BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF THE APPLICATION OF	**)**	
PUBLIC SERVICE COMPANY OF COLORADO	**)**	
FOR APPROVAL OF A NUMBER OF	**)**	
STRATEGIC ISSUES RELATING TO	**)**	
ITS DSM PLAN, INCLUDING MODIFIED	**)**	
ELECTRIC ENERGY SAVINGS AND DEMAND	**)**	
REDUCTION GOALS, AND REVISED	**)**	
INCENTIVES FOR THE PERIOD 2015	**)**	
THROUGH TO 2020; FOR APPROVAL OF A	**)**	
DISTRIBUTION VOLTAGE OPTIMIZATION	**)**	
PROGRAM TOGETHER WITH COST	**)**	
RECOVERY AND INCENTIVES, AN LED	**)**	**DOCKET NO. 13A-0686EG**
STREET LIGHTING PRODUCT AND	**)**	
APPROVAL TO INCLUDE BEHAVIORAL	**)**	
CHANGE PRODUCTS IN THE COMPANY'S	**)**	
DSM PORTFOLIO AND OF THE	**)**	
METHODOLOGY TO BE USED TO MEASURE	**)**	
SAVINGS FROM SUCH PRODUCTS; AND	**)**	
FOR COMMISSION GUIDANCE REGARDING	**)**	
THE FACTORS TO BE CONSIDERED AND	**)**	
APPROPRIATE LEVEL OF THE COMPANY'S	**)**	
GAS DSM PROGRAM IN THE FUTURE.	**)**	

REBUTTAL TESTIMONY OF JAMES F. HILL

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

December 20, 2013

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF A NUMBER OF STRATEGIC ISSUES RELATING TO ITS DSM PLAN, INCLUDING MODIFIED ELECTRIC ENERGY SAVINGS AND DEMAND REDUCTION GOALS, AND REVISED INCENTIVES FOR THE PERIOD 2015 THROUGH TO 2020; FOR APPROVAL OF A DISTRIBUTION VOLTAGE OPTIMIZATION PROGRAM TOGETHER WITH COST RECOVERY AND INCENTIVES, AN LED STREET LIGHTING PRODUCT AND APPROVAL TO INCLUDE BEHAVIORAL CHANGE PRODUCTS IN THE COMPANY'S DSM PORTFOLIO AND OF THE METHODOLOGY TO BE USED TO MEASURE SAVINGS FROM SUCH PRODUCTS; AND FOR COMMISSION GUIDANCE REGARDING THE FACTORS TO BE CONSIDERED AND APPROPRIATE LEVEL OF THE COMPANY'S GAS DSM PROGRAM IN THE FUTURE.	**)**	**DOCKET NO. 13A-0686EG**

REBUTTAL TESTIMONY OF JAMES F. HILL

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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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REBUTTAL TESTIMONY OF JAMES F. HILL

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is James F. Hill. My business address is 1800 Larimer Street, Denver, Colorado 80202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am employed by Xcel Energy Services, Inc., a wholly-owned subsidiary of Xcel Energy Inc., the parent company of Public Service Company of Colorado. My job title is Director, Resource Planning and Bidding.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THE PROCEEDING?

A. I am testifying on behalf of Public Service Company of Colorado ("Public Service" or the "Company").

Q. HAVE YOU INCLUDED A DESCRIPTION OF YOUR QUALIFICATIONS, DUTIES, AND RESPONSIBILITIES?

A. Yes. A description of my qualifications, duties, and responsibilities is included as Attachment A.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my testimony is to respond to the Answer Testimony of Office of Consumer Council ("OCC") witness, Mr. Chris Neil, and address the issue of avoided costs that are used in determining the cost-effectiveness of Demand Side Management ("DSM") programs. I will discuss why the Company believes that the avoided costs for both generation capacity and energy used in the evaluation of DSM programs should be updated from the values used in the Company's direct case and how the updated avoided cost values more accurately reflect the current state of the Public Service electric power supply system.

