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DATE: March 24, 2010

SUBJECT: Comments on Utility Disincentives and Potential Decoupling for Arizona Utilities
Docket Nos. G-00000C-08-0314 and E-00000J-08-0314

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Western Resource Advocates (WRA) hereby submits its responses to the questions posed in the Notice of Inquiry prepared by Chairman Mayes on February 23, 2010.

WRA supports the adoption of a practical policy to minimize the financial disincentives to engaging in large scale energy efficiency programs.

There are several approaches to reducing financial disincentives to energy efficiency, including:

- Full decoupling intended to reflect deviations in sales from test year conditions due to energy efficiency savings, weather, economic conditions, price elasticity, and any other factors affecting sales.
- Limited decoupling intended to reflect only specified causes of variations in sales such as energy savings due to efficiency programs.
- Use of a future test year in rate cases that incorporates projected reductions in sales due to energy efficiency programs, with adjustment provisions to assure the utility does not recover fixed costs associated with anticipated savings that are not achieved.
- Rate designs that include more fixed costs in the monthly service charge.

Table 1 summarizes features of these alternatives.

Responses to Specific Questions

1. **What financial disincentives to utilities are created by the implementation of energy efficiency measures?** Because of traditional rate designs, utilities recover much of their fixed costs (e.g., depreciation, return on net investment, interest) through kWh charges. If, as a result of energy efficiency programs, kWh sales decline from levels that would have otherwise occurred between

rate cases, utilities will experience a short-fall in revenues to cover fixed costs until the next rate case.

Table 1. Summary of Methods to Minimize Financial Disincentives to Energy Efficiency

Approach	Risks to Utility	Risks to Ratepayers	Risk Management	Notes	Examples
Full decoupling (intended to reflect deviations in sales from test year conditions due to any cause such as energy efficiency savings, weather, economic conditions, and price elasticity)		Ratepayers bear risk of weather, price elasticity, economic conditions	Lower rate of return for utility; cap on decoupling credit or surcharge		Maryland: Delmarva and Potomac Electric.* Proposed in Utah**
Limited decoupling (intended to reflect only specified causes of variations in sales such as energy savings due to efficiency programs)			Analytically remove effects of weather, price elasticity and economic conditions; cap on surcharge	Normalizing for weather effects, price elasticity, and economic conditions may be contentious	Idaho Power Company†
Future test year in rate cases (incorporates projected reductions in sales due to energy efficiency programs)	Actual energy savings may be more than assumed in a given year	Actual energy savings may be less than assumed in a given year	Adjustment for shortfalls or superior energy savings		California††
Rate design: put more fixed costs in monthly service charge		May greatly increase bills for low use customers		Could result in greater kWh sales as energy portion of rate decreases	?

* Maryland Public Service Commission, Order No. 81518, July 19, 2007 and Order No. 81517, July 19, 2007. The mechanism adopted by the Commission is for bill stabilization.

** Abdinahir Abdulle, Direct Testimony, In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Service Rates in Utah and for Approval of Its Proposed Electric Service Schedules and Electric Utility Service Schedules and Electric Service Regulations, Public Service Commission of Utah, Docket No. 09-035-23, February 22, 2010.

† Idaho Public Utilities Commission, In the Matter of the Investigation of Financial Disincentives to Investment in Energy Efficiency by Idaho Power Company, Order No. 30267 (March 12, 2007), Case No. IPC-E-04-15.

††William Marcus and Cynthia Mitchell, "Critical Thinking on California IOU Energy Efficiency Performance Incentives from a Consumer Advocate's Perspective," presented at American Council for an Energy-Efficiency Economy Summer Study on Energy Efficiency in Buildings, 2006.

