Exhibit D. Proposal Cost Detail and Calculation of Conservation Cost Effectiveness

1 Description of Tests

Puget Sound Energy will evaluate the cost effectiveness of proposals using a standard Utility Cost Test and a Total Resource Cost Test.

Total Resource Cost Test (TRC Test) measures the net value of energy efficiency programs to society as a whole. The TRC Test is a cost-effectiveness calculation which demonstrates if the total benefits, including electricity (defined by the ***Conservation Cost Effectiveness Standard***) and other savings benefits, exceed total costs including those incurred by PSE, the Respondent, the customer, and any other contributing party. The benefits and costs not directly associated with electrical energy efficiency in this calculation may be difficult to quantify.

Utility Cost Test (UC Test) measures the net value of energy efficiency programs to the sponsoring utility. The UC Test is a cost-effectiveness calculation which demonstrates that the utility electricity savings benefits (defined by the ***Conservation Cost Effectiveness Standard)***, exceed the costs incurred by the utility.

Conservation Cost Effectiveness Standard (CCES) shows the full "avoided cost" to PSE of the energy saved, for the Type of Savings (defined by end use load shape and customer class) and life of the energy savings, or Measure Life. The CCES is based on the market costs projected by a power costing model, which would otherwise be incurred to provide energy from a generation source either directly or by contract plus credits for transmission and distribution system benefits, environmental externalities, and line losses. This value is expressed as the levelized value per kWh saved of future energy savings over the life of the measure. The CCES is based on Aurora forecast power costs at Mid-Columbia, and adds 35% for a power planning adjustment, 10% for environmental credits, 7.6% Residential and 6.1% Commercial/Industrial for avoided transmission and distribution losses, a valuation for avoided peak capacity, and $31.87/kW-year distribution benefit. Load factors from the analysis in PSE's 2007 IRP are used for end-use load shapes that define Type of Savings. Each Type of Savings has a CCES, or a value per kWh or Therm per Measure Life, up to 30 years. The values for the natural gas and electric CCES used to evaluate PSE's 2008 - 2009 programs are shown in ***Table D-1***.

Cost effectiveness of projects will allow for PSE administrative costs. PSE's costs are expected to vary, depending upon the proposal content. At a minimum, PSE costs include some project management activities, coordination with customer data, and conducting customer satisfaction surveys for the respondents program activity.

2 Calculation Methodology

Puget Sound Energy's determination that an energy efficiency project is cost-effective is a two-step process.

Step 1: The ***Total Resource Cost test*** determines that the value of all benefits of doing the project (energy savings plus other benefits like maintenance savings, improved productivity, etc.) is *greater than* the total projects costs. (Note: If the value of the energy benefits alone exceed the total cost, the equation is satisfied without need of quantifying further benefits.)

Total benefits ($) > Total costs ($)

Step 2: IF Step 1 is satisfied, OR

IF: Total costs < 150% of value of energy benefits, AND there are documented additional benefits which cannot easily be quantified (e.g. improved indoor air quality), then the utility funding is limited by the Utility Cost Test

> Utility benefits ($) > Utility costs ($),
>
> also expressed as:
>
> Value of kWh Savings (for measure life) > Utility funding (customer incentives + PSE administrative costs + Respondent costs.

3 Data Requirements

Puget Sound Energy requires the following data elements from the respondent to effectively consider cost effectiveness of the Proposal. These data elements are listed with short descriptions below.

Exhibit I, Table 3, 'Proposal Cost Effectiveness Input Sheet', is a template for providing the following information. Enter the information in the appropriate Column, based on the Type of Savings. All respondents must include this table in the Program Summary section at the beginning of each proposal.

- Type of Savings. Refer to customer segment and major end-use classification, as shown in column headers in ***Table A-3*** and ***Exhibit A, Table 2***. Where a proposal may include more than one measure, involving more than one Type of Savings, each of the following items is required for each Type of Savings.

