EXHIBIT NO. _____ (RCC-9)

BEFORE THE UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NOS. UE-120436, *et al.*

EXHIBIT 2

TO REBUTTAL TESTIMONY OF RALPH C. CAVANAGH

ON BEHALF OF NW ENERGY COALITION

# Rate Impacts and Key Design Elements of Gas and Electric Utility Decoupling: A Comprehensive Review

*Opponents of decoupling worry that customers will experience frequent and significant rate increases as a result of its adoption, but a review of 28 natural gas and 17 electric utilities suggests that decoupling adjustments are both refunds to customers as well as charges and tend to be small.*

*Pamela G. Lesh*

**Pamela G. Lesh** *is President of Graceful Systems, LLC, a consultancy for business and regulatory strategy. She was previously Vice President, Regulatory Affairs and Strategic Planning, for Portland General Electric Company (PGE). During her last year with PGE, she was on special assignment, working with the Natural Resources Defense Council (NRDC) on energy policy issues, including decoupling. The views and opinions expressed in this article are those of the author, who would like to thank numerous people for helping in the preparation of this review, in particular Ralph Cavanagh and Devra Wang of The Natural Resources Defense Council, who both offered much needed encouragement and valuable comments and suggestions. The American Gas Association, the Edison Electric Institute, and several utilities[1] also provided much needed information and contacts.*

Across the United States, interest in decoupling – a regulatory policy by which utility revenues are tied to factors other than consumption of natural gas or electricity – is as high as it likely has ever been. Since the start of 2008, 10 utilities have implemented mechanisms, and another three states have issued orders endorsing the policy and inviting or requiring utility proposals for mechanisms. Section 410 of the American Recovery and Reinvestment Act of 2009 required that, for additional energy efficiency funding, the state's governor provide written assurance that the appropriate state regulatory agency would put in place a general policy assuring that each utility's financial incentives are aligned with helping its customers use energy more efficiently. Moreover, as a limit on greenhouse gas emissions appears imminent, utilities and regulators across the country are looking to decoupling mechanisms to maintain the utilities' financial health while

 1040-6190/$–see front matter  doi:/10.1016/j.tej.2009.07.014 

unlocking the significant potential for energy efficiency savings that lower customer bills and reduce GHG emissions at the same time.

With this level of interest, it seemed timely to take a deeper look at the decoupling mechanisms in place. This article summarizes my analysis of utility filings and tariffs related to decoupling mechanisms at 28 natural gas and 17 electric utilities, and describes the decoupling mechanisms' key features and the resulting rate adjustments that have occurred in recent years. A common argument against decoupling is concern that customers will experience frequent and significant rate increases as a result of its adoption. The just-as-frequent response is that decoupling adjustments are both refunds to customers as well as charges and tend to be small, which this analysis validated. The decoupling adjustments under existing mechanisms have been very small – most often under 2 percent, positive or negative – with the majority under 1 percent. And the decoupling adjustments provide both refunds and surcharges to customers.

## I. What Is Decoupling?

Decoupling is a regulatory term indicating that, through any one of several means, a given energy utility does not derive the portion of its revenues necessary to provide it an opportunity to recover its fixed costs of service on the basis of its sales of natural gas or electricity. Fixed costs of service include such things as the capital recovery cost of installed plant and equipment (depreciation, debt interest, and equity return), most operations and maintenance expenses, and taxes. The largest cost that is not fixed is typically the cost of fuel or purchased power.

One primary means of decoupling, albeit with many variations, is through a regulatory adjustment mechanism that adjusts rates periodically to ensure that a utility records as revenue for fixed cost recovery no more and no less than the amount of revenue authorized for that cost coverage. This means of accomplishing decoupling does not affect how customers pay for energy utility services, enabling utilities to maintain volumetric rates and the incentive for customers to conserve or use energy more efficiently. In general, current rate designs include some amount of fixed customer charge per month and a per unit charge based on either gas or electricity consumption, or demand, or both. Although the utility continues to receive revenues from customers on this basis under a decoupling mechanism, it books only the revenue to cover fixed costs that its regulator has authorized, typically in a rate case or through the operation of a formula for calculating a change in fixed costs over time. For example, some such formulas change revenues authorized for fixed cost recovery according to the change in the number of customer accounts (often called revenue per customer); others change revenues for fixed cost recovery according to an inflation index, decreased for an assumed amount of productivity improvement (often called an attrition adjustment). On some regular basis, the decoupling mechanism provides a rate adjustment to ensure that customers, in effect, receive refunds or pay surcharges based on whether the revenues the utility actually received from customers were less or greater than the revenues the regulator authorized. This difference can occur for many reasons, primarily weather, economic conditions, and customer behavior that differ from assumptions in the ratemaking process.

