**BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**Docket Nos. UE-121697 and UG-121705**
**Puget Sound Energy, Inc. and NW Energy Coalition**
**Joint Petition for Approval of a Decoupling Mechanism**

**Docket Nos. UE-130137 and Docket No. UG-130138**
**Puget Sound Energy, Inc. Expedited Rate Filing**

**ICNU DATA REQUEST NO. 028**

**ICNU DATA REQUEST NO. 028:**

Referencing MJV-18T at 3-6, has the Brattle Group performed any studies to determine whether there is evidence that decoupling increases energy efficiency? If yes, please provide these studies.

**Response:**

No. The Brattle Group has not studied this specific relationship. The Brattle Group knows that decoupling has a long history of being associated with policies that encourage energy efficiency and lower kWh and therm sales growth. Please see Puget Sound Energy, Inc.'s Response to ICNU Data Request No. 029.

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Referencing MJV-18T at 3-6, is Mr. Vilbert aware of any studies not performed by the Brattle Group that provide evidence that decoupling increases energy efficiency? If yes, please provide these studies.

**Response:**

Dr. Vilbert is not aware of any published, multi-state, empirical studies on the relationship between decoupling and the size and effectiveness of energy efficiency programs. It is Dr. Vilbert's understanding that the Washington Utilities and Transportation Commission has ordered evaluations of decoupling mechanisms implemented by Washington utilities. One such evaluation is H. Gil Peach & Associates, *Independent Examination of Cascade Natural Gas Corporation's Washington Decoupling Mechanism* (May 23, 2011), a copy of which is attached at Attachment A to Puget Sound Energy, Inc.'s Response to ICNU Data Request No. 029.

Although Dr. Vilbert has not analyzed this independent examination, it does conclude that this decoupling pilot program resulted in expanded energy conservation efforts, while protecting customers from undue cost risk (p. xi, conclusion (10)).

Please note that Attachment A to Puget Sound Energy, Inc.'s Response to ICNU Data Request No. 029 is provided in electronic format only.

# ATTACHMENT A to PSE's Response to ICNU Data Request No. 029

# Independent Examination of Cascade Natural Gas Corporation's Washington Decoupling Mechanism

**May 23, 2011**

**H. Gil Peach & Associates LLC/Scan America®**
**16232 NW Oakhills Drive**
**Beaverton, OR 97006**

In the Revenue Mechanism part of the calculation, the revenue margin variance amount was established. In the Conservation Performance part, the recoverable percentage of the deferred variance amount is established (Table 2). It remains only to apply the earnings cap.

### The Earnings Cap

The authorized rate of return on capital established in the previous rate case (here 8.85%) operates as the earnings cap. If the earnings cap is not encountered, the percentage of the variance amount determined by the conservation performance calculation is recovered. If the earnings cap is encountered, recovery may be less, or even zero. Recovery is lowered to the point at which the Company's rate of return set in the previous rate case (8.85%) is not exceeded. If Cascade's rate of return on capital for the year is already above 8.85% prior to consideration of the variance amount, then recovery of the deferred cost of service variance is eliminated altogether for that pilot year (Docket UG-060256, Order 06, August 16, 2007, Pp. 12-13, §§38-40).[15] This requirement increases the amount of Commission staff effort in reviewing the Commission basis report.

## Conservation Overview

This section presents an overview of energy conservation results of the pilot.

### Overview of Conservation Results for Calendar Year 2008

For 2008, Cascade achieved therm savings of 454,480 therms, or slightly over 135% of its performance target of 335,625 therms for that year. This achieved savings breaks out by program as shown in Table 3:[16] Therms saved (454,480) exceed the target for 2008 (335,625 therms) so recovery for 2008 would be set at 90% of the variance amount (plus interest) for 2008 by the conservation performance mechanism.