- 2. Should the Commission consider a decoupling or decoupling-like mechanisms that would allow companies to recover weather-adjusted fixed costs that are lost as a result of energy efficiency programs that drive conservation? If so, why?** Yes. In general, utilities face a decline in revenues as energy savings increase above historical test year levels employed in the most recent rate case. Consequently, they are less able to recover fixed costs than presumed at the time rates were set. Without the Commission addressing recovery of unrecovered fixed costs between rate cases, utilities will be reluctant to pursue large scale energy efficiency programs.
- 3. If you believe the Commission should adopt such a mechanism how should it be structured? Should certain customer classifications be exempt?** A decoupling mechanism should seek to recover fixed costs that would not otherwise be recovered because of energy efficiency programs. An example of this type of decoupling mechanism is Idaho Power Company's three year pilot for residential and small commercial customers.¹ The approach is represented by the formula:

$$FCA = (CUST \times FCC) - (NORM \times FCE), \text{ where}$$

FCA =	fixed cost adjustment
CUST=	actual number of customers by class, determined monthly
FCC =	fixed cost per customer by class, determined in the most recent rate case as fixed costs embedded in energy charges by class divided by the appropriate customer count used in the rate case
NORM=	weather normalized monthly energy consumption by class based on actual data for the month
FCE=	fixed cost per kWh of weather normalized energy consumption, by class, determined in the most recent rate case

In the Idaho approach, the monthly fixed cost adjustment is recorded in a deferral account and is recovered (or refunded) annually, in a manner similar to the power cost adjustor. Interest is applied to amounts in the deferral account. There is a cap on fixed cost adjustor rate increases of 3%, with any balance in the deferral account above the cap being carried over for future recovery. Staff or the Company can request discontinuation of the pilot prior to the end of the three year period.²

The Commission may wish to develop different decoupling schedules for customers with demand charges and customers without demand charges. Further, the Commission should address whether the decoupling mechanism ought to be limited to reflect only savings from energy efficiency programs or reflect deviations in sales from test year conditions due to any factor. To better understand how volatile rates might become with full and limited decoupling, the Commission should request utilities to provide analyses of rate impacts under a hypothetical decoupling program for both limited and full decoupling using historical data. Lastly, the Commission should consider use of a future test year with an adjustment provision that applies if efficiency savings fall short of the level assumed in the future test year.

¹ Michael Youngblood, Direct Testimony, In the Matter of the Investigation of Financial Disincentives to Investment in Energy Efficiency by Idaho Power Company, Case No. IPC-E-04-15, January 27, 2006.

² Idaho Public Utilities Commission, In the Matter of the Investigation of Financial Disincentives to Investment in Energy Efficiency by Idaho Power Company, Order No. 30267 (March 12, 2007), Case No. IPC-E-04-15.

4. **How should weather-related changes in customer usage be treated? Should they be excluded and if so how?** If the Commission pursues limited decoupling (as opposed to full decoupling), it should consider removing the effects of “abnormal” weather on utility sales. Typically, one uses regression analysis to estimate actual electricity sales as a function of actual weather conditions, holding constant the effects of other factors on kWh sales. The regression equation should be estimated with a correction for any autocorrelation. Normal sales would be determined by substituting normal weather conditions for actual weather conditions in the regression equation. Normal weather should reflect long term trends in temperature and humidity and should not be just an average of the past 10 years of data. Also, see the response to question 3.³
5. **What mechanism should be used for recovery of unrecovered fixed costs associated with energy efficiency? What is your view of utilizing a deferral mechanism but requiring that accumulated costs be amortized over several years if deferrals were large? If the Commission were to adopt decoupling and use a deferral mechanism, how should usage related to new customer additions be treated during the deferral period, i.e., should it be excluded or included? Should both programmatic and non-programmatic energy savings be included in the deferrals? If so, how should non-programmatic energy savings be measured and verified?**
- a. See the responses to questions 3 and 4.
 - b. *Deferral mechanisms should be used to collect any surcharge (or refund any credit) as contemporaneously as possible with the events causing the surcharge or credit, subject to a cap on any one year’s surcharge. Delaying recovery of unrecovered fixed costs for years runs counter to the purpose of decoupling and builds up a large interest charge.*
 - c. New customers should be included; this would be accomplished by employing fixed costs per customer and actual numbers of customers and actual sales as in the Idaho example above.⁴
 - d. Only savings from Commission-approved energy efficiency programs should be eligible for recovery of unrecovered fixed costs through the decoupling mechanism, not energy efficiency savings from other causes unless the Commission adopts a full decoupling approach.
6. **What features can be adopted as part of a decoupling proposal that would prevent the company from over-earning and address concerns that decoupling proposals necessarily mean deviating from the “matching principle?” Should the Commission consider a cap on earnings as part of its approval of a decoupling plan? Should a lower return on equity be adopted when considering rate cases for decoupled companies to recognize that such companies may incur less risk compared to non-decoupled companies? Should the Commission require that companies’ decoupling mechanisms and deferrals be reviewed after some period of time unless the company comes in for a rate case sooner?** If the Commission adopts decoupling, it should consider adjustments to the return on equity. The Maryland Public Service Commission reduced the rate of return to account for the reduced risk faced by the utilities for which it approved a bill stabilization adjustment.⁵ In general, the Commission should consider any decoupling plan to be a pilot program with a termination date that could be moved up in time if the Commission finds unexpected results prior to the termination date.