*A common argument against decoupling is concern that customers will experience frequent and significant rate increases.*

It is also possible to break the link between fixed cost recovery and electricity or natural gas consumption by changing how customers pay for energy utility services. In general, this is called ''straight fixed-variable'' rate design, in which the fixed

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monthly customer charge recovers all of the utility's fixed costs of service and the variable, energy-related charge covers only the variable cost of energy. Some commissions adopting this type of rate design have called it ''decoupling.'' While this rate design does break the link between sales and fixed cost recovery, it does so by greatly diminishing customer incentives to conserve or invest in energy efficiency. Moreover, the change in rate design from a more traditional form can significantly shift costs within and between classes of customers. In particular, those customers with lower than average consumption can experience much higher bills as costs shift from variable, usage-based charges to fixed, billing period charges. This decoupling report excludes examples of this rate design because it does not result in adjustments to rates as the regulatory mechanism method does.

## II. What Did the Review Show?

As of early this year, a total of 28 natural gas local distribution gas utilities (LDCs) and 12 electric utilities, across 17 states, had operative decoupling mechanisms.[2] Six other states have approved decoupling in concept, through legislation or regulatory order, but specific utility mechanisms are not yet in place. The map in **Figure 1** shows the states covered by this report.


**Figure 1:** States Covered by This Report

Many of the mechanisms that exist began operation only within the last few years, although the California utilities have had some form of decoupling for much longer. Based on the available data, this review supports two definitive conclusions:

- *Decoupling adjustments tend to be small, even miniscule*. Compared to total residential retail rates, including gas commodity and variable electricity costs, decoupling adjustments have been most often under 2 percent, positive or negative, with the majority under 1 percent.[3] Using Energy Information Administration (EIA) data for 2007 on gas and electric consumption per customer and average rates, this amounts to less than $1.50 per month in higher or lower charges for residential gas customers and less than $2.00 per month in higher or lower charges for residential electric customers.
- *Decoupling adjustments go both ways, providing both refunds and surcharges to customers*. This is particularly true for those mechanisms that operate on a monthly basis, but also is true for those adjusted annually or semi-annually. There are many reasons, of course, that actual revenues can deviate from the revenues assumed in ratemaking. Most of the mechanisms do not adjust revenues for the effects of weather, leaving that as the primary cause of greater and lower sales volumes, particularly for residential rate schedules. Other causes include energy efficiency, programmatic and otherwise, customer conservation, price elasticity, and economic conditions. Regardless of the particular combination of causes for any given adjustment, no pattern of either rate increases or decreases emerges.

**Figure 2** summarizes the distribution of decoupling adjustments for mechanisms currently in place.

By comparison, rate adjustments under purchased gas cost adjustment or fuel/purchased power cost adjustment clauses tend to be much larger. Although a review of actual adjustments under these clauses was beyond the scope of this study, the history shown in **Table 1** for one electric (Idaho Power Company) and one gas utility (Northwest Natural Gas

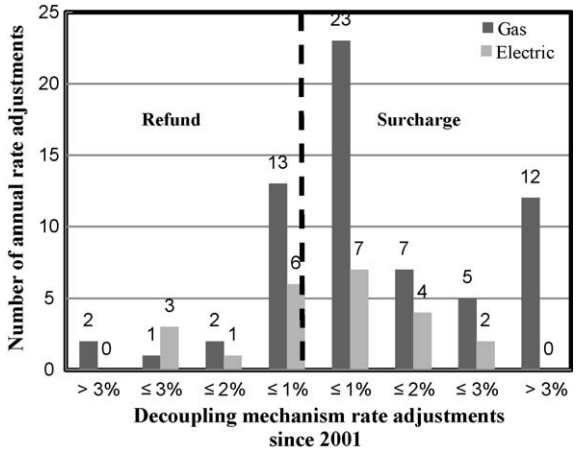



**Figure 2:** Decoupling Mechanism Rate Adjustments since 2001

Company), both of which had decoupling mechanisms for part of the period, provides an example for context.[4]

The information gathered enabled numerous other observations about decoupling:

