

**BEFORE THE
PUBLIC UTILITIES COMMISSION
STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE CONSIDERATION OF THE ENERGY INDEPENDENCE
AND SECURITY ACT OF 2007
DOCKET NO. NG09-006**

**TESTIMONY OF JON THURBER
ON BEHALF OF THE COMMISSION STAFF
OCTOBER 2009**

EXHIBIT

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1 Q. Please state your name and business address for the record.

2 A. Jon Thurber, Public Utilities Commission, State Capitol Building, 500 East Capitol Ave.,
3 Pierre, South Dakota, 57501.

4

5 Q. By whom are you employed and In what position?

6 A. I am a utility analyst for the South Dakota Public Utilities Commission (Commission).

7

8 Q. Please describe your education and work experience.

9 A. I graduated summa cum laude from the University of Wisconsin – Stevens Point in
10 December of 2006, with a Bachelors of Science Degree in Managerial Accounting,
11 Computer Information Systems, Business Administration, and Mathematics.

12

13 In January of 2007, I started my employment with the State of South Dakota as an
14 auditor for the Department of Legislative Audit. In July of 2008, I joined the Commission
15 as a staff utility analyst.

16

17 Q. Are you familiar with the new PURPA Standards in the Energy Independence and
18 Security Act of 2007?

19 A. Yes. I have reviewed the Reference Manual and Procedures for Implementation of the
20 "PURPA Standards" in the Energy Independence and Security Act of 2007.

1 Q. What is your role in this docket?

2 A. I am responsible for providing Staff's recommendation on whether or not it is appropriate
3 to implement the PURPA standard "Rate Design Modifications to Promote Energy
4 Efficiency Investments" (Subtitle D, "Energy Efficiency of Public Institutions," section 532
5 of EISA, section 303(b)(6) of PURPA).

6

7 **INTRODUCTION TO RATE DESIGN MODIFICATIONS TO PROMOTE ENERGY EFFICIENCY**
8 **INVESTMENTS**

9

10 Q. Provide the statute under consideration.

11 A. **532. UTILITY ENERGY EFFICIENCY PROGRAMS.**

12 (b) NATURAL GAS UTILITIES.—Section 303(b) of the Public Utility Regulatory
13 Policies Act of 1978 (15 U.S.C. 3203(b)) is amended by adding at the end the
14 following:

15 "(6) RATE DESIGN MODIFICATIONS TO PROMOTE ENERGY EFFICIENCY
16 INVESTMENTS.—

17 "(A) IN GENERAL.—The rates allowed to be charged by a natural gas
18 utility shall align utility incentives with the deployment of cost-effective
19 energy efficiency.

20 "(B) POLICY OPTIONS.—In complying with subparagraph (A), each State
21 regulatory authority and each non-regulated utility shall consider—

22 "(i) separating fixed-cost revenue recovery from the volume of
23 transportation or sales service provided to the customer;

24 "(ii) providing to utilities incentives for the successful management of
25 energy efficiency programs, such as allowing utilities to retain a
26 portion of the cost reducing benefits accruing from the programs;

27 "(iii) promoting the impact on adoption of energy efficiency as 1 of the
28 goals of retail rate design, recognizing that energy efficiency must
29 be balanced with other objectives; and

30 "(iv) adopting rate designs that encourage energy efficiency for each
31 customer class.

32

1 Q. What is the purpose of this standard?

2 A. The reference manual provides the following context for the standard, "There has been
3 concern in recent years that standard ratemaking practices may not encourage, or could
4 even discourage, utilities from adopting energy conservation measures. This concern
5 has led some states to "decouple" utility earnings from the sales of electricity or natural
6 gas or use other means to modify the rate design. This standard directs states to
7 consider the incentives that utilities have to use and invest in energy efficiency
8 measures."¹

9

10 Q. How will you evaluate the standard?

11 A. I will evaluate each of the four policy options for natural gas utilities independently.

12

13 **SHALL THE COMMISSION SEPARATE FIXED-COST REVENUE RECOVERY FROM THE**
14 **VOLUME OF TRANSPORTATION OR SALES SERVICE PROVIDED TO THE CUSTOMER?**

15

16 Q. Please explain the context behind this policy.

17 A. A rate design that separates the fixed-cost revenue recovery from the volumetric rate
18 attempts to remove the throughput incentive that links utility sales and earnings in
19 traditional cost-based regulation. When rates are set, the fixed charge on the monthly
20 bill does not typically cover all fixed costs nor include all of the return on investment
21 (ROI) necessary to serve customers. Since the volumetric portion of the bill also
22 contains fixed costs and ROI, a decrease in sales will lead to a decrease in earnings.
23 Therefore, there is a disincentive for a utility to offer energy efficiency.