II. BACKGROUND

Q. WHAT WAS YOUR ROLE IN THE COMPANY'S 2011 ELECTRIC RESOURCE PLAN ("ERP") IN DOCKET NO. 11A-869E?

A. I was the Company's primary witness in the 2011 ERP regarding the various methodologies and assumptions that Public Service would apply in evaluating bids in the 2013 All-Source Request For Proposals ("RFP").

Q. CAN YOU PLEASE SUMMARIZE THE MAIN GOALS OF THE 2011 ERP?

A. Yes. In very basic terms, the 2011 ERP 1) assessed whether the Company believed that it would need additional generation resources to meet future customer demand for electric service (i.e., capacity needs) during the 2012-2018 timeframe, 2) assessed the likely type of generation resources that would meet the capacity needs in the most cost-effective manner, and 3) laid out Public Service's plan for acquiring additional generation resources.

Q. HOW DID THE COMPANY ASSESS THE LIKELY TYPE OF GENERATION RESOURCES THAT WOULD MEET THE NEED FOR ADDITIONAL CAPACITY IN THE MOST COST-EFFECTIVE MANNER?

A. In accordance with Rule 3604(k) the Company in its 2011 ERP presented a "baseline" plan that minimized cost and eight alternate plans that included increasing levels of renewable and Section 123 resources. These nine plans were developed within the Strategist planning model using generic representations of gas-fired combustion turbines ("CTs"), gas-fired combined cycles ("CCs"), and a variety of renewable resources such as wind, Photo Voltaic ("PV") solar, and solar thermal.

Q. WHAT GENERATION RESOURCES WERE SELECTED BY THE STRATEGIST PLANNING MODEL TO MEET THE CAPACITY NEED IN A LEAST-COST MANNER (I.E., THE "BASELINE" PLAN)?

A. The model selected what was referred to in the 2011 ERP as Resource Acquisition Period ("RAP") CTs. Later in my testimony I provide additional information on how the capacity cost of the RAP CT was derived.

Q. IN THE 2011 ERP, HOW DID THE COMMISSION ADDRESS THE TREATMENT OF DSM RESOURCES?

A. First, the load reduction effects of DSM (both existing programs and future programs) were applied to the Company's forecast of future customer demand for electric service. The remaining demand for electric service was then compared with the Company's level of existing and planned generation resources to determine whether there will be a need for additional generation capacity in the future.

Q. DOES THE COMPANY AGREE WITH THE OCC THAT THE RESULTS OF THE ERP PROCEEDING ARE RELEVANT TO THIS PROCEEDING?

A. Yes. The ERP proceeding provides up-to-date information regarding the cost of 1) generation capacity that additional DSM programs at issue in this docket might avoid and 2) the cost of electric energy from dispatchable resources that additional DSM programs might avoid. These avoided costs are important in determining the cost-effectiveness of additional DSM.

III. OCC'S AVOIDED COST ARGUMENT

Q. WHAT AVOIDED COSTS DOES THE OCC RECOMMEND BE USED IN THE EVALUATION OF DSM?

A. With regard to avoided capacity costs, the OCC recommends using what OCC witness Mr. Neil calls "indicative" pricing. This indicative capacity pricing is based on that of the generic RAP CT presented by the Company in its 2011 ERP.

Q. DOES THE COMPANY AGREE WITH OCC'S ARGUMENT TO USE A RAP CT AS THE BASIS FOR ESTIMATING AVOIDED CAPACITY COSTS?

A. In general, yes. However, there are differences between how OCC proposes that avoided capacity costs be derived based on the RAP CT and how the Company proposes such costs be derived.