- Number of Units .Show the appropriate basis for reporting participation, expressed as the total number of units of an efficiency measure to be installed. In some cases, units may equal number of customers. In programs targeting a specific measure(s), units should equal number of measures to be installed. Respondents shall provide a unit definition as well as the projected number of units for each type of measure being installed.

- Average Measure Life. Provide the Measure Life, in years, for the measure. Where installations will result in varying measure lives, provide a weighted average life. Where measure lives are not provided in ***Exhibit C***, or the respondent proposes a value that is different from those listed in ***Exhibit C***, rationale and justification of the measure life should be attached.

- Annual kWh Savings per unit. Provide the average, one-full-year of kWh savings from the proposed unit; to be itemized for each proposed measure. (Average) Annual kWh savings per unit, times the Number of Units should result in the anticipated savings from all of the installations of this specific measure.

- Measure Cost per unit. Provide the known and measurable costs borne by all parties of purchasing and installing a unit energy-efficient measure at the customer's facility, not to include incentives, implementation costs, administrative costs, or ongoing operation and

maintenance costs. Where the Measure Cost is expected to vary considerably across installations, provide an "average" measure cost such that the unit Measure Cost times the Number of Units represents the total costs of all measures installed.

- Operation & Maintenance (O&M) Costs. Provide the periodic or ongoing costs to ensure proper performance of a measure over its useful life; to be itemized on a unit basis for each proposed measure type.

- Incentive Amount: Provide the unit amount of grant or rebate paid to customers, vendors, or other identified parties, as an incentive to sell, purchase and/or install energy efficient measures.

Using ***Exhibit A, Table 4***, 'Proposal Cost Summary Sheet', provide an itemized breakdown of the following project cost elements:

- Installed Measure Costs. Show all costs associated with the purchase and installation of measures at PSE-customer facilities.

- Program Implementation Costs. Detail the respondent's cost to field the proposed program excluding direct measure installation costs and administrative.

- Administrative Costs. Itemize, as shown in ***Table A-4***, the respondent's remaining costs to administer the proposed program, not included elsewhere, such that the total costs included in the proposal have been captured when summing Administrative, Program Implementation and Installed Measure Costs, for inclusion in PSE's cost-effectiveness analysis.

- Total Respondent Costs. This line shows are the totals of Installed Measure Costs, Program Implementation Costs, and Administrative Costs and should equal the total proposal bid amount, per ***Section 5.7.4***.

- O&M Costs. Include O&M costs that can be expected to maintain the installed measure in efficient operation over its measure life.

- Customer Costs. Indicate the portion of Measure Cost incurred by the customer, net of any Incentive Amount paid to the customer,

- Third-Party Contribution. Show funding contributions obtained from a party other than Puget Sound Energy or the participating customer.

- Quantifiable Non-Energy Savings Cost (Benefit). Provide the dollar value of non-energy costs (benefits) to the customer or society. Like annual energy savings, these costs (benefits) may recur on an annual or other periodic basis over the life of the program. Quantified Non-Energy Cost (Benefit) must be clearly described as well as quantified.

- Non-quantifiable, Non-Energy Savings Cost (Benefit): List and describe all Non-Energy Savings costs (benefits) of undertaking energy efficiency improvements that can be identified but not quantified.

Exhibit D. Proposal Cost Detail and Calculation of Conservation Cost Effectiveness

Table D-1. Electric Conservation Cost Effectiveness Standard – 2008 – 2009 ($/kWh)

