BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

*****

RE: IN THE MATTER OF THE )
APPLICATION OF PUBLIC SERVICE )
COMPANY OF COLORADO FOR )
APPROVAL OF A NUMBER OF ) PROCEEDING NO. 17A-___EG
STRATEGIC ISSUES RELATING TO ITS )
ELECTRIC AND GAS DEMAND SIDE )
MANAGEMENT PLAN )

DIRECT TESTIMONY AND ATTACHMENTS OF STEVEN W. WISHART

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

July 3, 2017
Mr. Steven W. Wishart is Manager of Pricing and Planning of Xcel Energy Services Inc. (“XES”). In this position, he is responsible for financial and policy analyses for Public Service Company of Colorado's ("Public Service" or the "Company") electric, natural gas, and steam rates, in addition to the regular administration of the Company’s electric, natural gas, and steam tariffs. Mr. Wishart’s duties include, among other things, quantitative analyses, cost allocation and rate design, and policy support on a number of Colorado regulatory issues.

Mr. Wishart explains that while the Company believes it is in the public interest to not only meet, but also exceed its statutorily set demand side management (“DSM”) goals, the current disincentive and incentive structures do not sufficiently compensate the Company for its DSM initiatives.

To address this issue, Mr. Wishart first explains why the current disincentive offset mechanism for Public Service’s DSM programs is not working. The Company is
realizing significant financial losses from its energy conservation programs as a result of lost fixed cost recovery associated with reduced sales volumes. In 2016, the Company experienced $18.1 million in lost fixed cost recovery as a result of its DSM programs. However, the Company received only $11.4 million through the Disincentive Offset and Performance Incentive. The net result was a financial loss of $6.7 million to Public Service, even though we exceeded our energy conservation goals. This loss is equivalent to approximately 0.8 cents per share.

**2016 Net DSM Losses**

<table>
<thead>
<tr>
<th>Performance Incentive</th>
<th>Disincentive Offset</th>
<th>Lost Fixed Cost Recovery</th>
<th>DSM Expenditures</th>
<th>Net DSM Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6,376,889</td>
<td>$5,000,000</td>
<td>($18,086,937)</td>
<td>$84,923,752</td>
<td>($6,710,049)</td>
</tr>
<tr>
<td>$84,923,752</td>
<td></td>
<td></td>
<td></td>
<td>-7.9%</td>
</tr>
</tbody>
</table>

To remedy this issue, Mr. Wishart proposes to increase the Company’s current disincentive offset commensurate with forecasted lost fixed cost recovery. The Company’s proposed Disincentive Offset is $15 million. However, as explained in the Company’s concurrently-filed Motion for Leave to File Supplemental Direct Testimony 30 Days After Final Commission Decision in Decoupling Proceeding, the Company plans to file supplemental direct testimony addressing the Company’s proposed Disincentive Offset after the Commission has issued a final order in the decoupling proceeding.

Second, Mr. Wishart presents the Company’s proposed modifications to its DSM performance incentive. The modifications are intended to maximize the benefits to customers while providing the Company with greater incentives to achieve and exceed
energy conservation targets. Specifically, Mr. Wishart proposes the following modifications to the current DSM performance incentive structure:

1. Changing the current performance incentive from a single-factor goal to a multi-factor energy efficiency “Scorecard”. The Scorecard contains five objective metrics the Company will be measured against and afforded the opportunity to earn an incentive for. The Scorecard metrics include First Year Energy Savings, Energy Efficiency Demand Reduction, Low-Income Bill Reduction, Lifetime Energy Savings (kWh), and Utility Cost Test.

2. Creating a Demand Response performance incentive mechanism that will motivate the Company to substitute cost-effective demand response for supply-side resources where feasible. The proposed performance incentive would provide the Company with five percent of the capacity costs that are avoided through its demand response programs.

Mr. Wishart concludes by presenting a forecast of the net financial impact of Public Service’s DSM programs, which takes into account the Company’s proposed modifications. The net financial impact in 2019 is expected to range from a $6.5 million loss (-14.9 percent) with very low levels of achievement to a $10.7 million (8.1 percent) gain if the Company maximizes all of the incentives possible. The median net incentive is expected to be $5.1 million (5.8 percent). This is a modest incentive that ensures customers retain the vast majority of net economic benefits from the Company’s DSM programs.
Company Proposal - Range of Possible 2019 Net DSM Incentive Rates

-14.9%  3.9%  5.6%  6.1%  8.1%

Very Low  Low  Median  High  Very High
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<th>2015 &amp; 2016 Net DSM Incentive Rate</th>
</tr>
</thead>
<tbody>
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<td>Attachment SWW-2</td>
<td>Lost Fixed Cost Recovery &amp; Disincentive Offset</td>
</tr>
<tr>
<td>Attachment SWW-3</td>
<td>Net DSM Incentive Forecast</td>
</tr>
<tr>
<td>Attachment SWW-4</td>
<td>Net DSM Incentive Calculator</td>
</tr>
</tbody>
</table>
### GLOSSARY OF ACRONYMS AND DEFINED TERMS

<table>
<thead>
<tr>
<th>Acronym/Defined Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACEEE</td>
<td>American Council for an Energy-Efficient Economy</td>
</tr>
<tr>
<td>DSM</td>
<td>Demand side management</td>
</tr>
<tr>
<td>MTRC</td>
<td>Modified Total Resource Cost Test</td>
</tr>
<tr>
<td>Public Service or the Company</td>
<td>Public Service Company of Colorado</td>
</tr>
<tr>
<td>UCT</td>
<td>Utility Cost Test</td>
</tr>
<tr>
<td>XES</td>
<td>Xcel Energy Services Inc.</td>
</tr>
<tr>
<td>Xcel Energy</td>
<td>Xcel Energy Inc.</td>
</tr>
</tbody>
</table>
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I. INTRODUCTION, QUALIFICATIONS, PURPOSE OF TESTIMONY, RECOMMENDATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
A. My name is Steven W. Wishart. My business address is 1800 Larimer, Suite 1400, Denver, Colorado 80202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?
A. I am employed by Xcel Energy Services Inc. (“XES”) as Manager of Pricing and Planning. XES is a wholly owned subsidiary of Xcel Energy Inc. (“Xcel Energy”), and provides an array of support services to Public Service Company of Colorado (“Public Service” or the “Company”) and the other utility operating company subsidiaries of Xcel Energy on a coordinated basis.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THE PROCEEDING?
A. I am testifying on behalf of Public Service.
Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AND QUALIFICATIONS.

