

**HEARING EXHIBIT 200 ANSWER TESTIMONY OF HOWARD GELLER**

PROCEEDING 16A-0546E

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IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE  
COMPANY OF COLORADO FOR AUTHORIZATION TO IMPLEMENT  
A REVENUE DECOUPLING ADJUSTMENT MECHANISM AS PART  
OF ITS COLORADO P.U.C. NO. 7 - ELECTRIC TARIFF

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Filing Party:            Southwest Energy Efficiency Project

Filing Date:            January 16, 2017

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**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO**

IN THE MATTER OF THE APPLICATION OF )  
PUBLIC SERVICE COMPANY OF COLORADO )  
FOR AUTHORIZATION TO IMPLEMENT A )  
REVENUE DECOUPLING ADJUSTMENT ) Docket No. 16A-0546E  
MECHANISM AS PART OF ITS COLORADO )  
P.U.C. NO. 7 - ELECTRIC TARIFF )

Answer Testimony of

**Howard Geller**

On Behalf Of

**Southwest Energy Efficiency Project (SWEEP)**

January 16, 2017

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1 **I. Introduction.**

2 **Q. Please state your name, occupation and business address.**

3 A. My name is Howard Geller. I am the Executive Director of the Southwest Energy  
4 Efficiency Project (“SWEEP”). My business address is 2334 Broadway, Suite A.  
5 Boulder, Colorado 80304.

6 **Q. For whom are you testifying?**

7 A. I am testifying on behalf of SWEEP.

8 **Q. Please describe SWEEP.**

9 A. SWEEP is a private not-for-profit organization dedicated to advancing energy  
10 efficiency in six states in the Southwest including Colorado. It receives the majority  
11 of its funding from charitable foundations and the Federal government.

12 **Q. What are your professional qualifications?**

13 A. I have 35 years of experience working on energy efficiency policy and program  
14 design, analysis, evaluation and advocacy. Prior to founding SWEEP in 2001, I  
15 served as Executive Director of the American Council for an Energy-Efficient  
16 Economy (ACEEE) in Washington, DC. I have authored or co-authored four books  
17 on energy efficiency and energy policy, and published dozens of reports and articles  
18 on these topics. I have testified before the public utility commissions of Colorado,  
19 Illinois, Maryland, Nevada, New Mexico, Utah, Wyoming and the District of  
20 Columbia. Hearing Exhibit 200, Attachment HG-1 summarizes my professional  
21 qualifications.

22 **Q. What is the purpose of your testimony?**

1 A. In my testimony I will comment on and provide recommendations to the Colorado  
2 Public Utilities Commission (the “Commission”) regarding the Revenue Decoupling  
3 proposal made by Public Service Company of Colorado (“PSCo” or the “Company”)  
4 in its Direct Testimony.

5

6 **II. SWEEP’s Position on Revenue Decoupling.**

7 **Q. Have you reviewed the revenue decoupling proposal made by PSCo in its direct**  
8 **testimony?**

9 A. Yes I have.

10 **Q. What is your position with respect to PSCo’s decoupling proposal?**

11 A. In general, SWEEP supports decoupling for the reasons PSCo has stated and for the  
12 reasons I explain below. However, SWEEP recommends a number of modifications  
13 to the specific decoupling mechanism proposed by PSCo.

14 **Q. What are the primary reasons why SWEEP supports decoupling?**

15 A. SWEEP supports decoupling of electricity sales and utility fixed cost recovery for a  
16 number of reasons. First, SWEEP acknowledges the fundamental problem with  
17 current rate design that PSCo’s revenue decoupling is meant to address, namely that a  
18 large portion of fixed costs are recovered through the volumetric per kWh energy  
19 charge for residential and smaller commercial customers. This means that recovery of  
20 fixed costs is reduced as a result of both successful energy efficiency and  
21 conservation programs and increased customer adoption of distributed renewable  
22 energy systems such as rooftop solar systems. While energy efficiency and distributed

1 renewable energy provide a number of benefits for customers and society, and are  
2 energy policy goals of the state of Colorado, PSCo's net revenues decline and  
3 potentially its profits are compromised from pursuit of these goals. Likewise, PSCo  
4 benefits if electricity is wasted and consumption increases in between general rate  
5 cases, a phenomenon known as the "throughput incentive."

6 Decoupling breaks the link between the level of electricity consumption by  
7 smaller customers and the utility's fixed cost recovery in between rate cases. Under  
8 decoupling, PSCo is no longer harmed financially as it implements successful energy  
9 efficiency and distributed renewable energy programs, or if other initiatives outside of  
10 the utility's control result in more efficient electricity use, energy conservation, or  
11 increased distributed renewable energy generation. These external factors include  
12 state and local building energy codes, appliance and equipment efficiency standards,  
13 and tax credits for renewable energy technologies. Decoupling also removes the  
14 throughput incentive, thus eliminating the financial incentive PSCo otherwise has to  
15 encourage wasteful electricity consumption. For these reasons, decoupling is  
16 frequently referred to as a new business model for utilities.