[15] The addition of the earnings cap requirement, beyond the conservation performance criterion, means that the Washington decoupling mechanism is an example of a very strict decoupling mechanism having very strong customer protections. The objective of the earnings cap is to effectively prevent a "windfall profits" situation. It does so in this regard by placing a firm bound on increased rate of return, in order to help ensure that the decoupling mechanism does not facilitate excessive earnings by the utility. One unintended result of this earnings cap is that it could, in effect, penalize the utility for taking other actions (not relating to sales levels, *e.g.*, cutting costs) if that provides them with a higher realized rate of return. If they do that (in effect, running their company more efficiently) they could lose the ability to recover the revenue shortfall from reduced sales, if their resulting earnings level exceeds the earnings cap. Essentially, this is a 'one-directional' limit that puts extra constraints on the company to the benefit of ratepayers. (It should be noted that the existence of this earning cap can be seen as helping to obviate the need for reducing the utility authorized rate of return, which is sometimes advocated as a concession in exchange for decoupling.)

[16] Source: Updated 2008 results from Table B: 2008 Achievements, P. 2 in Cascade Natural Gas Decoupling Mechanism Report for CY09, March 31, 2010. Note that these numbers are slightly adjusted from the original report for CY08, dated March 31, 2009.

However, for year-end 2008, the balance in the variance account is not a positive number so there is no award to the Company. Since the balance is a negative $479,310.02 (including interest),[17] this amount was 100% refunded to customers.[18] The Conservation Performance and Earnings Cap tests were not applied.

Table 3: Conservation Performance for 2008.

| 2008 Pilot Energy Savings | | | | |
|---|---|---|---|---|
| **Sector** | **Actual (Therms)** | **Percentage of Actual Total** | **Target (Therms)** | **Percentage of Target** |
| **Commercial & Industrial** | 191,837 | 42.2% | 322,500 | 136.6% |
| **Residential Program** | 146,676 | 32.3% | | |
| **Energy Savers Kits** | 101,982 | 22.4% | | |
| **Low-Income Weatherization Assistance Program** | 13,985 | 3.1% | 13,125 | 106.6% |
| **Total** | 454,480 | 100.0% | 335,625 | 135.4% |

### Overview of Conservation Results for Calendar Year 2009

For 2009, Cascade achieved therm savings of 564,170 therms, or about 128% of its performance target of 441,250 therms for the year (Table 4).[19]

Table 4: Conservation Performance for 2009.

| 2009 Pilot Energy Savings | | | | |
|---|---|---|---|---|
| **Sector** | **Actual (Therms)** | **Percentage of Actual Total** | **Target (Therms)** | **Percentage of Target** |
| **Commercial & Industrial** | 275,604 | 48.9% | 415,000 | 132% |
| **Residential Program** | 226,491 | 40.1% | | |
| **Energy Savers Kits** | 47,342 | 8.4% | | |
| **Low-Income Weatherization Assistance Program** | 14,733 | 2.6% | 26,250 | 56% |
| **Total** | 564,170 | 100.0% | 441,250 | 128% |

[17] Cascade Natural Gas Corporation, Deferred Technical Adjustment Summary, 3/20/2009, final column, final row (deferred balance for Dec-08).

[18] "For CY2008, the entire negative balance amount in the Deferred Balance Account was refunded to customers." CNGC response to HGPA DR 4.3.

[19] Source: Table C: Final 2009 Achievements, P. 4 in Cascade Natural Corporation Annual Decoupling Mechanism Report Calendar Year 2010 for CY09, March 31, 2011.

As shown in this table, the actual savings exceeds the target for 2009. Considering only conservation performance recovery would be set for ninety percent (90%) of the total of the yearly variance amounts (including interest) for 2009. However, for 2009, the earnings cap was exceeded. For this reason, there was no recovery of the variance amount for 2009. The total variance amount of $97,335 with interest at year-end was written off.[20] The write-off amount was exceeded by increased earnings between the earnings cap for the decoupling mechanism (8.85%) and the actual earnings (9.16%). The difference in dollars earned between the decoupling mechanism earnings cap and actual earnings was $682,500.[21]

### Overview of Conservation Results for Calendar Year 2010

For 2010, Cascade achieved therm savings of 444,581 therms, or about 79% of its performance target of 565,500 therms for the year (Table 5).