A. As the Manager of Pricing and Planning, I am responsible for financial and policy analyses associated with the Company’s electric, natural gas, and steam rates, in addition to the regular administration of the Company’s electric, natural gas, and steam tariffs. My duties include quantitative analyses, cost allocation and rate design, and policy support on a number of state regulatory issues. A description of my qualifications, duties, and responsibilities is set forth after the conclusion of my Direct Testimony in my Statement of Qualifications.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. In my testimony, I first explain that the current disincentive offset mechanism for Public Service’s DSM programs is not working. Specifically, the Company is realizing financial losses from our conservation programs as a result of lost fixed cost recovery. It is therefore necessary to modify the structure of the DSM disincentive offset and performance incentive to ensure the Company is made whole for its DSM initiatives.

Second, I present the Company’s proposed modifications to its DSM performance incentive. I propose changes to the incentive mechanism that will maximize the benefits to a wide range of customers while providing the Company with greater incentive to achieve and exceed energy conservation targets in the future. Specifically, I propose the following modifications to the current DSM performance incentive structure:
(1) Changing the current performance incentive from a single-factor goal to a five-metric energy efficiency “Scorecard”; and,

(2) Creating a Demand Response performance incentive mechanism that will motivate the Company to substitute cost-effective demand response for new supply side resources where feasible.

I conclude my testimony by presenting a forecast of the net financial impact for our DSM programs if the Company’s proposed modifications are adopted. I also explain how the Company calculates its projections. The net incentive rate in 2019 is forecasted to range from a loss of $6.5 million (-14.9 percent) with very low achievement levels to a net incentive of $10.7 million (8.1 percent) if the Company maximizes all of its incentives. If the Company achieves 100 percent of its goals in 2019, the median expected result is a net incentive of $5.1 million (5.7 percent). This is a modest incentive that ensures customers retain the vast majority of net economic benefits from the Company’s DSM programs. While the Company believes it is in the public interest to not only meet, but also exceed its statutorily set DSM goals, the current disincentive and incentive structures do not sufficiently compensate the Company for its DSM initiatives.

Q. ARE YOU SPONSORING ANY ATTACHMENTS AS PART OF YOUR DIRECT TESTIMONY?

A. Yes, I am sponsoring Attachments SWW-1, SWW-2, SWW-3, and SWW-4, which were prepared by me or under my direct supervision.
Q. WHAT RECOMMENDATIONS ARE YOU MAKING IN YOUR TESTIMONY?

A. I recommend that the Commission:

- Approve a modified DSM disincentive offset (to be supplemented in supplemental direct testimony);
- Approve a modified energy efficiency incentive mechanism based on a five-metric energy efficiency Scorecard (to be supplemented in supplemental direct testimony); and,
- Approve a demand response performance incentive.

As I explain, these modifications to the Company’s current Disincentive Offset and DSM Performance Incentive structure will address the Company’s issue of persistent DSM lost fixed cost recovery, while also incentivizing the Company to pursue a robust portfolio of energy conservation and demand response programs. For these reasons, I additionally request the Commission find that the requested approvals are reasonable and prudent, and consistent with C.R.S § 40-3.2-104(5), which provides that the Commission “shall allow an opportunity for a utility’s investments in cost-effective DSM programs to be more profitable to the utility than any other utility investment that is not already subject to special incentives.”
II. THE DSM DISINCENTIVE OFFSET: A NEW APPROACH IS NEEDED TO ADDRESS LOST FIXED COST RECOVERY

Q. WHAT IS THE DSM “DISINCENTIVE OFFSET” AND WHY IS IT NOT WORKING?

A. The Disincentive Offset is designed to compensate the Company for lost fixed cost recovery attributable to its DSM programs. Under its current Disincentive Offset, the Company is authorized to receive $5 million if it achieves 100 percent of its energy efficiency savings goal. As described by Company witness Mr. Scott B. Brockett, the current Disincentive Offset is not a “bonus,” but rather an attempt to compensate the Company for lost fixed cost recovery associated with its DSM programs. The current mechanism is insufficient because the amount awarded is significantly lower than the actual financial disincentive the Company realizes when deploying DSM programs.

Public Service experienced $17.6 million in lost fixed cost recovery in 2015 and approximately $18.1 million in lost fixed cost recovery in 2016. The Disincentive Offset and Performance Incentive were insufficient in comparison to these financial losses. As shown in the tables below, the Company experienced a net loss of $6.5 million (-7.5 percent) on its DSM programs in 2015 and a net loss of $6.7 million (-7.9 percent) in 2016. Tables SWW-D-1 and SWW-D-2 summarize these results and I have provided additional calculations in Attachment SWW-1.
Table SWW-D-1: 2015 Net DSM Program Losses

<table>
<thead>
<tr>
<th>Performance Incentive</th>
<th>Disincentive Offset</th>
<th>Lost Fixed Cost Recovery</th>
<th>Net DSM Losses</th>
<th>DSM Expenditures</th>
<th>DSM Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6,064,703</td>
<td>$5,000,000</td>
<td>($17,602,716)</td>
<td>($6,538,013)</td>
<td>$87,125,687</td>
<td>$87,125,687</td>
</tr>
</tbody>
</table>

Net DSM Losses = DSM Expenditures - Net DSM Losses = -7.5%

Table SWW-D-2: 2016 Net DSM Incentive Losses

<table>
<thead>
<tr>
<th>Performance Incentive</th>
<th>Disincentive Offset</th>
<th>Lost Fixed Cost Recovery</th>
<th>Net DSM Losses</th>
<th>DSM Expenditures</th>
<th>DSM Expenditures</th>
</tr>
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<td>$6,376,889</td>
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<td>($6,710,049)</td>
<td>$84,923,752</td>
<td>$84,923,752</td>
</tr>
</tbody>
</table>

Net DSM Losses = DSM Expenditures - Net DSM Losses = -7.9%

Q. WHAT IS A LOST FIXED COST AND WHY ARE THE LOST FIXED COSTS ASSOCIATED WITH DSM SO HIGH?

A. Fixed costs are investments in distribution, transmission, generation assets, and fixed operations and maintenance needed to maintain the Company’s physical assets to serve all customers. We describe these costs as fixed because they cannot be reduced in the short term through energy conservation or other means. The Company relies on a steady stream of revenues from our customers to pay for these fixed costs and to continue to provide reliable electric service. When the Company deploys energy conservation programs, the lost sales hinder our ability to cover our fixed costs.