17 SWEEP also supports decoupling because rate adjustments are symmetrical; in  
18 some years the decoupling adjustment will result in a small customer surcharge and  
19 other years a small customer refund, depending on whether the PSCo has under-  
20 recovered or over-recovered its approved fixed costs for the relevant rate classes. As  
21 proposed by PSCo, the Company will receive its approved fixed costs per customer—  
22 no more and no less. The policy for addressing the disincentive that utilities have to

1 promoting energy efficiency improvements by their customers is far superior to the  
2 so-called Lost Revenue Adjustment Mechanism (“LRAM”) approach for addressing  
3 the disincentive, in part because LRAM is not symmetrical and only leads to a utility  
4 collecting a surcharge.<sup>1</sup>

5 Finally, SWEEP supports decoupling because actual experience has demonstrated  
6 that the adjustments are usually relatively small, mostly one percent or less, when  
7 decoupling adjustments are made annually as PSCo has proposed.<sup>2</sup>

8 **Q. How significant are the reductions in electricity sales that PSCo is experiencing**  
9 **as a result of energy efficiency programs and distributed renewable energy**  
10 **generation?**

11 A. The reductions are significant and are increasing over time. PSCo’s response to  
12 Discovery Request CPUC3-12, shown in Hearing Exhibit 200, Attachment HG-2,  
13 shows that residential electricity sales in 2017 are projected to decline by 80 kWh per  
14 month on average, or 960 kWh per year, due to DSM programs and distributed solar  
15 energy systems implemented starting in 2012. The reduction is expected to increase  
16 to 116 kWh per month, or 1,392 kWh per year, by 2020. The latter value is equivalent  
17 to about 19 percent of projected residential electricity use in 2020, which is about  
18 7,200 kWh per year on average. Thus, energy efficiency improvements and adoption

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<sup>1</sup> M. Molina and M. Kushler, “Policies Matters: Creating a Foundation for an Energy-Efficient Utility of the Future.” American Council for an Energy-Efficient Economy. June 2015.

<http://aceee.org/sites/default/files/policies-matter.pdf>

<sup>2</sup> P. Morgan, “A Decade of Decoupling for U.S. Energy Utilities: Rate Impacts, Designs and Observations.” Graceful Systems LLC. Revised May 2013. p. 11.

<https://www.nmlegis.gov/handouts/WNR%20072715%20Item%206%20A%20Decade%20of%20Decoupling%20for%20US%20Energy%20Utilities.pdf>

1 of distributed renewable energy systems are a primary reason why sales per customer  
2 are declining, and why the adoption of decoupling is justified.

3 **Q. What is the status of decoupling throughout the country?**

4 A. Decoupling has been successfully implemented by numerous states for either electric  
5 or gas utilities, and in some cases both. As of January 2016, fifteen states had adopted  
6 decoupling for one or more investor-owned electric utilities and 23 states had adopted  
7 decoupling for one or more investor-owned gas utilities.<sup>3</sup> The benefits of decoupling  
8 have been widely identified and the experience with decoupling has been well  
9 studied.<sup>4</sup> Recently, the Regulatory Assistance Project published a guide for the design  
10 of decoupling mechanisms.<sup>5</sup>

11 Decoupling is more common for gas utilities than for electric utilities because gas  
12 sales per customer have been declining for twenty years or more for many gas  
13 utilities, thereby leading to reduced revenues and earnings for gas utilities and thus a  
14 strong rationale for adopting decoupling. The decline in electricity sales per  
15 residential customer is a newer phenomenon for electric utilities and so there has been  
16 less need for and approval of decoupling mechanisms for electric utilities. However,  
17 as PSCo has pointed out, average electricity usage per residential customer declined  
18 during 2009-15 and the decline is expected to accelerate during 2016-20, thereby

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<sup>3</sup> Data provided by the Natural Resources Defense Council, San Francisco, CA.

<https://www.nrdc.org/experts/samantha-williams/evidence-decoupling-spurs-energy-efficiency-investment>

<sup>4</sup> See Footnote 2.