Measure Life	Residential Space Heat	Residential Water Heat	Residential Lighting	Residential Dryer	Residential Heat Pump	Commercial Appliances	Commercial Cooling	Commercial Heating	Commercial Lighting	Industrial/ Flat	Commercial Ventilation
1	$ 0.129	$ 0.113	$ 0.107	$ 0.120	$ 0.112	$ 0.106	$ 0.117	$ 0.162	$ 0.104	$ 0.098	$ 0.104
2	$ 0.127	$ 0.111	$ 0.105	$ 0.119	$ 0.110	$ 0.104	$ 0.115	$ 0.161	$ 0.102	$ 0.096	$ 0.102
3	$ 0.126	$ 0.109	$ 0.104	$ 0.117	$ 0.108	$ 0.103	$ 0.113	$ 0.160	$ 0.101	$ 0.095	$ 0.101
4	$ 0.125	$ 0.108	$ 0.102	$ 0.116	$ 0.107	$ 0.101	$ 0.112	$ 0.159	$ 0.099	$ 0.093	$ 0.099
5	$ 0.126	$ 0.109	$ 0.104	$ 0.117	$ 0.108	$ 0.103	$ 0.114	$ 0.160	$ 0.101	$ 0.095	$ 0.100
6	$ 0.128	$ 0.111	$ 0.105	$ 0.119	$ 0.109	$ 0.104	$ 0.115	$ 0.163	$ 0.102	$ 0.096	$ 0.102
7	$ 0.129	$ 0.113	$ 0.107	$ 0.121	$ 0.110	$ 0.106	$ 0.117	$ 0.165	$ 0.104	$ 0.098	$ 0.103
8	$ 0.130	$ 0.114	$ 0.108	$ 0.122	$ 0.111	$ 0.107	$ 0.118	$ 0.166	$ 0.105	$ 0.099	$ 0.104
9	$ 0.131	$ 0.115	$ 0.109	$ 0.123	$ 0.112	$ 0.108	$ 0.119	$ 0.168	$ 0.105	$ 0.099	$ 0.105
10	$ 0.133	$ 0.117	$ 0.110	$ 0.125	$ 0.113	$ 0.109	$ 0.120	$ 0.169	$ 0.106	$ 0.100	$ 0.106
11	$ 0.134	$ 0.118	$ 0.111	$ 0.126	$ 0.114	$ 0.110	$ 0.121	$ 0.171	$ 0.108	$ 0.102	$ 0.107
12	$ 0.135	$ 0.119	$ 0.113	$ 0.127	$ 0.115	$ 0.111	$ 0.123	$ 0.172	$ 0.109	$ 0.103	$ 0.108
13	$ 0.136	$ 0.120	$ 0.114	$ 0.129	$ 0.116	$ 0.112	$ 0.124	$ 0.174	$ 0.110	$ 0.104	$ 0.109
14	$ 0.138	$ 0.121	$ 0.115	$ 0.130	$ 0.117	$ 0.113	$ 0.125	$ 0.176	$ 0.111	$ 0.104	$ 0.110
15	$ 0.139	$ 0.122	$ 0.116	$ 0.131	$ 0.118	$ 0.114	$ 0.126	$ 0.177	$ 0.111	$ 0.105	$ 0.111
16	$ 0.140	$ 0.124	$ 0.117	$ 0.132	$ 0.119	$ 0.115	$ 0.127	$ 0.179	$ 0.112	$ 0.106	$ 0.112
17	$ 0.142	$ 0.125	$ 0.118	$ 0.133	$ 0.120	$ 0.116	$ 0.128	$ 0.181	$ 0.113	$ 0.107	$ 0.113
18	$ 0.143	$ 0.126	$ 0.119	$ 0.135	$ 0.121	$ 0.117	$ 0.129	$ 0.183	$ 0.115	$ 0.108	$ 0.114
19	$ 0.144	$ 0.127	$ 0.120	$ 0.136	$ 0.122	$ 0.118	$ 0.130	$ 0.184	$ 0.116	$ 0.109	$ 0.115

Exhibit D. Proposal Cost Detail and Calculation of Conservation Cost Effectiveness