24

25 The Commission is asked to consider implementing straight fixed-variable pricing.
26 Although the standard is titled "Rate Design Modifications to Promote Energy Efficiency
27 Investments", implementing this policy option by itself will not promote energy efficiency
28 investments. Removing the throughput incentive only makes utilities neutral on energy
29 efficiency investments. Besides providing an overview of straight fixed-variable pricing, I
30 will also discuss the incentives provided in the energy efficiency plans that have been
31 recently approved by the Commission.

32

¹ Rose, Kenneth and Mark Murphy, "Reference Manual and Procedures for Implementation of the
"PURPA Standards" in the Energy Independence and Security Act of 2007", NARUC, August 2008, p. 47.

- 1 Q. **Please define straight fixed-variable (SFV) pricing.**
- 2 A. Under straight fixed-variable pricing, the customer and/or demand charge covers all the
3 fixed costs associated with serving the customer, and any consumption is billed at the
4 actual cost of the commodity. This removes the throughput incentive because lost
5 revenue is offset by reduced incremental cost.
6
- 7 Q. **What are the arguments in support of straight fixed-variable pricing?**
- 8 A. According to Costello, "this rate structure provides price signals conducive to efficient
9 gas consumption."² Also, SFV pricing provides earnings stability and makes utilities
10 neutral on energy efficiency investments.
11
- 12 Q. **What are the arguments against straight fixed-variable pricing?**
- 13 A. The primary arguments against straight fixed-variable pricing are policy oriented.
14 Significantly higher monthly fixed charges typically present public acceptability problems.
15 In addition, low usage customers within a customer class would have a greater increase
16 than high usage customers. Although this rate structure removes the disincentive for
17 utility promotion of energy efficiency, it may also reduce the benefit for consumers to
18 participate in energy efficiency and use less of the commodity.
19
- 20 Q. **What is your recommendation in regards to straight fixed-variable pricing?**
- 21 A. Straight fixed-variable pricing is attractive from an economics point of view but conflicts
22 with important policy objectives. Consumers will have difficulty accepting large up front
23 price increases and low usage customers will not feel as though they are being treated
24 fairly. In the process of removing the utilities disincentive to offer energy efficiency
25 programs, SFV pricing could discourage consumers from making energy efficiency
26 investments because of the low volumetric rates.
27
- 28 I do not recommend that the Commission adopt straight fixed-variable pricing to remove
29 the throughput incentive. As utilities file rate cases, Staff recommends increasing the
30 fixed monthly charge by a publicly acceptable amount in a movement towards equitable
31 cost recovery. That will move us in a gradual manner toward SFV pricing, but will do so
32 in a manner that allows customers to adapt more easily.

² Costello, Ken, "Decision-Making Strategies for Assessing Ratemaking Methods: The Case of Natural Gas", NRRI Briefing Paper, September 2007, p. 39.

1 Q. Please describe the recently approved energy efficiency plans by the
2 Commission.

3 A. The Commission has approved three energy efficiency programs submitted by utility
4 companies. The Commission worked with the utility to determine the most cost-effective
5 programs. After programs are selected, direct cost recovery is allowed along with an
6 incentive. The Commission has the opportunity to review the plan periodically and
7 adjust the programs as needed.

8

9 Q. What is your recommendation in regards to separating fixed-cost revenue
10 recovery from the volume of transportation or sales service provided to the
11 customer?