- The mechanisms have a great variety of names, almost none of which contain the word ''decoupling.'' Names ranged from ''Billing Determinant Adjustment'' to ''Volume Balancing Adjustment'' to ''Bill Stabilization Rider'' and more.
- Most mechanisms appear in a separate tariff page, although in one or two cases the mechanism is combined with an energy efficiency program tariff and the California utilities do not have a tariff for decoupling. Instead, the California utilities have regulatory authority to make the calculations and rate adjustments as part of an ''Annual True-up'' procedure.
- Almost all of the gas utilities with decoupling mechanisms also adjust rates to account for the effects of weather on revenues. For some, this occurs logically under the decoupling mechanism, which performs calculations based on actual, not weather-adjusted, revenues. For others, eliminating the effects of weather on the revenues the utility collects to cover fixed costs occurs under a separate tariff. Under either approach, the utilities no longer face a risk of under-recovering fixed costs or reaping a windfall if weather is different from that assumed in the ratemaking process. In contrast, a couple of electric utilities calculate decoupling adjustments on the basis of weather-adjusted revenues. For these, the utility keeps revenues associated with sales caused by weather more extreme, and forgoes revenues lost because of weather milder, than that assumed for ratemaking purposes.
- Most of the mechanisms produce an annual adjustment, but a handful of utilities adjust rates monthly and one or two semi-annually. The monthly adjustments tend to be very small but can go up and down six times in as many months. The table shows only the annual average of monthly adjustments and, in a few cases, high and low adjustments during the year.

**Table 1:** Decoupling Mechanism at One Electric and One Gas Utility.

| | Northwest Natural | | Idaho Power | |
|---|---|---|---|---|
| Year | PGA % Change | Decoupling % Change | PCA % Change (Res) | Decoupling % Change |
| 1995 | (6.2) | | | |
| 1996 | (4.8) | | | |
| 1997 | 10.5 | | | |
| 1998 | 9.2 | | | |
| 1999 | 7.2 | | | |
| 2000 | 21.4 | | | |
| 2001 | 20.8 | | | |
| 2002 | (12.7) | | 7.5 | |
| 2003 | 4.9 | 0.6 | (18.9) | |
| 2004 | 20.1 | 0.36 | 0 | |
| 2005 | 16.6 | 0.77 | 0 | |
| 2006 | 3.8 | (0.27) | (14.0) | |
| 2007 | (8.7) | (0.1) | 11.0 | |
| 2008 | 15.6 | <(1.0) | 8.45 | (0.8) |
| 2009 | | | 10.2 | 0.8 |

 1040-6190/$–see front matter  doi:/10.1016/j.tej.2009.07.014 

• Most mechanisms perform the calculation of the difference between actual fixed cost revenues and authorized fixed costs revenues on a per customer class or per rate schedule basis, refunding or surcharging the result only to that schedule or class.

• A number of these decoupling mechanisms are in place only on a ''pilot'' basis, subject to cancellation or further regulatory process after three to four years.

• Most of the mechanisms allow utilities to keep additional revenues from growth in the number of customer accounts during a decoupling period. This can occur either by expressing the fixed costs as a revenue-per-customer amount and reconciling actual revenues to the revenue per customer amount times the current number of customers, or by adjusting the allowed revenue requirement for customer growth and reconciling actual revenues to that adjusted amount. A few utilities receive an explicit attrition adjustment, approved by the Commission and not dependent on the number of customers.

• Some of the 28 mechanisms include some unusual features. For three utilities, adjustments only occur if they are surcharges; the mechanism does not require refunds. Another two utilities can collect surcharges only if savings in gas costs offset the lost margin. Some mechanisms limit the dollar amount or percentage of rate change permitted, either deferring any excess for later recovery/credit or simply eliminating it.

**Table 2** summarizes some of the different features of decoupling mechanisms, indicating how many of the mechanisms have each type of feature.

The next several years will significantly increase experience with decoupling, both for those utilities for whom decoupling is of relatively long standing and for those that have just begun their implementation. It would be worthwhile to update this review at some point to determine whether these conclusions hold true with additional experience, particularly among the electric utilities for which data is presently scarcer than for gas utilities.

*A number of these decoupling mechanisms are in place only on a ''pilot'' basis, subject to cancellation or further regulatory process.*

## III. A Word on Methodology

Generally, it was possible to find a tariff stating the decoupling adjustment, either in cents or dollars per therm, or cents per kWh. This was not the case only for the California utilities, whose decoupling does not occur under a separate tariff but as part of a much larger annual filing. Those utilities very helpfully provided the information needed for this report.

It was much more difficult to find a total retail rate for the rate classes covered by the decoupling mechanism and, thus, to calculate the size of the decoupling adjustment as a percentage of the total rate. This was particularly problematic where the adjustments were for prior years or the commodity portion of the rate changed frequently, as is common for gas utilities and restructured electric utilities. In many cases, this study used average annual (or monthly for 2009) retail gas and electric price information for the appropriate state found on the EIA Website. The goal was to provide context for the decoupling adjustment, not state precise percentages and the EIA data served well for the purpose.