| 2010 Pilot Energy Savings | | | | |
|---|---|---|---|---|
| **Sector** | **Actual (Therms)** | **Percentage of Actual Total** | **Target (Therms)** | **Percentage of Target** |
| **Commercial & Industrial** | 224,357 | 50.5% | 530,000 | 78% |
| **Residential Program** | 187,871 | 42.3% | | |
| **Energy Savers Kits** | 1,544 | 0.3% | | |
| **Low-Income Weatherization Assistance Program** | 30,809 | 6.9% | 35,500 | 87% |
| **Total** | 444,581 | 100.0% | 565,500 | 79% |

**Table 5: Conservation Performance for 2010.**

For 2010, the cumulative deferred balance (including interest) was positive so there might have been an award to the Company. With performance at seventy-nine percent (79%),[22] the award would have been 80% recovery of the deferred balance. However, the Company's Commission Basis Earnings for the Calendar Year Ending December 31, 2010 was 9.06% against the revenue cap rule which is set from the previous rate case at 8.85%. Due to the earning caps the Company was not entitled to an award so none of the 2010 year-end deferred balance was recovered by the Company. The CAP deferral amount was $982,459 including interest. Eighty percent of this amount is $785,967.20. Actual earnings at 9.06%

[20] The Company's adjusted earnings must be less than the authorized 8.85% overall rate of return set in the Company's last rate case (UG-060256) to collect the 90% of variance amount (the variance amount was $97,335, including interest) indicated by the Company's conservation performance. However, the Company's Commission Basis Earnings for Calendar 2009 was 9.16% so the Company was not eligible to recover the deferred balance. Since the Company's earnings were above the threshold, the amount was written off. See also Footnote 15.

[21] This information is based on Company response to Data Request No. 8-3.

[22] The Company claims only seventy-eight percent (78%) in its 2010 report. This is probably due to a difference in rounding.

were approximately $452,000 over what earnings would have been at the decoupling mechanism earnings cap. So, for 2010, the earning cap cost Cascade $785,967.20 in lost margins and the additional earnings did not make up for a net loss of $333,968.20.

**Finding 1: As demonstrated in this subsection of the study, Cascades' Washington decoupling mechanism functions as planned (in line with the theory and logic model of decoupling programs). Since the decoupling mechanism worked for the pilot, such decoupling should be regarded as a proven effective approach.**

## The Mathematical Calculation

The step by step mathematics for calculation of the variance amount by month is shown for a single month (January 2009) for General Commercial Service Rate Schedule 504 to demonstrate the calculation.[23] There are six steps (Figure 5):

**Steps in Calculation of Month Values of Delta**

1. Calculate the Weather Adjustment for each Region.
2. Add Regional Adjustments to Yield the Washington Weather Adjustment.
3. Apply Weather Adjustment to Pilot Months.
4. Calculate the Weather Normalized Commodity Margin for Each Month of the Pilot Year.
5. Construct the Base Year Weather Normalized Commodity Margin
6. Combine to obtain the delta.

**Figure 5: Calculation of Monthly Conservation Difference for January 2009 for General Commercial Service Schedule 504.**

Each of these steps listed in Figure 5 is developed, below:

[23] Data Sources: For each region, number of customers by region is based on monthly reports from Cascade's Customer Information System. For 2008, 2009 and the first six months of 2010, the information came from the RS464 Bill Frequency by District report. Since then, these numbers come from report CA1499. Actual Degree Days by region come from NOAA. Normal Degree Days by region came from the calculated normals using the testimony of Mr. Stoltz on weather normalization in docket UG-060256 and were based on Dr. Mote's testimony in the same docket. The coefficients (therms/DD) are from Mr. Stoltz's supporting work papers for the weather normalization adjustment in the same rate case. For total Washington, Actual Therms were derived from total billed therms plus monthly accounting accrual for unbilled plus the reversal for the prior months' unbilled accrual. The accrual for Unbilled therms is an accounting entry that is designed to estimate he amount of usage that has not been billed due to the use of Cycle billing. The adjustment is developed and is reversed the following month. The total Washington Actual Commodity Margin is a calculation that applies the tariffed margin rate by Actual Therms. Margin rates were established in the UG060256 rate case and are posted on the 503/504 tariff schedules. This information is from Company's response to Data Request No. 8-4.