Q. CAN YOU DESCIBE THESE DIFFERENCES?

A. Yes. First, Public Service believes that certain updates from the 2013 All-Source bid evaluation should be applied in estimating the future capacity cost of the RAP CT. These updates involve increasing the rate at which the construction cost of a RAP CT changes over time as well as how the fixed Operations and Maintenance ("O&M") costs change over time. The OCC did not include these updates. Second, the RAP CT summer capacity rating should be used in calculating the $/kW-mo capacity cost to be afforded DSM. The OCC used a winter capacity rating. Third, the Company proposes that the value of ancillary services that a CT provides but DSM cannot provide should be accounted for in the evaluation of DSM programs. The OCC's

proposed avoided capacity costs do not account for ancillary services. Finally, the Company is proposing to afford DSM the full RAP CT capacity credit in years 2015 through 2020 when evaluating the cost-effectiveness of programs. In contrast, OCC is proposing that DSM be afforded the full RAP CT capacity credit in years 2017-2020, and a considerably lower value in years 2015-2016.[1]

Q. WHAT ARE THE OCC'S RECOMMENDATONS FOR AVOIDED ENERGY COSTS?

A. For estimating avoided energy costs, OCC believes the avoided energy costs included in the Updated Colorado DSM Market Potential Assessment (hereafter referred to as the "2013 Potential Study") should be updated to reflect the gas price assumptions used in the 2013 All-Source Solicitation bid evaluation.[2]

Q. DOES THE COMPANY AGREE WITH OCC'S PROPOSED ENERGY COSTS?

A. No. While the Company generally agrees with using updated gas prices to estimate avoided energy costs that are used in the evaluation of DSM, we do not agree that the 2013 Potential Study values adjusted to reflect updated gas prices are the best source for representing those avoided energy costs. Instead, the Company proposes using the Strategist model to estimate the

[1] The capacity credit Mr. Neil proposed for years 2015-2016 is consistent with that used in the 2013 All-Source bid evaluation.

[2] In 2013, the Company hired DNV KEMA, a third-party evaluator, to update the 2009 Potential Study that had been completed in March 2010 (included in the Company's Application within Docket No. 10A-554EG as Exhibit No. DLS-2). The 2013 Potential Study (included in the Company's

avoided energy cost to be attributed to DSM. The Company believes its proposal to use avoided energy costs calculated within Strategist is preferable to OCC's proposal to adjust the 2013 Potential Study values since the values from Strategist not only include the most recent forecasts (including gas price forecasts) and other underlying assumptions from the 2013 All-Source bid evaluation, but also directly measure how the DSM programs will impact electric system operations.

IV. THE COMPANY'S PROPOSED UPDATES TO AVOIDED COST ASSUMPTIONS FOR DSM

Q. WHAT IS THE SOURCE OF INFORMATON FOR THE AVOIDED COSTS THE COMPANY IS NOW PROPOSING TO USE IN DETERMINING THE COST-EFFECTIVENESS OF DSM PROGRAMS?

A. For avoided capacity costs the Company is proposing use of the $/kW-mo costs of the generic RAP CT that was used in the 2011 ERP process and updated for the 2013 All-Source bid evaluation process. For avoided energy costs the Company proposes using avoided energy cost estimates derived using the same Strategist modeling that was used to evaluate bids received in the 2013 All-Source RFP. I will address the details of both the avoided capacity values and avoided energy values later in my testimony.

Application in this Docket No. 13A-0686EG, as Exhibit No. JAP-1) updated the electric savings potential for Xcel Energy's Colorado service territory for 2013-2020.

Q. WHAT ARE THE SPECIFIC AVOIDED COSTS THE COMPANY IS NOW PROPOSING TO USE IN EVALUATING THE COST-EFFECTIVENESS OF DSM?

A. Table JFH-1 below shows the specific avoided costs the Company is now proposing for purposes of evaluating the cost-effectiveness of DSM.