For a couple of reasons, it is impossible to determine from the sources available what changes in rates actually occurred, when. First and foremost, whether a given decoupling adjustment caused a rate increase or decrease depends on what was in rates before for decoupling. For example, if a decoupling adjustment produced a refund one year and a somewhat smaller refund the second year,

 1040-6190/$–see front matter , doi:/10.1016/j.tej.2009.07.014 

**Table 2:** Different Features of Decoupling Mechanisms.

| Feature | Gas Decoupling | Electric Decoupling |
|---|---|---|
| Revenue change between rate cases | | |
| Revenue-per-customer[1] | 23 | 4 |
| Attrition adjustment[2] | 3 | 4 |
| No change | 3 | 1 |
| No separate tariff | 3 | 3 |
| Timing of rate true-ups | | |
| Annual | 19 | 8 |
| Semi-annual/quarterly | 2 | 1 |
| Monthly | 4 | 3 |
| Weather[3] | | |
| Not weather-adjusted | 20 | 10 |
| Weather-adjusted | 8 | 2 |
| Limit on adjustments and/or dead-band[4] | 9 | 6 |
| Per class calculation and adjustments[5] | 25 | 7 |
| Earnings Test[6] | 4 | |
| Pilot/known expiration date | 11 | 4 |
| Surcharges only | 3 | |
| Total utilities analyzed | 28 | 12 |

**Notes:1.** ''Revenue per customer'' means that the decoupling mechanism calculates the authorized revenue to which the utility will reconcile its actual revenues by dividing the last approved fixed cost revenue requirement by the number of customer accounts assumed in that ratemaking process, and then multiplying the per-customer amount by the number of customers in the current decoupling period. For example, if the authorized fixed cost revenue requirement was $1 billion and the ratemaking number of accounts was 1 million, the fixed cost per customer amount would be $1,000/year. If, during a given decoupling year, the actual number of customer accounts was 1,050,000, the utility would refund any amount by which its actual revenues exceeded $1.05 billion. Thus, the additional customer accounts contribute $50 million to fixed cost recovery.

**2.** ''Revenue requirement true-up'' means that the decoupling mechanism simply compares the actual fixed cost revenues to the amount authorized for fixed cost recovery in the utility's last rate case, even if that was several years prior. Thus, the utility may face declining income as inflation and other factors increase fixed costs. The sub-category of these that are ''with attrition'' indicate the utilities for whom that authorized revenue requirement changes from year to year according some formula, generally an inflation index less an assumed amount of productivity improvement. This may be part of the decoupling mechanism, done as a means of calculating the comparator for the actual revenues collected, or external to the decoupling mechanism and causing its own rate adjustment.

**3.** ''Weather'' refers to revenue variances attributable to actual weather differing from the weather conditions assumed in the ratemaking process. If a decoupling mechanism uses actual revenues that are not weather-adjusted, that means that revenue variances attributable to weather will affect the size of the customer refund or surcharge.

**4.** ''Limit on adjustments or a dead-band'' refers to features in a given decoupling mechanism that limit the size of any (or a cumulative set of) customer refund or surcharge, or in the case of a dead-band, exclude a certain amount of the variance (again, refund or surcharge) before calculating the positive or negative decoupling rate increment. For most of the mechanisms that have a limit on the size of decoupling adjustments, any amount not refunded or surcharged carries over to the next decoupling period. That is not always the case, however.

**5.** ''Per class calculation and spread of adjustments'' means that the mechanism determines the difference between the authorized fixed cost revenue and the actual revenue on a per class or per rate schedule basis and refunds or surcharges the resulting amount only to that rate schedule or customer class. Included in the count are utilities for which the decoupling mechanism applies only to one customer class or rate schedule. Only eight utilities have mechanisms that do not do this.

**6.** ''Earnings test'' refers to a limitation on decoupling surcharges by which the utility may not recover revenue differences calculated by the mechanism to the extent that recovery would increase its earnings over a specified return on common equity, whether the last authorized or another amount.

the rate change customers would experience would be a small increase, as the prior credit expired and was not fully replaced by the current credit. The reverse can also happen: the expiration of a decoupling surcharge will produce a rate decrease unless the subsequent decoupling adjustment is the same or a larger surcharge. Second, many utilities combine one or more rate changes at one time. Changes in commodity costs or balancing accounts or other tariff riders along with the decoupling adjustment are common and could easily offset or mask the decoupling adjustment. For two utilities, such offsetting was the deliberate design.