Lost fixed cost recovery is a well-known issue associated with DSM programs. According to a 2015, American Council for an Energy-Efficient
Economy (“ACEEE”) report titled “Valuing Efficiency: A Review of Lost Revenue Adjustments Mechanisms”:¹

The traditional utility business model is based on a throughput incentive, whereby utilities earn more profits by selling more electricity. Investments in energy efficiency drive down energy use and therefore utility revenues. However, efficiency does not reduce the short-term, fixed costs of providing service.

The ACEEE report goes on to discuss how a successful energy conservation program must balance the financial interests of utilities with the public policy goal of reduced energy consumption. The report notes that utilities lost fixed cost recovery issues are not additional costs of energy efficiency programs; “[r]ather, they reflect the collection of already authorized utility system costs, and their collection is meant to bring the utility back in line with its revenue requirement.” Public Service’s proposal is consistent with ACEEE’s recommendations.

The reason the Company’s lost fixed cost recovery was so large in 2015 and 2016 is a function of the success of our DSM programs. Lost revenue is directly proportional to the level of conservation programs deployed.

Q. IN DECISION NO. C14-0731, THE COMMISSION DETERMINED THAT PUBLIC SERVICE’S CURRENT FINANACIAL INCENTIVES, INCLUSIVE OF THE DISINCENTIVE OFFSET AND PERFORMANCE INCENTIVE, WERE SUFFICIENT TO ENSURE A FAIR RETURN ON DSM ACTIVITIES. WHY DID

¹ Available at: http://aceee.org/valuing-efficiency-review-lost-revenue-adjustment
THE COMPANY EXPERIENCE A NEGATIVE NET IMPACT FROM DSM PROGRAMS IN 2015 AND 2016?

A. According to Decision No. C14-0731, the 2015 return on DSM under the Company’s proposal was estimated to be 31 percent. Specifically, Decision No. C14-0731 stated:

If Public Services’ proposed incentive was approved for 2015, the Company would earn an incentive and a bonus totaling approximately $20.2 million at the 100 percent level of achievement, or approximately 31 percent of the proposed $66 million budget.\(^2\)

However, this calculation did not factor in lost fixed cost recovery of $17.6 million in 2015.

Q. HOW IS THE COMPANY PROPOSING TO ADDRESS THE ISSUE OF DSM LOST FIXED COST RECOVERY?

A. Public Service proposes to adjust the level of the Disincentive Offset to approximately match the expected level of lost fixed cost recovery at 100 percent of goal achievement. The proposed modification would set the target Disincentive Offset at $15 million, which is approximately equal to the expected lost fixed cost recovery associated with achieving 350 GWh of DSM savings. The Company proposes that 50 percent of the offset be awarded when the Company achieves 50 percent of the Commission established goal for first year energy savings. Beyond 50 percent, the Disincentive Offset would increase

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\(^2\) Proceeding No. 13A-0686EG, In the Matter of the Application of Public Service Company of Colorado for Approval of a Number of Strategic Issues Relating to its Demand Side Management Plan, Decision No. C14-0731, at ¶ 29 (internal citation omitted. (Mailed July 1, 2014).
proportionally with energy savings. For example, if the Company achieved 60 percent of its energy savings target, the Disincentive Offset would be 60 percent of $15 million; if the Company achieved 97 percent of the energy savings target, the Disincentive Offset would be 97 percent of $15 million. The offset would be capped at 100 percent or $15 million.

As I discuss in the next section of my testimony, for achievements beyond 100 percent, the Company’s proposed performance incentives will help offset lost fixed cost recovery from higher levels of energy conservation. The proposed Disincentive Offset recognizes the relationship between growing levels of energy conservation and growing levels of lost fixed cost recovery. This proportional relationship is not reflected in the current offset structure.

Q. WHY IS THE COMPANY PROPOSING THE DISINCENTIVE OFFSET BEGIN TO ACCRUE WHEN THE COMPANY MEETS OR EXCEEDS 50 PERCENT OF ITS ENERGY EFFICIENCY GOALS?

A. The Company is proposing that the Disincentive Offset begin to accrue at this threshold because 50 percent of the Company’s energy efficiency goals is approximately equal to the amount of savings the Company must achieve under Colorado statutes. It is appropriate that the Company begin to accrue the Disincentive Offset at low levels of achievement because even at low levels of energy conservation, Public Service realizes actual financial losses associated with lost fixed cost recovery.
Q. WHY IS THE COMPANY PROPOSING THE DISINCENTIVE OFFSET BE CAPPED ONCE 100 PERCENT OF THE ENERGY EFFICIENCY GOALS ARE MET?

A. While it is true that the problem of lost fixed cost recovery will continue to grow as the Company exceeds the target level of conservation, the performance incentive structure that I introduce in the next section of my testimony will offset the net revenue losses at achievement levels about 100 percent. The combination of the Disincentive Offset and the Performance Incentives will provide a fair opportunity for the Company to earn a reasonable return on its DSM programs.