Measure Life	Residential Space Heat	Residential Water Heat	Residential Lighting	Residential Dryer	Residential Heat Pump	Commercial Appliances	Commercial Cooling	Commercial Heating	Commercial Lighting	Industrial/ Flat	Commercial Ventilation
20	$ 0.146	$ 0.128	$ 0.121	$ 0.137	$ 0.123	$ 0.119	$ 0.131	$ 0.186	$ 0.117	$ 0.110	$ 0.116
21	$ 0.147	$ 0.129	$ 0.122	$ 0.138	$ 0.125	$ 0.120	$ 0.132	$ 0.188	$ 0.118	$ 0.111	$ 0.117
22	$ 0.148	$ 0.130	$ 0.123	$ 0.139	$ 0.126	$ 0.121	$ 0.133	$ 0.189	$ 0.118	$ 0.112	$ 0.118
23	$ 0.149	$ 0.131	$ 0.124	$ 0.141	$ 0.127	$ 0.122	$ 0.134	$ 0.191	$ 0.119	$ 0.113	$ 0.119
24	$ 0.151	$ 0.132	$ 0.125	$ 0.142	$ 0.128	$ 0.123	$ 0.135	$ 0.192	$ 0.120	$ 0.114	$ 0.120
25	$ 0.152	$ 0.133	$ 0.126	$ 0.143	$ 0.129	$ 0.124	$ 0.136	$ 0.194	$ 0.121	$ 0.115	$ 0.121
26	$ 0.153	$ 0.134	$ 0.127	$ 0.144	$ 0.130	$ 0.125	$ 0.137	$ 0.195	$ 0.122	$ 0.116	$ 0.122
27	$ 0.154	$ 0.135	$ 0.128	$ 0.145	$ 0.131	$ 0.126	$ 0.138	$ 0.196	$ 0.123	$ 0.117	$ 0.123
28	$ 0.155	$ 0.136	$ 0.129	$ 0.146	$ 0.131	$ 0.127	$ 0.139	$ 0.198	$ 0.124	$ 0.117	$ 0.124
29	$ 0.156	$ 0.137	$ 0.130	$ 0.147	$ 0.132	$ 0.128	$ 0.140	$ 0.199	$ 0.125	$ 0.118	$ 0.124
30	$ 0.157	$ 0.138	$ 0.131	$ 0.148	$ 0.133	$ 0.128	$ 0.140	$ 0.200	$ 0.125	$ 0.119	$ 0.125

Exhibit D. Proposal Cost Detail and Calculation of Conservation Cost Effectiveness

Table D-2. Gas Conservation Cost Effectiveness Standard, 2006 – 2007 (Levelized $/Therm)

Measure Life	Space Heat Existing	Space Heat New	Water Heat	Process Heat
1	1.124	1.171	1.048	0.962
2	1.143	1.192	1.057	0.968
3	1.146	1.195	1.055	0.964
4	1.141	1.191	1.046	0.953
5	1.140	1.190	1.045	0.952
6	1.143	1.193	1.048	0.954
7	1.146	1.197	1.052	0.957
8	1.150	1.201	1.056	0.960
9	1.154	1.206	1.061	0.964
10	1.161	1.214	1.067	0.970
11	1.168	1.221	1.074	0.976
12	1.176	1.229	1.082	0.983
13	1.184	1.238	1.090	0.991
14	1.193	1.248	1.098	0.997
15	1.202	1.257	1.106	1.004
16	1.212	1.267	1.114	1.011
17	1.221	1.277	1.122	1.018
18	1.230	1.286	1.130	1.026
19	1.239	1.296	1.138	1.033
20	1.248	1.305	1.148	1.040
21	1.257	1.314	1.157	1.047
22	1.253	1.311	1.167	1.041
23	1.264	1.322	1.176	1.050
24	1.275	1.334	1.185	1.058
25	1.285	1.345	1.194	1.067
26	1.295	1.355	1.202	1.075
27	1.305	1.366	1.210	1.083
28	1.315	1.376	1.219	1.091
29	1.324	1.386	1.227	1.099
30	1.333	1.395	1.234	1.106