## IV. A Closing Observation

Finding all of the decoupling mechanisms and summarizing the adjustments made under them was an exceedingly difficult task. I have a total of over 25 years in utility matters, most spent in the regulatory affairs department of a mid-sized electric utility. I know my way around a tariff and am generally familiar with naming conventions and so forth used by public utility commissions. Despite this wealth of experience, the task was difficult. This caused me to wonder what those not on the ''inside'' can possibly think of how utilities and regulators present information. It is unlikely that most would think that the

obfuscation was deliberate, but many would conclude that ensuring people actually understood utility rates and regulation was not the goal.

The means of tackling this issue range from the simple to the significant. As a simple matter, some conventions around what utilities and commissions call things, what information appears in filing letters and annual (perhaps) information compiling tariffs and riders into complete rate information would help. This would seem a useful place for NARUC to work, in collaboration with the AGA and EEI. A far more significant effort would be the re-thinking of the tariff structure used by virtually every utility in the country. I suspect that most have changed little, in structure, for well over 50 years. General conditions appear in one place, riders and adjustments clauses in another, ''base'' rates somewhere else in schedule numbers that mean nothing to anyone. Tariffs may now be ''on'' the Internet, but they are not Internet-enabled or Internet-friendly. It seems likely that the future holds more variation in, and personalization of, rates, not less. Again, the utilities and regulators should collaborate to envision the ''tariffs'' (if we still call them that) of the future and how the industry might go about the transformation.■

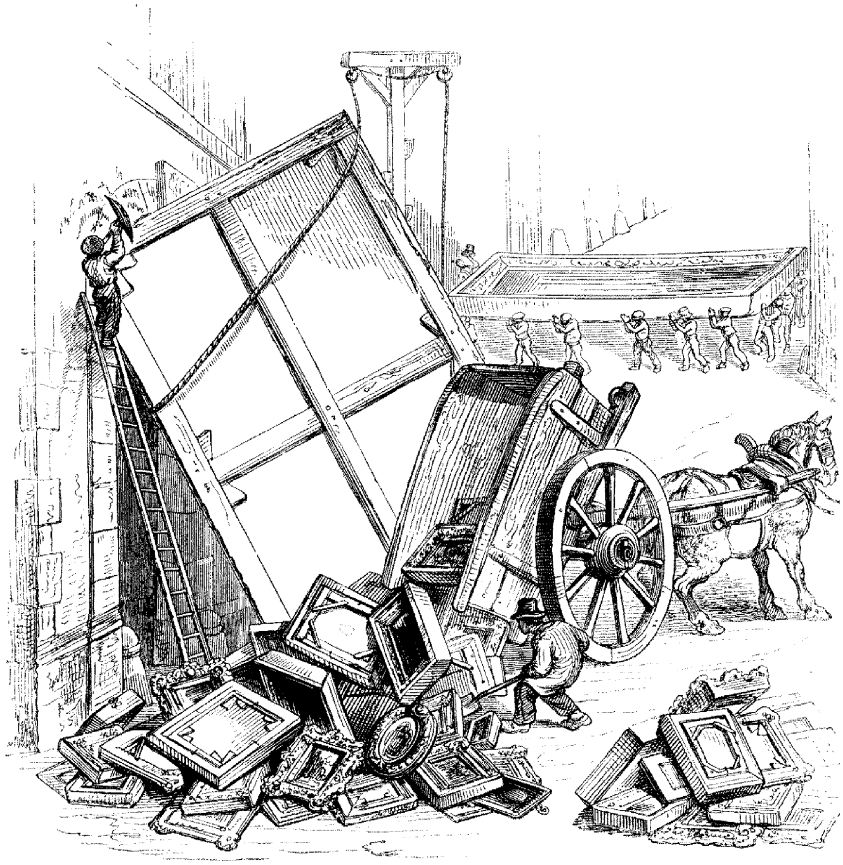
**Endnotes:**

**1.** Among the utilities preparing and providing helpful information were Pacific Gas & Electric, San Diego Gas & Electric, Southern California Edison, South Jersey Gas Company, and Baltimore Gas & Electric.

**2.** This report includes two other current electric regulatory mechanisms that operate to some extent to decouple utility revenues from sales but do not permit calculation of decoupling adjustments. It also includes information on a few now-expired decoupling mechanisms, to the extent such information was discoverable.

**3.** These are not actual rate changes, simply a comparison of the decoupling adjustment to the total rate at or near the time of the adjustment. See methodology summary for an explanation of why it is impossible to determine actual decoupling rate changes that customers may have experienced. Counts in the figure include only the annual average of those mechanisms that have monthly adjustments.

**4.** For Northwest Natural, the decoupling adjustment is included in the overall PGA; thus, these are not additive.



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