<sup>5</sup> J. Mignden-Ostrander and R. Sedano. "Decoupling Design: Customizing Revenue Regulation to Your State's Priorities." Regulatory Assistance Project. Nov. 2016. <http://www.raonline.org/wp-content/uploads/2016/11/rap-sedano-migdenostrander-decoupling-design-customizing-revenue-regulation-state-priorities-2016-november.pdf>

1 making decoupling a more pressing need for PSCo.<sup>6</sup> In fact one of the states that most  
2 recently adopted decoupling for an electric utility was Minnesota, where decoupling  
3 was approved for Xcel Energy’s residential and small business rate classes in May  
4 2015.<sup>7</sup>

5 **Q. What is the policy of the state of Colorado with respect to promoting utility**  
6 **energy efficiency efforts and addressing the financial impact of these efforts on**  
7 **utilities?**

8 A. Colorado House Bill 07-1037, signed into law in 2007, declares that:

9 “The General Assembly hereby finds, determines and declares that cost-  
10 effective natural gas and electricity demand-side management programs will  
11 save money for consumers and utilities and protect Colorado’s environment.”<sup>8</sup>  
12

13 The law also states that:

14 “The Commission shall allow an opportunity for a utility’s investments in  
15 cost-effective DSM programs to be more profitable to the utility than any  
16 other utility investment that is not already subject to special incentives.”<sup>9</sup>  
17

18 This indicates that the intent of state policy is for a utility to not be harmed financially  
19 when it implements cost-effective energy efficiency programs for its customers.

20 Decoupling is one way to ensure the utility is not harmed financially when it  
21 implements cost-effective energy efficiency programs.

22 **Q. What is the relationship between utility energy efficiency efforts and the**  
23 **adoption of decoupling?**

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<sup>6</sup> Hearing Exhibit 101, Direct Testimony of Alice K. Jackson on behalf of PSCo, “Jackson Direct,” Figure AKJ-3, page 33.

<sup>7</sup> Findings of Fact, Conclusions and Order. Docket No. E-002/GR-13-868. Minnesota Public Utilities Commission. May 8, 2015.

<sup>8</sup> See House Bill 07-1037, Section 40-3.2-101.

<sup>9</sup> See House Bill 07-1037, Section 40-3.2-104 (5).

1 A. The Regulatory Assistance Project has succinctly articulated the link between utility  
2 support for energy efficiency and the adoption of decoupling:

3 “If we accept the premise that energy efficiency benefits society, then it is  
4 important to develop this resource in a manner that does not hinder the  
5 utility’s ability to complete its mission and maintain its financial health.  
6 Moreover, to make energy efficiency as successful as possible, policymakers  
7 have a stake in seeing utilities embrace it wholeheartedly. Decoupling  
8 removes the utility disincentive to engage in making energy efficiency a part  
9 of its portfolio.”<sup>10</sup>

10  
11 Various empirical studies have shown that utilities spend more money on energy  
12 efficiency programs and achieve more energy savings for their customers in states  
13 that have adopted decoupling, compared to states that have not adopted decoupling.  
14 For example, the American Council for an Energy-Efficient Economy (ACEEE)  
15 found that utilities in states with decoupling had much higher energy efficiency  
16 spending and savings than those in states without decoupling. The ratios are on the  
17 order of three to one favoring decoupling, for both expenditures and savings. ACEEE  
18 found that as of 2013, utilities in states with decoupling were saving 1.4% of total  
19 electricity sales through their energy efficiency programs, while states without  
20 decoupling were saving only 0.5% of sales.<sup>11</sup>

21 Another recent study considered five utilities in western states that adopted  
22 decoupling; in particular examining the change in spending and energy savings from  
23 energy efficiency programs before and after decoupling was adopted. All five utilities  
24 significantly increased energy efficiency program spending and energy savings in the

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<sup>10</sup> See Footnote 5, p. 38.

<sup>11</sup> M. Molina and M. Kushler, “Policies Matters: Creating a Foundation for an Energy-Efficient Utility of the Future.” American Council for an Energy-Efficient Economy. June 2015.  
<http://aceee.org/sites/default/files/policies-matter.pdf>

1 years following adoption of decoupling. Energy efficiency program spending  
2 increased by at least 100% for all five utilities. And for the five utilities combined,  
3 energy savings increased by 80% following the adoption of decoupling.<sup>12</sup> This is not  
4 proof that decoupling caused the increase in energy efficiency spending or savings;  
5 other important policies such as the adoption of energy efficiency resource standards  
6 influenced some of these utilities. But it does show a correlation between adoption of  
7 decoupling and growth in utility energy efficiency program activity and achievement,  
8 which is a logical outcome given that decoupling removes the financial disincentive  
9 that utilities face when they spend money to help their residential and smaller  
10 commercial customers consume less electricity.