Q. HOW DID THE COMPANY CALCULATE ITS PROPOSED DISINCENTIVE OFFSET LEVELS?

A. Our proposed DSM Disincentive Offset amounts are based on the Company’s expected financial losses from implementing 350 GWh of energy conservation programs. I calculated the lost fixed cost recovery by multiplying the expected DSM savings by the embedded fixed cost rate for each rate class. The fixed cost rate is defined as the energy or demand charge associated with recovering the fixed costs of distribution, transmission, and generation. I then rounded the lost fixed cost recovery amounts to come up with our proposed DSM Disincentive Offset levels. Attachment SWW-2 contains these calculations, and Table SWW-D-3 below provides a summary of these calculations.
## Table SWW-D-3: Lost Fixed Cost Recovery & Disincentive Offset

### 2019 Summary

<table>
<thead>
<tr>
<th>DSM Savings</th>
<th>Fixed Cost Rate</th>
<th>Total Lost Fixed Cost Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential (R)</td>
<td>148,054,760 kWh</td>
<td>$0.05577/kWh</td>
</tr>
<tr>
<td>Small Commercial (C)</td>
<td>13,227,870 kWh</td>
<td>$0.04986/kWh</td>
</tr>
<tr>
<td>Secondary General (SG)</td>
<td>337,957 kW</td>
<td>$16.26/kW-mo</td>
</tr>
<tr>
<td>Primary General (PG)</td>
<td>64,725 kW</td>
<td>$14.05/kW-mo</td>
</tr>
<tr>
<td>Transmission General (TG)</td>
<td>27,449 kW</td>
<td>$8.80/kW-mo</td>
</tr>
<tr>
<td>C&amp;I Subtotal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DSM Disincentive Offset Level

<table>
<thead>
<tr>
<th>Level</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>$8,000,000</td>
</tr>
<tr>
<td>Small C</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>C&amp;I</td>
<td>$6,000,000</td>
</tr>
<tr>
<td>Total</td>
<td>$15,000,000</td>
</tr>
</tbody>
</table>

### Q. HOW DOES THE PROPOSED DSM DISINCENTIVE OFFSET COMPARE TO THE COMPANY’S DSM LOST FIXED COST RECOVERY?

#### A.
First, lost fixed cost recovery varies with the level of DSM deployed. If the Company only achieves one kWh of DSM reduction, the lost fixed cost recovery would be about five cents. If the Company achieves 400 GWh of DSM reductions, that amount would grow to about $18 million. However, the Disincentive Offset is zero until the Company reaches 50 percent of the established DSM goal, which is approximately equal to the average annual savings required under Colorado statute.

Second, lost fixed cost recovery compounds in between rate cases, while our proposed Disincentive Offset is a fixed amount. Each year the Company adds new incremental DSM initiatives to its existing portfolio that build upon the
achievements of the previous year. For example, the Company may achieve 350
GWh of reductions in 2019, followed by 300 GWh in 2020, and 300 GWh in
2021, for a total of 950 GWh. Just as the energy savings compound, so does the
lost fixed cost recovery associated with DSM between rate cases. Under the
traditional historic test year approach, the Company cannot recover its
compounding fixed costs until the Company files and the Commission approves
a Phase I rate case and the lost fixed cost recovery becomes embedded in base
rates.

Q. PLEASE EXPLAIN WHY THE COMPANY DOES NOT RECOVER LOST FIXED
COSTS IN BETWEEN RATE CASES.

A. A rate case sets rates based on a specific level of sales and fixed costs reflected
in a test year. To the extent sales are reduced after rates are set in a Phase I
rate case, the Company will incur financial losses. When rates are reset in the
next Phase I rate case, this establishes a new baseline for fixed cost recovery.
However, the new baseline does not reimburse the Company for the lost fixed
costs that accumulate between the two rate cases.
III. PUBLIC SERVICE’S DSM PERFORMANCE INCENTIVES SHOULD BE MODIFIED TO ENHANCE CUSTOMER BENEFITS AND INCENT COST-EFFECTIVE DSM STRATEGIES

Q. DO COLORADO STATUTES ALLOW FOR AN ELECTRIC DSM PERFORMANCE INCENTIVE?

A. Yes. C.R.S 40-3.2-104(5), C.R.S. provides that:

> [t]he Commission shall allow an opportunity for a utility's investments in cost-effective DSM programs to be more profitable to the utility than any other utility investment that is not already subject to special incentives.

Q. HOW IS THE COMPANY PROPOSING TO CHANGE ITS CURRENT DSM PERFORMANCE INCENTIVE?

A. Currently, the Company earns a five percent performance incentive – i.e. five percent of total net DSM benefits – if it achieves 100 percent of its DSM electric energy savings. Specifically, the Company is proposing to create two separate incentive mechanisms, one for its energy efficiency programs and one for its demand response programs. Our proposal will modify the singular focus of the current incentive and adopt a more holistic approach to evaluating the Company’s performance, while ensuring customers still reap the vast majority of DSM benefits. As discussed in more detail below, we are proposing that our Energy Efficiency Performance Incentive be based on the Company’s achievement of five objective metrics included in an energy efficiency “Scorecard”. For the Demand Response Performance Incentive, we are proposing the Company be awarded five percent of the capacity costs that are avoided through our demand response programs.
A. Energy Efficiency Scorecard Performance Incentive

Q. PLEASE DESCRIBE THE COMPANY’S PROPOSED ENERGY EFFICIENCY PERFORMANCE INCENTIVE.

A. The Company is recommending a two-pronged strategy that will better align the Company’s interests with our customers’ interests. The first aspect is to create an objective, five-metric Scorecard to evaluate the Company’s performance. The Scorecard will reward the Company for its performance across a broader set of metrics rather than the singular goal of total energy savings that is currently employed. The second part of the strategy is to return to an incentive mechanism with thresholds below 100 percent, as existed prior to Proceeding No. 13A-0686EG. This will provide the Company with flexibility to target its DSM initiatives to areas that maximize customer benefits rather than over-emphasizing any one performance metric.