³ It should be noted, though, that if the Commission does not adjust for abnormal weather, decoupling may have a moderating impact on rates. For example, when the weather is abnormally hot and usage and bills are very high, the decoupling adjustment will lower rates.

⁴ Maryland uses revenue per customer and actual number of customers: Maryland Public Service Commission, Order No. 81518, July 19, 2007 and Order No. 81517, July 19, 2007.

⁵ Maryland Public Service Commission, Order No. 81518, July 19, 2007 and Order No. 81517, July 19, 2007.

7. **Please state whether the information provided in the Revenue Decoupling Data Report filed in compliance with Decision No. 70665 supports or argues against revenue decoupling in the case of natural gas companies.** WRA has not had an opportunity to analyze this information.
8. **What disincentives to customer conservation may be caused by virtue of the adoption of decoupling or decoupling-like mechanisms?** Recovering more fixed costs through the monthly service charge would reduce the kWh charge, thereby reducing the incentive to conserve electricity. In addition, delays in collecting or refunding balances in any deferral account could blunt price signals. For example, if customers are to pay additional amounts in the winter as a result of energy efficiency savings occurring in the previous summer, price signals may be compromised (depending on the magnitude of the decoupling amount to be collected).
9. **Are price signals to consumers skewed by decoupling and if so, how?** Assuming "skewed" means deviating from long run marginal cost, nearly any regulated rate will be skewed.
10. **What type of revenue decoupling mechanism is appropriate for Arizona or does it vary by company and with different facts? Revenue per customer, sales margin per customer? Total margin revenue? Total class revenue? Usage per customer?** A decoupling mechanism should be applied only if the utility has a Commission-approved energy efficiency implementation plan or a historical track record of large scale efficiency programs. The approach used in Idaho appears to be generally workable, although further review of Idaho's experience would be helpful. The Idaho approach could be classified as a revenue-per-customer approach limited to remove the effects of weather changes.⁶ The Commission should also consider using a future test year in rate cases as long as there is an adjustment or true-up provision that applies if the utility does not meet the savings assumed when setting future test year sales.
11. **Should the Commission impose penalties for failure to meet specific designated DSM goals? Should the opportunity to have periodic rate adjustments be tied to meeting specific energy efficiency requirements?** For the first question, yes, if the utility recovered fixed costs associated with the unachieved goal. The second question is not clear.
12. **What means should be employed to track conservation associated with specific DSM programs for purposes of evaluating the success of decoupling?** The most practical approach in the short run is to continue with the monitoring and evaluation studies of the type conducted for APS, modified as utilities or their contractors gain more experience. Where possible, statistical inferences about savings should be drawn.⁷ Over the long run, the Commission should also assess savings by statistically analyzing sales patterns of Arizona utilities as a function of the strength of the utility efficiency programs (measured by expenditures and other factors), economic conditions, population change, electricity prices, etc.⁸ This type of analysis will provide an estimate of reductions in energy sales due to efficiency programs that does not depend on utility estimates of

⁶ See Regulatory Assistance Project, *Revenue Decoupling Standards and Criteria*, Report to the Minnesota Public Utilities Commission, June 30, 2008, included in: <http://www.leg.state.mn.us/docs/2009/mandated/090177.pdf>.