11 **Q. Are there any elements of PSCo's decoupling proposal that shed light on the**  
12 **relationship between utility energy efficiency efforts and the adoption of**  
13 **decoupling?**

14 A. Yes. The Company has proposed implementing Integrated Volt Var Optimization  
15 ("IVVO") as part of its Advanced Grid Intelligence and Security initiative. PSCo  
16 estimates that the voltage optimization achieved through IVVO will lower the  
17 electricity consumption of residential and small commercial customers by 141 million  
18 kWh per year, or 1.4%.<sup>13</sup> This level of energy savings corresponds to utility bill  
19 savings of about \$14 million per year for these customers, or about \$100 million over  
20 the first seven years after IVVO is deployed. Furthermore, PSCo has proposed to  
21 implement IVVO and provide its customers with this energy and economic savings if

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<sup>12</sup> W. Nissen and S. Williams. "The link between decoupling and success in utility-led energy efficiency." **Electricity Journal** 29 (2016) 59-65.

<sup>13</sup> Jackson Direct, page 34, lines 18-21.

1 decoupling is adopted. If the Company's decoupling proposal is denied by the  
2 Commission, PSCo indicates it will withdraw its IVVO proposal. This demonstrates a  
3 very concrete link between the adoption of decoupling and PSCo's willingness to  
4 help its customers reduce their electricity consumption.

5

6 **III. Comments on PSCo's Specific Revenue Decoupling Proposal.**

7 **Q. Which aspects of PSCo's specific revenue decoupling proposal does SWEEP**  
8 **support?**

9 A. SWEEP supports a number of the features included in PSCo's proposed revenue  
10 decoupling mechanism. First, SWEEP supports including the entire residential class  
11 (not just the Residential R class) as well as the Commercial C class under the  
12 proposed Revenue Decoupling Adjustment ("RDA") mechanism. As explained by  
13 PSCo witness Wishart, including all residential customers makes sense considering  
14 that a significant number of residential customers could migrate to the RE-TOU or  
15 RD-TDR tariffs during the proposed time frame for the decoupling proposal, which is  
16 2017-21.

17 Second, SWEEP supports implementing revenue per customer decoupling within  
18 individual customer classes, as PSCo has proposed. This is the most commonly  
19 adopted approach to decoupling, and revenue per customer decoupling within  
20 individual customer classes was the approach approved by the Minnesota  
21 Commission for Xcel Energy.<sup>14</sup> One of the benefits of this approach is that customers

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<sup>14</sup> See Footnote 7, pp. 70-81.

1 do not end up compensating the utility for revenue loss when customers leave the  
2 system.

3 Third, SWEEP supports annual decoupling adjustments. Although some states  
4 make the adjustments monthly, annual adjustments are more common and will tend to  
5 smooth out variations that can occur from month-to-month.<sup>15</sup>

6 Fourth, SWEEP supports the five year timeframe for the proposed RDA, starting  
7 in 2017. This is a period during which PSCo is likely to implement robust energy  
8 efficiency programs given the energy savings goals previously adopted by the  
9 Commission,<sup>16</sup> along with the Company's proposed IVVO initiative. In addition,  
10 distributed renewable energy systems are expected to significantly expand during this  
11 period. While rate design for residential customers could change during this period, it  
12 is not certain if and when it will change. The five year timeframe will provide  
13 sufficient experience regarding how decoupling is working, and thus will allow the  
14 Commission to make an informed decision about whether or not decoupling should  
15 continue, in the context of modifications to rate design and other developments over  
16 the next five years.

17 Fifth, SWEEP supports PSCo's proposal to reimburse ratepayers for any DSM  
18 disincentive offset in the calculation of the decoupling adjustment. This provision  
19 makes sense since decoupling removes any financial disincentive that PSCo  
20 experiences as a result of its energy efficiency and other DSM programs, meaning the  
21 current fixed disincentive offset for residential and small commercial customers

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<sup>15</sup> See Footnote 2, pp. 8-11.

<sup>16</sup> See Decision No. C14-0731, Docket No. 13A-0686EG. Colorado Public Utilities Commission. Adopted May 28, 2014. Pages 7-8.

1 would no longer be needed. The current disincentive offset is \$5 million per year for  
2 all customer classes, or about \$2.4 million per year for the residential and small  
3 commercial classes. In addition, SWEEP supports PSCo's proposal to maintain a  
4 shareholder incentive if PSCo demonstrates adequate DSM program performance.  
5 Decoupling does not serve as a substitute for the shareholder incentive, and  
6 maintaining the incentive opportunity is consistent with the state law cited above.

7 Sixth, SWEEP supports PSCo's proposal to account for potential over-recovery or  
8 under-recovery of approved fixed costs due to the RE-TOU trial rate and RD-TDR  
9 pilot within the RDA mechanism. The time-of-use rate increases uncertainty as to the  
10 actual level of revenue that PSCo will collect from customers that opt into the trial  
11 rate. In addition, the trial RE-TOU rate could be converted to the default residential  
12 tariff during the timeframe for the proposed decoupling policy. Thus, it is reasonable  
13 to protect both customers and PSCo from variations in revenue recovery in  
14 conjunction with moving towards TOU rates for residential customers.