Q. WHAT IS AN ENERGY EFFICIENCY SCORECARD?

A. An energy efficiency Scorecard is an incentive mechanism that takes into account a number of different variables when determining how a utility will be rewarded for its DSM performance. Public Service is proposing an energy efficiency Scorecard that would still use net energy efficiency benefits calculated through the Modified Total Resource Cost Test (“MTRC”) as the foundation for the calculation, but would allow the Company to achieve additional incentives each time we hit a threshold in one of the five metrics. The five metrics we are proposing to track are: First Year Energy Savings (kWh); Energy Efficiency
Demand Reduction (kW); Low-Income Bill Reduction (participant net benefits);
Lifetime Energy Savings (kWh); and, Utility Cost Test (ratio), which I explain in
more detail below.

Table SWW-D-4 below illustrates how these five separate measures of
success are combined to calculate the total energy efficiency performance
incentive.

**Table SWW-D-4: Energy Efficiency Scorecard**

<table>
<thead>
<tr>
<th>Scorecard Category</th>
<th>Goals &amp; Achievements</th>
<th>% Of Net Benefits Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Goal</td>
<td>Achievement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Year Energy Savings</td>
<td>XXX GWh</td>
<td>YYY GWh</td>
</tr>
<tr>
<td>Energy Efficiency Demand Reduction</td>
<td>XX MW</td>
<td>YY MW</td>
</tr>
<tr>
<td>Low-Income Participant Net Benefits</td>
<td>$X,XXX,XXX</td>
<td>$Y,YYY,YYY</td>
</tr>
<tr>
<td>Lifetime Energy Savings</td>
<td>XXX GWh</td>
<td>YYY GWh</td>
</tr>
<tr>
<td>Utility Cost Test</td>
<td>XX</td>
<td>Y.Y</td>
</tr>
</tbody>
</table>

**Calculation of Energy Efficiency Incentive**

\[
\text{Total % of Net Benefits Awarded} \times \text{Net Benefits Achieved} = \text{Total Energy Efficiency Incentive}
\]

Q. PLEASE EXPLAIN EACH OF THE FACTORS AND WHY THE COMPANY
SELECTED EACH.

A. I address each in turn below.

1. **First Year Energy Savings (kWh):** First year savings are an industry
standard measurement of achievement for energy efficiency. This number
represents the annual reduction to energy sales attributable to energy
efficiency measures and drives the system benefits that accrue to
customers in the form of lower revenue requirements.
(2) **Energy Efficiency Demand Reduction (kW):** Demand reductions reflect the annual reduction in system peak demand, which eliminates the need to add resources, especially costly peaking resources. These same savings also better address rate design issues by incentivizing the Company to focus on reducing peak demand, which is a component of most Commercial and Industrial customer billings and is a consideration in residential rate design with the creation of the Residential Demand – Time Differentiated Rate and Residential Time of Use services.

(3) **Low-Income Bill Reduction (participant net benefits):** Low-income customers are some of the most highly impacted customers when their energy bills increase. The Company’s DSM programs have always sought to provide targeted outreach that addresses the specific needs and issues associated with this group of customers in an effort to reduce their bills. This customer segment is traditionally harder to serve than the mass market and typically less cost-effective to serve than the mass market. Use of participant net benefits as a metric for evaluation directly reflects the reduction in participating low-income customer’s bills by an amount greater than forecasted in a DSM plan. It also provides the appropriate signal to the Company to implement strategic initiatives for this customer segment.
(4) **Lifetime Energy Savings (kWh):** Recent legislation\(^3\) requires the Company to achieve the equivalent of five percent of 2018 energy sales (kWh) by 2028 beginning in 2019. This Scorecard element directly addresses the General Assembly’s stated policy, and also motivates the Company to identify and implement products and measures with long lifetimes that drive persistent benefits to customers rather than short-lived energy savings. This factor directly addresses the unintended consequence of first-year savings targets, which is to drive short-term savings, and instead drives longer-term savings.

(5) **Utility Cost Test (ratio):** Another element of Colorado’s DSM legislation is that DSM programs should save money for all of our customers.\(^4\) The utility cost test ("UCT") is the appropriate measure of whether DSM delivers bill savings to all customers, whether they participate or not. This test reflects the reduction in revenue requirements against the utility’s costs of implementing DSM. Ultimately, if the reduction in revenue requirements created by implementing DSM exceeds the costs to implement DSM, the result is bill savings to customers. This factor directly incentivizes the Company to focus on saving customers money and minimizing DSM implementation costs.

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\(^4\) C.R.S. § 40-3.2-101
Q. PLEASE EXPLAIN HOW THE ENERGY EFFICIENCY SCORECARD MECHANISM WILL WORK IN PRACTICE.

A. In each DSM plan filed with the Commission, the Company will include its proposed goals for each one of the five energy efficiency Scorecard metrics. Those goals, subject to final approval by the Commission, will then establish a baseline against which the Company’s energy efficiency programs can be measured. The goals will then be compared to the Company’s final achievements reported in our annual status report filings.

Q. WHEN DOES THE PERFORMANCE INCENTIVE BEGIN FOR THE FIRST YEAR SAVINGS AND ENERGY EFFICIENCY DEMAND REDUCTION METRICS?

A. The performance incentive for these metrics will start at 80.0 percent of the baseline goal, with the Company earning one percent of net benefits for achieving 80.0 percent to 99.9 percent of each goal. From 100.0 percent to 109.9 percent of the goal, the Company will be awarded an additional two percent of net benefits, for a total of three percent for each metric. For any achievements above 110.0 percent of goal, the Company will again receive an additional two percent, for a total of five percent of net benefits for each metric.

Q. WHY IS THE COMPANY PROPOSING THAT THE INCENTIVE BEGIN BEFORE 100 PERCENT OF GOAL ACHIEVEMENT?

A. Achievement of an incentive without achieving the energy and demand savings goals allows the Company a threshold to earn without incentivizing the Company
to pursue non-cost-effective energy or demand savings, as the current mechanism proposes. Currently, the Company must achieve 100 percent of its energy savings goal in order to earn any incentive, which results in some non-cost-effective measures and products being included in order for the Company to earn an incentive. This same mechanism also provides the Company the flexibility to maximize customer value by minimizing non-cost-effective efforts and refocusing its earning potential in other categories such as Low-Income Bill Reduction, where it may have a better opportunity to deliver customer value and Company earnings.