Table JFH-1

	Company Proposed Updated Avoided Costs	
Year	Avoided RAP CT Capacity (Summer) ($/kW-mo)	Strategist Avoided Energy ($/MWh)
2015	$ 7.15	$ 32.39
2016	$ 7.34	$ 33.97
2017	$ 7.53	$ 37.62
2018	$ 7.73	$ 45.31
2019	$ 7.93	$ 48.01
2020	$ 8.14	$ 51.61
2021	$ 8.35	$ 53.90
2022	$ 8.56	$ 56.43
2023	$ 8.79	$ 59.08
2024	$ 9.01	$ 61.16
2025	$ 9.25	$ 63.72
2026	$ 9.48	$ 66.62
2027	$ 9.73	$ 64.67
2028	$ 9.98	$ 65.18
2029	$ 10.23	$ 53.72
2030	$ 10.49	$ 53.36

Q. WHY IS THE COMPANY PROPOSING CHANGES TO THE AVOIDED CAPACITY AND ENERGY COSTS USED IN EVALUATING THE COST-EFFECTIVENESS OF DSM PROGRAMS?

A. Now that we have completed the bid evaluation in connection with the 2011 ERP, we have better information from which to reassess our avoided costs as recommended by the OCC witness, Mr. Neil. This reassessment has allowed

us to more accurately estimate both the type and cost of generation capacity that additional DSM is likely to avoid as well as the type and cost of electrical generation (i.e., energy) that additional DSM is likely to avoid.

Q. HOW DO THESE AVOIDED COSTS COMPARE WITH THE AVOIDED COSTS PUBLIC SERVICE ORIGINALLY FILED AND USED IN ITS DIRECT CASE?

A. The direct testimony of Company witness Mr. Jeremy Petersen described how the Company applied the methodology used in the Company's 2012/2013 Biennial DSM Plan for calculating avoided costs in this docket. The 2012/2013 Biennial DSM Plan used either a CC or a CT as proxy plants, depending on the DSM program, for establishing the avoided cost for both capacity and energy.

Table JFH-2

Year	Company Proposed Updated Avoided Costs: Avoided RAP CT Capacity (Summer) ($/kW-mo)	Company Proposed Updated Avoided Costs: Strategist Avoided Energy ($/MWh)	Avoided Costs in Company's Direct Case: Proxy CT: Avoided Capacity ($/kW-mo)	Avoided Costs in Company's Direct Case: Proxy CT: Avoided Energy ($/MWh)	Avoided Costs in Company's Direct Case: Proxy CC: Avoided Capacity ($/kW-mo)	Avoided Costs in Company's Direct Case: Proxy CC: Avoided Energy ($/MWh)
2015	$ 7.15	$ 32.39	$ 12.99	$ 81.09	$ 14.83	$ 48.83
2016	$ 7.34	$ 33.97	$ 13.23	$ 85.08	$ 15.09	$ 51.39
2017	$ 7.53	$ 37.62	$ 13.48	$ 86.76	$ 15.36	$ 52.38
2018	$ 7.73	$ 45.31	$ 13.74	$ 89.93	$ 15.63	$ 54.37
2019	$ 7.93	$ 48.01	$ 13.99	$ 93.42	$ 15.90	$ 56.57
2020	$ 8.14	$ 51.61	$ 14.26	$ 96.60	$ 16.18	$ 58.56
2021	$ 8.35	$ 53.90	$ 14.52	$ 100.00	$ 16.46	$ 60.70
2022	$ 8.56	$ 56.43	$ 14.79	$ 104.14	$ 16.75	$ 63.34
2023	$ 8.79	$ 59.08	$ 15.07	$ 108.61	$ 17.04	$ 66.20
2024	$ 9.01	$ 61.16	$ 15.35	$ 112.98	$ 17.34	$ 68.98
2025	$ 9.25	$ 63.72	$ 15.64	$ 115.79	$ 17.65	$ 70.70
2026	$ 9.48	$ 66.62	$ 15.93	$ 115.56	$ 17.96	$ 70.33
2027	$ 9.73	$ 64.67	$ 16.23	$ 116.91	$ 18.27	$ 71.04
2028	$ 9.98	$ 65.18	$ 16.53	$ 120.27	$ 18.59	$ 73.12
2029	$ 10.23	$ 53.72	$ 16.84	$ 123.96	$ 18.92	$ 75.41
2030	$ 10.49	$ 53.36	$ 17.16	$ 127.97	$ 19.25	$ 77.92