15 **Q. What is SWEEP's position on the issue of modifying PSCo's Return on Equity**  
16 **(ROE) if decoupling is adopted?**

17 A. SWEEP supports the Company's position that its ROE should not be modified at this  
18 time in conjunction with adoption of decoupling. Decoupling protects PSCo from  
19 under-recovering its authorized revenue per customer from residential and small  
20 commercial customers. But decoupling is also symmetrical in that it protects  
21 customers from PSCo over-recovering its authorized revenues per customer due to  
22 various factors including economic growth, increased electrification, and hotter than

1 normal summers (under SWEEP’s recommendation to not include weather  
2 normalization in the RDA, as explained below). Given this symmetry, SWEEP does  
3 not believe it is appropriate to modify the Company’s ROE solely as a result of  
4 adopting decoupling.

5 As noted by PSCo witness Jackson in her Direct Testimony, most PUC decisions  
6 throughout the country that have adopted decoupling have done so without modifying  
7 the utility’s ROE.<sup>17</sup> In addition, an empirical study by the Brattle Group found no  
8 statistically significant evidence that an electric utility’s cost of capital declines after  
9 the adoption of decoupling.<sup>18</sup> This suggests that lenders do not perceive that  
10 decoupling reduces the risk they take on when lending money to investor-owned  
11 electric utilities for capital projects. This is further justification for not modifying the  
12 company’s ROE in conjunction with adoption of decoupling.

13 **Q. What is SWEEP’s position on including or excluding the impact of weather on**  
14 **the RDA?**

15 A. SWEEP does not support PSCo’s proposal to exclude the impact of weather from the  
16 decoupling adjustment through the approach known as weather normalization.  
17 Weather variations will affect a utility’s sales and revenue collection, both variations  
18 in winter and summer weather. A hotter-than-normal summer will increase electricity  
19 consumption for air conditioning; a colder-than-normal winter will increase  
20 electricity consumption for space heating. A few PUCs have removed the weather

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<sup>17</sup> See Footnote 2, pp. 14-16.

<sup>18</sup> M. Vilbert, J. Wharton and C. Gibbons. “The Impact of Revenue Decoupling on the Cost of Capital for Electric Utilities: And Empirical Investigation.” The Brattle Group. March 2014.  
<https://www.nmlegis.gov/lcs/handouts/WNR%20072715%20Item%206%20%20Effect%20of%20Electric%20Decoupling%20on%20the%20Cost%20of%20Capital.pdf>

1 adjustment from the decoupling mechanism through a procedure known as weather  
2 normalization, which is what PSCo has proposed. This approach is also referred to as  
3 partial decoupling. Full decoupling includes the weather variation in the RDA; i.e.,  
4 weather normalization is not done.

5 SWEEP recommends adoption of full decoupling for a number of reasons. First,  
6 full decoupling is simpler as it does not require weather normalization and an  
7 adjustment to the sales by customer class. Full decoupling uses actual electricity sales  
8 in calculating the RDA. Partial decoupling uses a calculated value, and it is possible  
9 for PSCo to skew the complicated weather normalization calculation in a manner that  
10 favors the utility.

11 Second, actual electricity sales have tended to be higher than weather-normalized  
12 electricity sales in recent years. As shown in Hearing Exhibit 200, Attachment HG-3,  
13 this was the case four of six years for residential sales and five of six years for  
14 commercial C class sales, over the period 2010-15. It is logical that actual sales will  
15 tend to be higher than weather-normalized sales as summers in general are getting  
16 hotter due to human-induced climate change, which more than offsets the effect of  
17 warmer winters in terms of influencing PSCo's overall electricity sales. The use of  
18 the higher (on average) actual sales rather the lower (on average) weather-normalized  
19 sales will tend to reduce the amount of any surcharge under decoupling, or increase  
20 the amount of any refund to customers under decoupling. Thus, adopting full  
21 decoupling will tend to favor customers, while partial decoupling (which PSCo has  
22 proposed) will tend to favor PSCo in terms of the amount of the RDA. This is a

1 strong justification for approving full decoupling (i.e., no weather normalization)  
2 rather than partial decoupling.