Q. PLEASE DESCRIBE HOW THE MECHANISM TREATS LOW-INCOME BILL REDUCTION, LIFETIME ENERGY SAVINGS, AND THE UTILITY COST TEST.

A. The performance incentive for these measures will start at 100.0 percent of the goal, with the Company earning one percent of net benefits for reaching 100.0 to 109.9 percent of the goal. For any savings above 110.0 percent, the Company will receive an additional two percent, for a total of three percent of net benefits for each metric.

Q. WHY AREN’T ALL OF THE PROPOSED METRICS WEIGHTED EQUALLY?

A. First Year Energy Savings and Energy Efficiency Demand Reduction identify important aspects of the Company’s energy conservation programs, which is to reduce energy, and reduce demand. The remaining metrics – Low-Income Bill Reduction, Lifetime Energy Savings, and Utility Cost Test are additional goals that will incentivize the Company to diversify its conservation strategy.
Q. HOW IS THE COMPANY PROPOSING TO SET THE GOALS FOR LOW-INCOME BILL REDUCTION, LIFETIME ENERGY SAVINGS, AND THE UTILITY COST TEST?

A. Like energy and energy efficiency demand reduction goals, each DSM plan includes a forecast of the net benefits for the Company's Low-Income Program, the lifetime energy savings associated with the plan, and the energy efficiency portfolio's UCT. These factors are included in each Commission-approved DSM plan, because the underlying components are set through the approved technical assumptions and deemed savings, approved budgets, approved energy and demand reduction goals, and implementation strategies and policies for the Company's DSM portfolio. Accordingly, we propose that these values be set in each DSM plan.

Q. COULD YOU PROVIDE AN EXAMPLE OF HOW THE ENERGY EFFICIENCY SCORECARD MIGHT WORK IN PRACTICE?

A. Yes. Table SWW-D-5 below is an example of how the energy efficiency Scorecard might work in a 2019 scenario. In this hypothetical example, the Company has mixed results across the five Scorecard categories, resulting in a range of net benefit awards. The total award in the example below is 12 percent of net benefits, which is equivalent to $6 million.
In Section IV of my Direct Testimony, I provide forecasts of the total DSM incentive package, as proposed by the Company, based on various assumptions regarding goals and relative achievements.
Q. WHY IS THE PROPOSED ENERGY EFFICIENCY SCORECARD BETTER THAN THE CURRENT INCENTIVE MECHANISM?

A. A single goal like first year energy savings does not drive the intended result of maximizing and diversifying benefits to customers. Nor does a singular goal account for the impacts of the changing generation portfolio on energy efficiency, as discussed by Company witness Mr. White in his Direct Testimony at Section IV. The energy efficiency Scorecard also provides the Company with flexibility to balance the needs of different customer groups, and provides the opportunity to weigh the benefits of marketing one measure over another. For example, increasing opportunities for low-income customers to save energy has significant advantages, but often comes at the expense of achieving higher demand and energy savings. In short, this mechanism gives the Company the opportunity to adapt to changing customer demands and provide a range of DSM benefits beyond first year energy savings.

Q. IF THE COMPANY EXCEEDS 110 PERCENT OF ITS GOAL FOR EACH OF THE FIVE SCORECARD METRICS, THE TOTAL AWARD WOULD BE 19 PERCENT OF ENERGY EFFICIENCY NET BENEFITS. WHY IS THAT REASONABLE COMPARED TO THE FIVE PERCENT OF NET BENEFITS CURRENTLY IN PLACE?

5 The stated intent of C.R.S. § 40-3.2-101 is to save customers money. Maximizing benefits directly results in the maximization of bill savings to customers.
A. The total incentive the Company receives is based on the net benefits of our DSM portfolio. As DSM savings become harder to achieve, the Company should be incentivized to achieve these more difficult savings.

Q. **WHY DOES THE COMPANY EXPECT ENERGY EFFICIENCY NET BENEFITS TO BE LOWER IN THE FUTURE?**

A. The primary cause is that Public Service is proposing to remove the Residential Demand Response Program from its energy efficiency portfolio and reclassify it as a demand response program, as discussed in the Direct Testimony of Public Service witness Mr. White.

Q. **WHAT IS THE EXPECTED IMPACT ON NET BENEFITS FROM REMOVING THE RESIDENTIAL DEMAND RESPONSE PROGRAM?**

A. Table SWW-D-6 below shows the impact of removing the Residential Demand Response program from the net benefits calculation based on actual results for 2012 through 2016 and forecasted net benefits for 2018 and 2019.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Net Benefits</th>
<th>Residential DR Net Benefits</th>
<th>Energy Efficiency Net Benefits</th>
<th>Residential DR as a % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>$190 M</td>
<td>$21 M</td>
<td>$169 M</td>
<td>10.9%</td>
</tr>
<tr>
<td>2013</td>
<td>$177 M</td>
<td>$23 M</td>
<td>$154 M</td>
<td>13.0%</td>
</tr>
<tr>
<td>2014</td>
<td>$136 M</td>
<td>$8 M</td>
<td>$128 M</td>
<td>6.2%</td>
</tr>
<tr>
<td>2015</td>
<td>$111 M</td>
<td>$6 M</td>
<td>$105 M</td>
<td>5.7%</td>
</tr>
<tr>
<td>2016</td>
<td>$128 M</td>
<td>$8 M</td>
<td>$120 M</td>
<td>6.2%</td>
</tr>
<tr>
<td>2018</td>
<td>$68 M</td>
<td>$19 M</td>
<td>$49 M</td>
<td>27.6%</td>
</tr>
<tr>
<td>2019</td>
<td>$39 M</td>
<td>$9 M</td>
<td>$30 M</td>
<td>23.6%</td>
</tr>
</tbody>
</table>
Q. WHAT OTHER FACTORS ARE CAUSING NET BENEFITS TO DECREASE?
A. The drop in net benefits is also attributable to a significant reduction in avoided energy costs. The commissioning of high efficiency resources, such as the Cherokee combined cycle power plant, reduces the marginal cost of energy on Public Service’s system. The increasing deployment of wind and solar resources has also contributed to falling marginal energy costs. Other drivers include a rise in the cost of DSM equipment, shorter lifetimes for new efficient equipment, and a reduction in the capacity avoided by DSM measures installed.