12 A. I do not recommend the Commission separate fixed-cost revenue recovery from the
13 volumetric rates. Straight fixed-variable pricing removes the disincentive for utilities to
14 promote energy efficiency investments at the expense of other regulatory goals. The
15 Commission can promote energy efficiency investments by setting rates that generally
16 mirror costs and approve targeted energy efficiency programs that provide incentives to
17 utilities. The Commission can also flatten rate structures so the utility will not have an
18 incentive to sell relatively large volumes to customers.

19

20 **SHALL THE COMMISSION PROVIDE UTILITY INCENTIVES FOR THE SUCCESSFUL**
21 **MANAGEMENT OF ENERGY EFFICIENCY PROGRAMS, SUCH AS ALLOWING UTILITIES**
22 **TO RETAIN A PORTION OF THE COST REDUCING BENEFITS ACCRUING FROM THE**
23 **PROGRAMS?**

24

25 Q. Please explain the context behind this policy.

26 A. As the Reference Manual contends, "If energy efficiency programs have a negative
27 effect on utility earnings, then any program the utility is required to provide could be
28 undermined by financial disincentives that negate the incentive to fully pursue
29 implementation of the programs."³ Utility performance incentives not only remove any
30 disincentives but provide an incentive to compensate utilities for implementing energy
31 efficiency programs.

32

³ Rose, Kenneth and Mark Murphy, "Reference Manual and Procedures for Implementation of the
"PURPA Standards" in the Energy Independence and Security Act of 2007", NARUC, August 2008, p. 48.

1 Q. **What incentives have been previously approved by the Commission as part of the**
2 **energy efficiency plans?**

3 A. Two energy efficiency plans have shared-savings incentives that were capped at a
4 percent of the proposed annual spending. The incentive is designed to have a lower
5 and upper bound incentive level based on a predetermined energy savings goal.
6 Anything less than the minimum goal results in no incentive payment. The most recent
7 plan has an incentive based on the total program expenditures multiplied by the rate of
8 return in the last rate case adjusted for taxes and has a minimum incentive and
9 maximum incentive cap.

10

11 Q. **What is your recommendation in regards to providing utility incentives for the**
12 **successful management of energy efficiency programs?**

13 A. If the Commission wants utility companies to voluntarily manage meaningful energy
14 efficiency programs, an incentive should be provided to compensate utilities for the
15 effect these programs have on earnings. Since the energy efficiency plans are in the
16 early stages of implementation, the incentive mechanisms may need to be modified as
17 we review the actual results.

18

19 **SHALL THE COMMISSION INCLUDE THE IMPACT ON ADOPTION OF ENERGY**
20 **EFFICIENCY AS ONE OF THE GOALS OF RETAIL RATE DESIGN, RECOGNIZING THAT**
21 **ENERGY EFFICIENCY MUST BE BALANCED WITH OTHER OBJECTIVES?**

22

23 Q. **Please explain the context behind this policy.**

24 A. As the Reference Manual indicates, "Most states have general regulatory goals or
25 objectives that they consider during the ratemaking process. These include quality of
26 utility service, public safety, reliability, just and reasonable rates, efficient utility
27 operation, and economical and fair regulation. State commissions may consider adding
28 the encouragement of cost-effective energy efficiency programs as a regulatory goal."⁴
29 Costello also points out that "the ratemaking process is complex and interactive,
30 involving groups with different goals, interests and agendas. Different ratemaking

⁴ Rose, Kenneth and Mark Murphy, "Reference Manual and Procedures for Implementation of the
"PURPA Standards" in the Energy Independence and Security Act of 2007", NARUC, August 2008, p. 48.

1 options also have varying propensities to advance those objectives, with the usual
2 situation where one option would advance some objectives while impeding others.”⁵

3
4 **Q. Please describe the Commission's current ratemaking process.**

5 A. The Commission operates under the legislative authority of SDCL 49-34A-6 to set rates:

6
7 *49-34A-6. Rates to be reasonable and just—Regulation by commission. Every rate made,*
8 *demanding or received by any public utility shall be just and reasonable. Every unjust or*
9 *unreasonable rate shall be prohibited. The Public Utilities Commission is hereby authorized,*
10 *empowered and directed to regulate all rates, fees and charges for the public utility service of all*
11 *public utilities, including penalty for late payments, to the end that the public shall pay only just*
12 *and reasonable rates for service rendered.*

13
14 The Commission has used a combination of cost-based principles and policy-based
15 objectives for ratemaking purposes. A class cost of service study is used to determine
16 the cost allocation for each customer class and service. According to Costello, “The
17 cardinal principle underlying cost allocation is that customers and services should bear
18 those costs that they cause.”⁶ The class cost of service study is used as a guide for
19 setting rates to collect those costs, with modifications based on policy objectives that
20 advance the public interest. Some of the policy objectives that have been employed in
21 the past include public acceptability, rate stability, gradualism and equity or fairness.