3 In addition, many more states and PUCs have adopted full decoupling compared  
4 to partial decoupling according to the 2013 decoupling policy review completed by  
5 Pamela Morgan. For electric utilities, she found 21 examples of decoupling without  
6 weather normalization and only two examples with weather normalization.<sup>19</sup>

7 Furthermore, in 2014 the Minnesota PUC approved full decoupling for Xcel  
8 Energy, not partial decoupling with weather normalization as Xcel had initially  
9 proposed, for the reasons explained above. The Minnesota PUC's Order included the  
10 following statement:

11 "Indeed, full revenue decoupling is simpler and more transparent than partial  
12 decoupling because the annual rate adjustments can be calculated without the  
13 need for complicated weather-normalization adjustments."<sup>20</sup>  
14

15 **Q. What is SWEEP's position on including caps on the annual rate increase or**  
16 **decrease as a result of revenue decoupling?**

17 A. Some states and PUCs have adopted caps on the size of the decoupling rate  
18 adjustment each year, whether it's a surcharge or refund. This cap can be a soft cap  
19 which means any amount above the cap carries over to the next decoupling period. Or  
20 the cap can be a hard cap, in which case the amount above the cap does not carry  
21 over. PSCo did not include either a soft or hard cap in its revenue decoupling  
22 proposal.

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<sup>19</sup> See Footnote 2, pp. 12-13.

<sup>20</sup> See Footnote 7, pp. 76-77.

1 SWEEP supports including a cap as it will protect against a decoupling surcharge  
2 or refund that is excessive in any particular year. The rationale for including a cap is  
3 stronger if full decoupling is approved rather than partial decoupling as the weather  
4 variation effect could potentially increase the revenue adjustment amount in any  
5 particular year.

6 In Minnesota where full decoupling was approved for Xcel Energy in 2015, the  
7 PUC adopted a 3% cap on decoupling adjustments but applied this cap to base  
8 revenues from a customer class excluding the revenues from the fuel cost pass-  
9 through and other riders. Thus, Xcel's cap in Minnesota is less than a 3% cap  
10 considering all revenues in a customer class. The Minnesota PUC decision adopted  
11 the cap as a soft cap, but stated that Xcel Energy must demonstrate that "its  
12 conservation efforts were a primary factor in reducing its energy sales" in order for  
13 any amount above the cap to be carried over to the following year.<sup>21</sup>

14 SWEEP proposes adopting either the Minnesota policy of a soft cap of 3% of base  
15 revenues or a soft cap of 2% applied to all revenues in a customer class, given that  
16 nationwide experience has shown that annual adjustments are typically in the range of  
17 -2% (i.e., a refund) to +2% (i.e., a surcharge).<sup>22</sup> These two options are likely to be  
18 similar in magnitude given that base revenues are about 60% of total revenues for  
19 PSCo's residential customer class. Regarding the two options, SWEEP prefers the use  
20 of the option that results in a higher soft cap although either one is acceptable in our  
21 view.

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<sup>21</sup> See Footnote 7, pp. 79-80.

<sup>22</sup> See Footnote 2, p. 11.

1           In addition, SWEEP proposes to include the language in the Minnesota  
2           decoupling decision that would require PSCo to demonstrate that its energy efficiency  
3           and other DSM efforts were a primary factor in reducing its energy sales in order for  
4           any amount above the cap to be carried over to the following year. If PSCo cannot  
5           adequately demonstrate this to the Commission, than the cap would in effect be a  
6           hard cap on the upside. This would not apply on the downside; i.e., any refund  
7           amount greater than the cap would automatically carry over to the following year.

8           Considering that PSCo's total residential revenues in 2015 were \$1.05 billion and  
9           that these revenues might reach \$1.1-1.2 billion in the next few years, a 2% cap on  
10          total revenues means a maximum decoupling surcharge or refund of about \$23  
11          million per year for residential customers. PSCo's revised analysis indicates that the  
12          net residential surcharge could exceed this amount particularly in 2020 and 2021.  
13          However, this is based on PSCo's partial decoupling proposal with weather  
14          normalization. Adopting full decoupling without weather normalization could lead to  
15          lower surcharges, as explained above. In addition, under SWEEP's proposal, PSCo  
16          would have the ability to carry over any unrecovered RDA amounts as long as it can  
17          demonstrate that its energy efficiency programs were a primary factor contributing to  
18          reduced electricity sales.

19       **Q. What is SWEEP's response to the form of the revenue adjustment that PSCo has**  
20       **proposed?**

21       A. The RDA as proposed by PSCo is an amount per kWh that would be collected (or  
22       refunded) on all kWhs consumed within the rate class over a 12 month period. For

1 example, if the residential RDA for 2017 is \$12 million, \$1 million per month would  
2 be added to residential rates for 12 months starting June 1, 2018.

3 SWEEP supports annual adjustments that are collected over 12 months, and  
4 adjustments in the form of dollar amounts per kWh of electricity consumption.  
5 However, SWEEP has some suggestions for modifying how the adjustments are  
6 calculated and applied.