Q. TO WHAT EXTENT HAVE THE AVOIDED COSTS DROPPED?
A. Table SWW-D-7 below shows the initial year values for the DSM program years from 2012 through 2018. While the net benefits are calculated over the lifetime of measures, these values give a good indication of how the 20-year stream of avoided cost values have changed since 2012.

Table SWW-D-7: Drop in Avoided Costs

<table>
<thead>
<tr>
<th></th>
<th>Avoided Marginal Energy $/kWh</th>
<th>Avoided Generation Capacity $/kW-yr</th>
<th>Avoided T&amp;D Capacity $/kW-yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>$0.039</td>
<td>$169.01</td>
<td>$30.00</td>
</tr>
<tr>
<td>2013</td>
<td>$0.042</td>
<td>$171.96</td>
<td>$30.71</td>
</tr>
<tr>
<td>2014</td>
<td>$0.036</td>
<td>$108.74</td>
<td>$28.40</td>
</tr>
<tr>
<td>2015</td>
<td>$0.032</td>
<td>$98.26</td>
<td>$0.00</td>
</tr>
<tr>
<td>2016</td>
<td>$0.031</td>
<td>$100.53</td>
<td>$0.00</td>
</tr>
<tr>
<td>2017</td>
<td>$0.026</td>
<td>$85.04</td>
<td>$10.64</td>
</tr>
<tr>
<td>2018</td>
<td>$0.031</td>
<td>$86.74</td>
<td>$10.86</td>
</tr>
<tr>
<td>% Change 2012 to 2018</td>
<td>-20.5%</td>
<td>-48.7%</td>
<td>-63.8%</td>
</tr>
</tbody>
</table>
B. Demand Response Performance Incentive

Q. DOES THE COMPANY CURRENTLY RECEIVE A PERFORMANCE INCENTIVE WITH RESPECT TO ITS DEMAND RESPONSE PROGRAMS?

A. No. The Company does not currently receive a performance incentive for the majority of its demand response programs. The Interruptible Service Option Credit, Peak Partner Rewards, and Critical Peak Pricing programs are not included in the incentive mechanism. However, the Residential Demand Response program (comprised of the Saver’s Switch and smart thermostat offerings) are included in the current performance incentive mechanism.

Q. IS THE COMPANY PROPOSING TO ADD A DEMAND RESPONSE PERFORMANCE INCENTIVE?

A. Yes. We are proposing to group the Residential Demand Response program within our portfolio of other Demand Response programs and create a separate performance incentive mechanism specifically for demand response. The proposed performance incentive would provide the Company with five percent of the capacity costs that are avoided through our demand response programs.

Q. WHY IS IT APPROPRIATE FOR THE COMPANY TO HAVE THE OPPORTUNITY TO EARN A PERFORMANCE INCENTIVE FOR ITS DEMAND RESPONSE PROGRAMS?

A. We believe demand response programs are as important as energy efficiency programs both to our customers and to furthering Colorado’s public policy goals. Demand response programs allow the Company to avoid building new power
plants and avoid the associated land use, water use, and transmission infrastructure needed for those plants. The continuation of these programs will provide valuable savings to customers; however, the Company has no incentive under the current regulatory structure to maximize customer benefit. From a purely financial perspective, the best strategy for the Company would be to discontinue these programs and look for opportunities to replace them with natural gas peaking plants that the Company could earn a return on. This would seem contrary to the Colorado legislature’s intent behind DSM legislation, which clearly authorizes the Company have an opportunity to earn an incentive for demand response measures.

Q. WHAT BEHAVIORS DOES A DEMAND RESPONSE PERFORMANCE INCENTIVE ENCOURAGE?

A. Demand response, like peak generation, is a flexible resource that can be deployed to meet constraints on the system. When the Company forecasts its peak demand needs in its electric resource plans, it accounts for both the supply side generation available and the availability of demand response. Adding a performance incentive for demand response helps to align Colorado’s energy policy with the Company’s financial incentives.

Q. HAS THE COMPANY MADE EFFORTS TO MAXIMIZE DEMAND RESPONSE PARTICIPATION?

A. Yes. Public Service has a long history of promoting demand response and offering new ways for customers to participate in demand response programs.
Public Service witnesses Mr. White and Mr. Brian G. Doyle each discuss the Company’s demand response achievements, goals, and the market factors surrounding the Company’s demand response history in their Direct Testimony.

Q. HOW DOES THE COMPANY PROPOSE TO EARN THE DEMAND RESPONSE INCENTIVE?

A. The Company proposes to assign 5 percent of the avoided capacity benefits to shareholders and 95 percent to customers.

Q. CAN YOU PROVIDE AN ILLUSTRATION OF THAT METHODOLOGY?

A. Yes. Presume the Company has 460 MW of demand response capacity and the avoided cost of capacity is $85 per kW-year. Under these assumptions, the total avoided cost is 460,000 kW x $85 or $39 million. With a five percent incentive rate, the Demand Response Incentive would be $1.9 Million.

The proposed Demand Response Incentive mechanism gives the Company an incentive to add more demand response capacity by making it equivalent to supply side investments.

Q. HOW WILL THE AVOIDED COST OF CAPACITY BE DETERMINED WHEN CALCULATING THE DEMAND RESPONSE INCENTIVE?

A. The avoided costs will be updated periodically, with the inputs determined in each electric resource plan. This ensures the values are as current as possible and reflect the most recent assumptions used in generation planning.
Q. ARE THERE OTHER BENEFITS ASSOCIATED WITH THE DEMAND RESPONSE PERFORMANCE INCENTIVE?