Note that all of the avoided capacity cost values included in Tables JFH-1 and JFH-2 include: 1) downward adjustments to reflect the fact that DSM does not provide certain ancillary services that a CT or CC can provide and 2) an upward adjustment to reflect the effects of avoiding the need to carry a planning reserve margin on peak load that DSM avoids.

V. AVOIDED CAPACITY COST

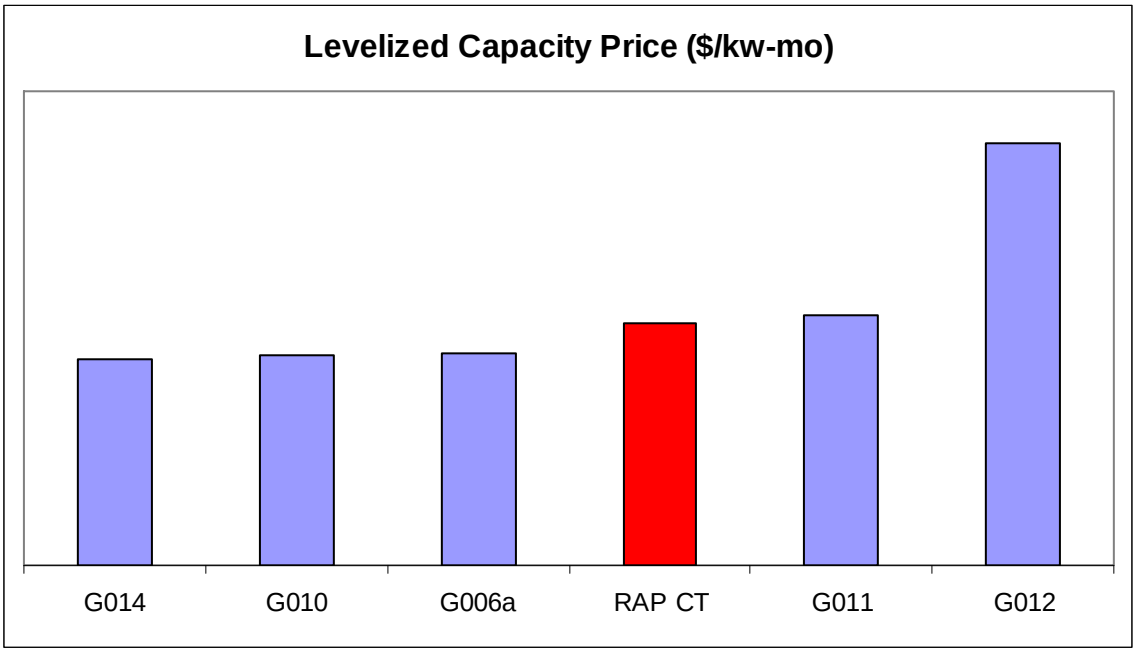
Q. CAN YOU EXPLAIN HOW A RAP CT MORE ACCURATELY REFLECTS THE TYPE OF GENERATION CAPACITY THAT ADDITIONAL DSM IS LIKELY TO AVOID?

A. Yes. After the 2013 All-Source RFP was issued and bids were submitted, the bids were analyzed and that analysis can now be used to inform this docket. The lowest cost bid portfolios derived from the Strategist modeling used gas-fired CT facilities (or gas-fired facilities that operate in a peaking mode such as a CT) to meet a majority of the capacity needs. Therefore, based on the most current information from the 2011 ERP, CTs, not CCs are reflective of the type of generation capacity DSM is likely to avoid over the 2015-2020 timeframe.