7 Our first proposed modification is for customers on the standard residential R  
8 tariff. For this rate class, we propose applying the RDA as PSCo has proposed in non-  
9 summer months. But in the summer months where rates include two tiers based on  
10 monthly electricity consumption, we propose that any refund be applied to electricity  
11 consumption in the first tier only and that any surcharge be applied to electricity  
12 consumption in the second tier only. This approach would benefit lower consumption  
13 households that tend to be lower income households with smaller homes, fewer  
14 appliances, and less use of central air conditioning compared to wealthier households.  
15 These households, on average, have relatively little or no consumption in the second  
16 tier in the summer and thus would see or little or no effect from a decoupling  
17 surcharge in the summer months. This approach was suggested in recent decoupling  
18 design guide published by the Regulatory Assistance Project.<sup>23</sup>

19 SWEEP's second proposed modification is for residential customers that opt into  
20 the new RE-TOU pilot tariff or who are placed on the tariff if it becomes the default  
21 residential tariff. In this case, we recommend that any refund be applied to off-peak

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<sup>23</sup> See Footnote 5, p. 8.

1 electricity consumption while any surcharge is applied to on-peak consumption. In  
2 this manner, decoupling surcharges and credits would support one of the key  
3 objectives of TOU rates which are to discourage on-peak consumption and encourage  
4 a greater fraction of total consumption during off-peak hours. This approach was also  
5 suggested in RAP's decoupling design guide.<sup>24</sup>

6 **Q. What is SWEEP's response to PSCo's forecast of the RDA adjustments?**

7 A. PSCo has forecast the RDA amounts for both residential and small commercial  
8 customers during 2017-21. The forecasts were updated and revised in the  
9 Supplemental Direct Testimony of Mr. Wishart. The forecast shows projected net  
10 surcharges of about \$101 million in total over the five-year period for the residential  
11 class, or about \$20 million per year on average.<sup>25</sup> For the small commercial class the  
12 projected net surcharge is about \$535,000 over five years, or about \$107,000 per year  
13 on average.<sup>26</sup>

14 SWEEP has a number of comments on these forecasts. First, they are only  
15 forecasts and the actual amounts of the decoupling adjustments could be higher or  
16 lower. With full decoupling as proposed by SWEEP, there is reason to believe they  
17 will be lower given that actual sales are tending to be higher than weather-normalized  
18 sales. Second, the largest net positive adjustments forecast by PSCo are in 2020 and  
19 2021. These larger adjustments can be avoided if Phase 1 rate cases occur more  
20 frequently than is assumed by PSCo.

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<sup>24</sup> Ibid., p. 24.

<sup>25</sup> See Supplemental Direct Testimony and Attachments of Steven W. Wishart. Figure SWW-S-3. p. 20.

<sup>26</sup> Ibid., Figure SWW-S-4, p. 24.

1 Third, the amount of the decoupling adjustments as forecast by PSCo should be  
2 placed in the context of other efforts that will be enabled or encouraged if decoupling  
3 is approved by the Commission. One such effort is PSCo's IVVO proposal, which  
4 PSCo has indicated it will withdraw if decoupling is not approved. As I noted  
5 previously, implementing IVVO as contemplated by PSCo will result in residential  
6 and small commercial customers saving about \$14 million per year through reduced  
7 electricity consumption.

8 Another factor is PSCo's willingness to "go the extra mile" with their energy  
9 efficiency programs. It is reasonable to expect that the Company will be more willing  
10 to implement strong, highly effective energy efficiency programs if the financial  
11 disincentive to do so is removed through the adoption of decoupling. This in turn  
12 should result in increased energy savings and net economic benefits for consumers.  
13 The net economic benefits from DSM programs implemented in 2015 were \$105  
14 million (subtracting the performance incentive that PSCo received).<sup>27</sup> About half the  
15 energy savings and presumably at least half the economic benefits accrue to  
16 residential and small commercial customers, meaning net benefits of at least \$50  
17 million per year from one year of DSM program activity.<sup>28</sup> If adoption of decoupling  
18 stimulates stronger efficiency programs and incremental energy savings for  
19 consumers, it is plausible that the net economic benefits could grow by \$5-10 million  
20 per year if not more. Thus, the combination of the economic benefits from IVVO and

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<sup>27</sup> Demand-Side Management Annual Status Report Electric and Gas. Public Service Company of Colorado. Proceeding No. 14A-1057EG. March 30, 2016. p. 47. <https://www.xcelenergy.com/staticfiles/xcel-responsive/Admin/Managed%20Documents%20&%20PDFs/2015-CO-DSM-Annual-Status-Report.pdf>

<sup>28</sup> PSCo's residential DSM programs have a higher benefit-cost ratio than business programs.

1 from stronger, more effective energy efficiency programs could more than offset the  
2 average decoupling adjustment that PSCo has forecast during 2017-21. This outcome  
3 is more likely if the Commission continues to support energy savings goals for PSCo;  
4 goals that are set at the maximum levels deemed to be cost effective and achievable,  
5 which is something SWEEP recommends be done in future DSM Strategic Issues  
6 dockets especially if decoupling is approved.