A. Yes, in addition to incentivizing the Company to choose cost-effective demand response, the Demand Response Performance Incentive will provide one more tool to ensure the Company has an opportunity to benefit financially from our DSM initiatives -- consistent with C.R.S 40-3.2-104(5).
IV. FORECASTED NET INCENTIVE FOR DSM PROGRAMS

Q. HAS THE COMPANY FORECASTED THE POSSIBLE NET INCENTIVES FROM ITS PROPOSED INCENTIVE MECHANISMS AND DSM DISINCENTIVE OFFSET?

A. Yes, we have developed several potential scenarios and calculated what the net financial impact of DSM activities would be under each. The key variables that drive the net impact of DSM are as follows:

1. Level of DSM achievements relative to Commission approved goals for the five energy efficiency Scorecard metrics.
2. The net benefits for energy conservation programs as measured by the MTRC.
3. The level of Demand Response programs administered by Public Service.
4. The total budget for the Company’s DSM programs.
5. The level of DSM Disincentive Offset.

I have included the forecasted net financial impact for multiple scenarios in Attachment SWW-3.

Our median forecast is based on the 2019 energy and demand savings goals and budget, as presented by Company witness Mr. White. In this scenario, the Company achieves 100 percent of the goals listed in the energy efficiency Scorecard. At the 100 percent achievement level on all five Scorecard metrics, the Company would earn an incentive of 9 percent of net benefits. The net benefits associated with the baseline DSM savings were forecasted to be $39
million. Table SWW-D-8 illustrate the calculation of the net financial impact from DSM under the Company’s proposal.

Table SWW-D-8: Median Forecast of DSM Net Financial Impact

<table>
<thead>
<tr>
<th>Scenario - 2019 Median</th>
<th>Median - Achievements are 100% of goal = 9% of net benefits</th>
<th>Median - Baseline 2019 forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Achievement</td>
<td>Net Benefits</td>
<td>Demand Response</td>
</tr>
<tr>
<td></td>
<td>Median - Baseline 2019 forecast</td>
<td>Median - Baseline 2019 forecast</td>
</tr>
<tr>
<td></td>
<td>Total DSM Budget</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Median - Baseline 2019 forecast</td>
<td></td>
</tr>
</tbody>
</table>

Calculation of DSM Net Financial Impact

\[
\begin{align*}
\text{Energy Efficiency Scorecard} & = 3,626,040 \\
\text{Demand Response Incentive} & = 2,167,515 \\
\text{Disincentive Offset} & = 15,000,000 \\
\text{Lost Fixed Cost Recovery} & = -15,562,416 \\
\text{DSM Expenditures} & = 87,963,250 \\
\end{align*}
\]

\[
\begin{align*}
\text{Net Financial Impact} & = 5,130,139 \\
\text{Impact on Earnings Per Share} & = 0.6 \text{ cents per share} \\
\text{Net DSM Incentive Rate} & = 5.83\% \\
\end{align*}
\]

Q. WHAT DO THE RESULTS OF THE MEDIAN FORECAST INDICATE?

A. Under our median assumptions, including achieving 100 percent of our DSM goals, Public Service’s proposed incentive structure less lost fixed cost recovery from our conservation program provides a net financial benefit of $5.1 million, or 5.8 percent of our DSM expenses. The Disincentive Offset approximately offsets the lost fixed cost recovery and the performance incentives provide a modest return on our DSM activities.
Q. WHAT IS THE RANGE OF POSSIBLE NET DSM INCENTIVE RATES THAT COULD RESULT FROM THE COMPANY’S PROPOSAL?

A. Attachment SWW-3 shows Very Low, Low, Median, High, and Very High scenarios and reports the net financial impact of each. The Very Low scenario that assumes the Company does not achieve its DSM goals and, as a result, is awarded 0 percent of net benefits through the energy efficiency Scorecard. The Very Low achievements also imply that the Company is not awarded the DSM Disincentive Offset. The Very High scenario assumes that the Company exceeds its DSM goals, is awarded the maximum incentive through the Scorecard mechanism and is awarded the DSM Disincentive Offset. Figure SWW-D-1 illustrates the net financial impact of DSM for the five base scenarios.

Figure SWW-D-1: Range of DSM Financial Impacts
Q. IS THIS RANGE OF FINANCIAL RETURNS REASONABLE?

A. Yes. The penalty for Very Low performance is a real financial penalty for the Company of $6.5 million. For Very High performance, the Company would receive a net financial benefit of $10.7 million. This corresponds to a net incentive rate of 8.1%. This is slightly below the last Commission-approved return on equity for our electric business, and complies with C.R.S § 40-3.2-104(5), which requires the opportunity for DSM to be more profitable than other investments.

Q. IS IT POSSIBLE FOR PARTIES TO TEST THE IMPACTS OF DIFFERENT ASSUMPTIONS ON THE NET INCENTIVE RATES?

A. Yes, Attachment SWW-4 is a net incentive rate calculator, which has been provided as a live spreadsheet so that parties can test the impact of other assumptions on the Companys proposed Disincentive Offset and Performance Incentives. SWW-3 includes drop-down lists and other controls, so parties using this spreadsheet should be sure that Macros are enabled in their version of Microsoft Excel.
V. CONCLUSION

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.
Statement of Qualifications

Steven W. Wishart

I began my employment with Xcel Energy Services, Inc. in 2005, in the Company’s Demand-Side Management department. I am currently a Manager in the Pricing and Planning Group. My responsibilities include quantitative analyses, cost allocation and rate design, and policy support on a number of Colorado regulatory issues.

Prior to taking my current position, I worked for Xcel Energy Services Inc. in Minneapolis, Minnesota, as Director of Resource Planning and Bidding for the Northern States Power region. In that role, I oversaw resource planning and resource acquisition processes for that company.

From 2009 through 2012, I worked for the Company as the Manager of Quantitative Analytics. In that role, I managed a group responsible for conducting long term analyses of the costs and performance of Xcel’s electric generating systems.

Prior to joining Xcel Energy in 2005, I was a PhD candidate in the Department of Applied Economics at the University of Minnesota where I studied energy related topics.