tax credit of up to \$2,000 for residential solar PV systems starting January 2006 will also increase the requests for interconnections.

Additionally, the WUTC is proceeding with a review of Standards for Interconnection to Electric Utility Delivery Systems (Docket No. UE-051106). Final rulemaking may require modifications and re-filing of electric schedule 150 by the Company.