Q. HOW DO THE CAPACITY COSTS OF THE RAP CT COMPARE WITH CAPACITY PRICING RECENTLY RECEIVED IN THE 2013 ALL-SOURCE RFP?

A. Figure JFH-1 contains an illustration of how the proposed avoided capacity costs compare with the remaining dispatchable bids not included in the Company's preferred portfolio. Given that bid information is highly confidential, the figure does not identify specific bid pricing. As seen in the figure, the levelized cost of the RAP CT is similar to the prices received in the All-Source RFP. The similarity in pricing provides further comfort that the use of a generic CT is appropriate and, from a price perspective, similar to using bid pricing from the RFP.

Figure JFH-1



Q. WHY NOT JUST USE THE BIDS FROM THE 2013 ALL-SOURCE TO SET THE AVOIDED CAPACITY COSTS?

A. 2013 All-Source RFP bid pricing information is highly confidential and could not be shared openly in this docket. In contrast, the RAP CT pricing information is public, can be shared and discussed openly with all parties in this docket, and is a very good proxy for the highly confidential CT bid pricing received in the 2013 RFP.

Q. WHY DID YOU USE THE REMAINING DISPATCHABLE BIDS IN THE FIGURE JFH-1 COMPARISON AND NOT THOSE INCLUDED IN THE COMPANY'S PREFERRED PORTFOLIO?

A. The Company used the remaining dispatchable bids because the additional DSM being proposed in this docket would not avoid the need to acquire the dispatchable bids included in the preferred portfolio. The bids in the preferred

portfolio are needed to serve the remaining load after the load reduction effects of planned DSM have been accounted for.

Q. HOW DOES THE COMPANY'S PROPOSED AVOIDED CAPACITY VALUE COMPARE WITH THE VALUES PROPOSED BY OCC WITNESS MR. NEIL?

A. Both proposals rely on the same fundamental CT representation. However the Company proposal differs as follows.

- The Company proposes updated capacity pricing which was used in the 2013 All-Source RFP, whereas OCC (within the Answer Testimony of Mr. Neil on page 13) used the values from the original 2011 ERP filing. Specifically, the updates the Company included captured revised escalation rates for the cost to construct the RAP CT and the facility's fixed O&M.
- The Company modified the pricing to reflect the fact that DSM does not provide the same ancillary services a CT would provide and as a result reduced the avoided capacity cost afforded DSM accordingly. In total this reduction to account for ancillary services was $0.89/kw-mo.
- The Company normalizes the annual costs to a $/kw-mo using the summer capacity of the CT rather than the winter capacity of the CT as proposed by Mr. Neil. This is an important change because it ensures the appropriate total dollars per year are credited to a program when capacity credits are calculated.

Q. WHY IS THE USE OF SUMMER CAPACITY IMPORTANT TO THE CORRECT EVALUATION OF THE AVOIDED COST?

A. The total cost of a CT facility is calculated on an annual dollar per year basis ($/year). By converting these annual CT costs into units of $/kw-mo, the avoided capacity costs can be applied to the kW of various DSM programs to estimate the avoided capacity cost benefit of the program. However, the generation capacity a CT provides is lower in the summer and higher in the winter so an appropriate choice of CT capacity must be chosen when converting from $/year to $/kw-mo. In this case the appropriate CT credit to apply when converting $/year to $/kW-mo is the summer capacity since it is the summer peak load reduction of the DSM program that determines the capacity credit it should be afforded.