⁷ As examples, see Summit Blue Consulting, *Impact Evaluation of Positive Energy SMUD Pilot Study*, May 26, 2009; and Ian Ayres, Sophie Raseman, and Alice Shih, "Evidence from Two Large Field Experiments that Peer Comparison Feedback Can Reduce Residential Energy Usage," Yale Law School, 2009.

⁸ For examples of these types of studies, see D. Loughran, and J. Kulick, "Demand-side Management and Energy Efficiency in the United States," *The Energy Journal* 25 (2004): 19-43. M. Horowitz, "Changes in Electricity Demand in the United States from the 1970s to 2003," *The Energy Journal* 28 (2007): 93-119. D. Berry, "The Impact of Energy Efficiency Programs on the Growth of Electricity Sales," *Energy Policy*, 36 (2008): 3620-3625.

energy savings of individual efficiency programs; it also separates out the effects of other factors on sales.

13. **What mechanisms are needed to assure data quality and accuracy of forecasting customers, usage and utility driven energy efficiency savings?** See response to question 12. Utilities' customer counts and sales data are already accurately recorded.
14. **Should decoupling mechanisms include a low-income component? Should utility energy efficiency programs be structured to align costs and benefits among rate classifications?** WRA has not analyzed this issue, but recognizes that impacts to low-income customers must be addressed.
15. **What additional issues should the Commission consider when addressing utility disincentives to implementing its energy efficiency requirements?** Experience with decoupling has revealed unanticipated problems as described below. Thus, the Commission should focus on managing risks to ratepayers and utilities as it devises a decoupling policy. These risk management techniques include capping any surcharge and treating the program as a pilot with a termination date or other opportunity for a mid-stream Commission review.

Specific problems with previous attempts at decoupling include the following cases:

- The Washington Utilities and Transportation Commission found that the Periodic Rate Adjustment Mechanism (PRAM) "had intended as well as unintended consequences. [Puget Sound Power and Light Company] acquired substantial conservation resources in 1991 through 1994, operating the most aggressive conservation program in the region, Whether this performance is attributable to the PRAM, or to the unique conditions faced by Puget during this period, has not, and perhaps cannot, be definitively established. At the same time the addition of new power resources, coupled with extended drought conditions, and warmer than average winters, [led] to large, upward annual rate adjustments and deferral balances. The annual proceedings, originally expected to be relatively straight-forward and simple, became complex and controversial."⁹ The Commission terminated the PRAM.
- The Minnesota Public Utilities Commission found that "much of the uncontrolled growth of incentive recovery under the previous plans was due to the fact that recovery of lost margins was cumulative. That is, under the previous incentive plan, once an amount of lost margins was determined to have occurred, it continued to be recovered in each subsequent year regardless of whether they were offset by sales growth in other areas. This feature (cumulative recovery of lost margins) has been eliminated from the proposed incentive, which is awarded based strictly on the amount of net ratepayer benefits (not lost margins) created in the instant year."¹⁰

⁹ Washington Utilities and Transportation Commission Docket No. UE-950618, Third Supplemental Order Approving Stipulation; Rejecting Tariff Filing; Authorizing Refiling, September 21, 1995, pp. 5-6.

¹⁰ Minnesota Public Utilities Commission, Order approving demand side management financial incentive plans, Docket No. E,G-999/CI-98-1759, April 7, 2000, p. 5.