22
23 The promotion of energy efficiency investments has been a priority of the Commission.
24 Recently approved energy efficiency plan costs are recovered from customers through a
25 rider that appears as a separate line item on the monthly bill. The Commission has
26 made the encouragement of energy efficiency a regulatory goal without making
27 significant departures from traditional ratemaking practices.

28
29 **Q. What is your recommendation in regards to including the impact on adoption of**
30 **energy efficiency as one of the goals of retail rate design?**

31 A. I believe the Commission can promote energy efficiency investments without modifying
32 base rates. By separating energy efficiency costs from base rates, the Commission can

⁵ Costello, Ken, “Decision-Making Strategies for Assessing Ratemaking Methods: The Case of Natural Gas”, NRRRI Briefing Paper, September 2007, Executive Summary.

1 maintain adequate oversight and modify the plans as results are reported. Base rates
2 that generally mirror costs will send accurate price signals and consumers can make the
3 proper energy efficiency investments.
4

5 **SHALL THE COMMISSION ADOPT RATE DESIGNS THAT ENCOURAGE ENERGY**
6 **EFFICIENCY FOR EACH CUSTOMER CLASS?**
7

8 **Q. How does the Commission set rates for each customer class?**

9 A. As noted above, a class cost of service study is used as a guide to determine the costs
10 of each customer class. The goal of the class cost of service study is to have each
11 customer class contribute the same rate of return on its share of rate base and have no
12 cross-subsidies between classes. Rates are then designed to mirror costs and
13 accomplish policy based objectives.
14

15 Recently approved riders for energy efficiency costs are either applied at the same rate
16 across all customer classes or allocated across customer classes in proportion to
17 benefits. The energy efficiency plans are designed so that each customer class is
18 eligible for at least one of the programs.
19

20 **Q. What is your recommendation in regards to adopting rate designs that encourage**
21 **energy efficiency for each customer class?**

22 A. I recommend adopting rate designs for each customer class that generally mirror costs.
23 Accurate price signals will allow consumers to make informed decisions on energy
24 efficiency investments. If the Commission wants to provide additional energy efficiency
25 incentives to consumers, a rider is a more appropriate ratemaking tool.
26

27 **CONCLUSION**
28

29 **Q. Please summarize your recommendations.**

30 A. I do not recommend the Commission separate fixed-cost revenue recovery from the
31 volumetric rates. The Commission can promote energy efficiency investments by setting
32 rates that generally mirror costs and approve targeted energy efficiency programs that

⁶ Costello, Ken, "Decision-Making Strategies for Assessing Ratemaking Methods: The Case of Natural Gas", NRRI Briefing Paper, September 2007, p. 3.

1 provide incentives to utilities. The Commission can also flatten rate structures so the
2 utility will not have an incentive to sell relatively large volumes to customers.

3
4 I believe the Commission can promote energy efficiency investments without modifying
5 base rates. By separating energy efficiency costs from base rates, the Commission can
6 maintain adequate oversight and modify the plans as results are reported. Base rates
7 that generally mirror costs for each customer class will send accurate price signals and
8 consumers can make the proper energy efficiency investments.

9
10 The Commission can and may need to modify the energy efficiency plans to best
11 accomplish multiple regulatory goals. As results are reported and measurement tools
12 are improved, we can fine tune the programs to promote cost-effective energy efficiency.
13 There is no way to pick one method now and declare it will be relevant for the long term.
14 Change will be constant as we work toward achieving multiple regulatory goals.

15
16 **Q. Does this conclude your testimony?**

17 **A. Yes.**