Q. CAN YOU PROVIDE AN EXAMPLE OF WHY USING SUMMER CAPACITY IS APPROPRIATE?

A. Yes. Suppose that a particular DSM program provides 150 MW of summer peak load reduction. When the effects of a 16.3 percent reserve margin are accounted for, this program would avoid a single 173 MW RAP CT (150 x 1.163 = ~173). The total fixed cost (or capacity costs) of a 173 MW RAP CT is approximately $15 million per year.[3] In evaluating this hypothetical DSM program, avoided capacity costs will be calculated by taking the 173 MW capacity impact of the program multiplied by $/kW-mo avoided capacity cost. If this $/kW-mo avoided capacity cost is derived using the summer capability

[3] Fixed costs include recovery of and on the capital investment to build and maintain the facility as well as the annual fixed O&M cost of the facility.

of the CT (173 MW) the resulting value would be ~$7.23/kw-mo ($15 million / 173,000 kW / 12). Crediting this hypothetical DSM program with ~$7.23/kW-mo for twelve months of the year results in an avoided cost credit of $15 million which appropriately is the same as the annual cost of the RAP CT which the DSM program would avoid.

In contrast, if this $/kW-mo avoided capacity cost is derived using the winter capability of the CT (214 MW) the resulting value would be ~ $5.84/kw-mo ($15 million / 214,000 kW / 12). Crediting this same DSM program with ~$5.84/kW-mo for twelve months of the year results in an avoided cost credit of $12 million which is $3 million short of the annual cost of the RAP CT which the DSM program would avoid

Q. WHY ARE THE CAPACITY COSTS OF THE RAP CT SHOWN IN TABLE JFH-2 CONSIDERABLY LOWER THAN THOSE OF THE PROXY CT USED IN THE COMPANY'S DIRECT CASE?

A. There are two factors that drive this difference in cost. First, the RAP CT costs are based on a newer version of a Siemens 5000F CT which provides 22 percent more capacity than the 5000F version upon which the previously used Proxy CT was based. This higher capacity has the effect of lowering the RAP CTs' $/kW-mo costs since the acquisition costs and expected operation and maintenance expenses for the unit are substantially the same. Second, the costs of the RAP CT are based on the midpoint of a cost range based on a Greenfield project (higher costs) and a Brownfield project (lower cost) while the cost of the Proxy CT are based on a Greenfield project. The combined

effect of the higher RAP CT capacity and midpoint cost assumption is a 30 percent reduction in the $/kW construction cost of the RAP CT compared to that of the originally filed Proxy CT. This 30 percent reduction in cost of the RAP CT is what allows it to be used as a proxy for estimating the capacity cost of the remaining dispatchable bids from the 2013 All-Source RFP publically in this docket.

VI. AVOIDED ENERGY COST

Q. CAN YOU EXPLAIN HOW THESE PROPOSED AVOIDED COSTS MORE ACCURATELY REFLECT THE TYPE AND COST OF ENERGY THAT ADDITIONAL DSM IS LIKELY TO AVOID?

A. Yes. The proposed avoided energy costs were derived using the Strategist modeling (including all assumptions and forecasts) applied in the 2013 All-Source bid evaluation. Thus, they reflect the most current set of assumptions available to indicate our expected energy costs during the period 2015 to 2020. We obtained the avoided energy costs by comparing two different Strategist model runs, the first included the load reductions associated with the additional DSM programs being proposed for years 2015-2020, and the second does not include the load reduction effects of these programs. Both runs included the resources of the Company's preferred portfolio recently approved by the Commission.[4] By taking the difference in system energy costs between the two runs we can estimate the energy costs that the additional DSM will avoid. Since these DSM avoided energy costs are

derived in the same Strategist model that was used for bid evaluation, the underlying system assumptions and parameters are identical to those used to evaluate supply-side alternatives (a.k.a., bids) from the 2013 All-Source RFP.

Q. WHAT IS OCC PROPOSING FOR AVOIDED ENERGY COSTS?

A. As discussed earlier, OCC is proposing to use the 2013 Potential Study values of avoided energy and adjust these values to reflect current gas price forecasts.

VII. SUMMARY

Q. PLEASE SUMMARIZE HOW THE AVOIDED CAPACITY AND ENERGY COSTS THE COMPANY IS NOW PROPOSING COMPARE WITH THOSE BEING PROPOSED BY OCC WITNESS MR. NEIL.