7

8 **IV. Summary**

9 **Q. Please summarize your testimony.**

- 10 A. 1) SWEEP recommends that the Commission adopt revenue decoupling for the  
11 residential and small commercial classes in order to remove the financial  
12 disincentive that PSCo has for promoting greater energy efficiency as well as  
13 distributed renewable energy generation by customers in these classes.  
14 Decoupling is a symmetrical policy that will lead to small rate surcharges in some  
15 years and small refunds in other years. Experience with decoupling for electric  
16 utilities in other states has been positive and has demonstrated that annual rate  
17 adjustment are generally within the range of -2% to +2%. Moreover, it is the  
18 intent of Colorado state policy that a utility not be harmed financially when it  
19 implements cost-effective energy efficiency programs for its customers.
- 20 2) Studies have shown that utilities spend more money on energy efficiency  
21 programs and achieve more energy savings for their customers in states that have  
22 adopted decoupling, compared to states that have not adopted decoupling. The

1 Company's position on improved voltage control (IVVO) is strong evidence of  
2 the link between the adoption of decoupling at PSCo's willingness to support  
3 greater energy efficiency and energy conservation by its customers. PSCo has  
4 made it clear that without approval of decoupling, it will not move forward with  
5 IVVO which the company estimates would save residential and small commercial  
6 customers 140 million kWh per year. While customers would benefit, the  
7 company would experience a net financial loss without decoupling in effect.

8 3) SWEEP supports a number of the features of PSCo's decoupling proposal  
9 including adopting separate annual adjustments within the residential and small  
10 commercial classes, adopting the revenue per customer approach, a five year  
11 timeframe for decoupling at least initially, and reimbursing ratepayers for any  
12 DSM disincentive offset in the calculation of the decoupling adjustment.

13 4) SWEEP supports the Company's position that its ROE should not be modified at  
14 this time in conjunction with adoption of decoupling. Decoupling protects PSCo  
15 from under-recovering its authorized revenue per customer but decoupling also  
16 protects customers from PSCo over-recovering its authorized revenues per  
17 customer due to factors such as economic growth, increased electrification, or  
18 hotter than normal summers (under SWEEP's recommendation to not include  
19 weather normalization in the RDA).

20 5) SWEEP does not support PSCo's proposal to exclude the impact of weather from  
21 the decoupling adjustment through the approach known as weather normalization  
22 (i.e., the partial decoupling approach). Full decoupling is simpler as it does not

- 1 require weather normalization and an adjustment in sales by customer class. Full  
2 decoupling is also likely to result in smaller RDA surcharges because actual  
3 electricity sales have tended to be higher than weather-normalized sales in recent  
4 years because of human-induced global climate change. In addition, many more  
5 states and PUCs have adopted full decoupling compared to partial decoupling  
6 including Minnesota which recently adopted full decoupling for Xcel Energy.
- 7 6) SWEEP supports including a cap on the RDA to protect against a decoupling  
8 surcharge or refund that is excessive in any particular year. In particular, SWEEP  
9 proposes a soft cap of either 2% of total revenues within the customer class or 3%  
10 of base revenues only. Any calculated RDA amount greater than this amount  
11 (either positive or negative) would be carried over to the next year with one  
12 caveat, namely that PSCo would need to demonstrate that its energy efficiency  
13 programs were a primary factor in reducing its energy sales in order for any  
14 amount above the cap to be carried over to the following year.
- 15 7) For the residential R class where rates include two tiers based on monthly  
16 electricity consumption in the summer, SWEEP proposes that any refund in  
17 summer months be applied to electricity consumption in the first tier only and that  
18 any surcharge be applied to electricity consumption in the second tier only. This  
19 approach would benefit lower consumption households that tend to be lower  
20 income households.
- 21 8) For customers served under the RE-TOU tariff, SWEEP recommends that any  
22 refund be applied to off-peak electricity consumption while any surcharge be

1 applied to on-peak consumption. In this manner, decoupling would help to  
2 discourage on-peak consumption and encourage a greater fraction of total  
3 consumption during off-peak hours.

4 9) SWEEP recommends that the Commission view the decoupling adjustments  
5 forecast by PSCo in the broader context of the customer benefits that could result  
6 should decoupling be adopted. These benefits include the energy and utility bill  
7 savings that customers will experience if IVVO is implemented and also the  
8 benefits that could result from stronger, more effective DSM programs. And if  
9 decoupling is approved in this docket, SWEEP urges the Commission to adopt  
10 strong energy efficiency goals for PSCo in future DSM Strategic Issues dockets  
11 so that customer utility bill savings are maximized at the same time PSCo is  
12 protected from a net revenue loss.

13 **Q. Does this conclude your testimony?**

14 A. Yes.