A. Table JFH-3 compares the revised avoided costs we are proposing to the avoided capacity and energy costs proposed by OCC.

[4] 317 MW more IPP gas generation, Cherokee 4 switched to gas, Arapahoe 4 retired, 170 MW more PV solar, and 450 MW more wind.

TABLE JFH-3

Year	Company Proposed Updated Avoided Costs (1) Avoided RAP CT Capacity (Summer) ($/kW-mo)	Company Proposed Updated Avoided Costs (1) Strategist Avoided Energy ($/MWh)	OCC Proposed Avoided Costs (2) Avoided RAP CT Capacity (Winter) ($/kW-mo)	OCC Proposed Avoided Costs (2) Avoided Energy ($/MWh)
2015	$ 7.15	$ 32.39	$ 1.21	$ 34.47
2016	$ 7.34	$ 33.97	$ 1.24	$ 35.48
2017	$ 7.53	$ 37.62	$ 6.45	$ 37.46
2018	$ 7.73	$ 45.31	$ 6.63	$ 40.22
2019	$ 7.93	$ 48.01	$ 6.82	$ 43.27
2020	$ 8.14	$ 51.61	$ 7.01	$ 46.01
2021	$ 8.35	$ 53.90	$ 7.21	$ 48.22
2022	$ 8.56	$ 56.43	$ 7.41	$ 50.32
2023	$ 8.79	$ 59.08	$ 7.62	$ 53.75
2024	$ 9.01	$ 61.16	$ 7.83	$ 55.54
2025	$ 9.25	$ 63.72	$ 8.05	$ 57.46
2026	$ 9.48	$ 66.62	$ 8.27	$ 59.26
2027	$ 9.73	$ 64.67	$ 8.50	$ 60.58
2028	$ 9.98	$ 65.18	$ 8.75	$ 61.91
2029	$ 10.23	$ 53.72	$ 8.99	$ 63.75
2030	$ 10.49	$ 53.36	$ 9.25	$ 65.28

(1) Avoided capacity includes $0.89/kW-mo reduction for ancillary services. Avoided System Energy based on Strategist analysis using 2013 All-Source modeling.
(2) Avoided capacity does not include any adjustment for ancillary services. Avoided Energy based on KEMA study updated to reflect more recent gas prices.

Q. WHY ARE THE AVOIDED CAPACITY COSTS IN YEAR 2015 AND 2016 BETWEEN THE COMPANY'S CURRENT PROPOSAL AND THAT OF OCC SO DIFFERENT?

A. The Company is proposing to give full RAP CT capacity in years 2015 and 2016 when evaluating the avoided capacity credit to be afforded DSM. Company witness Ms. Debra Sundin addresses the basis for this proposal in her rebuttal testimony. In contrast, for years 2015 and 2016 OCC witness Mr. Neil utilized a value from the 2011 ERP that was used as an estimate of the

value of generation capacity in excess of the planning reserve margin. This value was set at $2.79/kw-mo escalating at inflation and was applied only during the four summer months of June through September. As a result, Mr. Neil's 2015 and 2016 avoided capacity values are considerably lower.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Attachment A

James F. Hill

Statement of Qualifications

I graduated from Colorado State University in 1983 with a Bachelor of Science degree in Natural Resource Management and in 1995 from the University of Colorado with a Bachelor of Science degree in Mechanical Engineering.

I have been employed by Public Service Company of Colorado, New Century Services, Inc., and now Xcel Energy Services Inc. for 27 years. I began my employment in 1984 at Public Service Company of Colorado's Fort St. Vrain Nuclear Generating Station in the Technical Services and Licensing Department. In August 1992, I joined Public Service Company of Colorado's System Planning Department where I performed resource planning functions, as a Planning Engineer, a Senior Resource Planning Analyst, Manager of Resource Planning and Bidding and now Director of Resource Planning and Bidding with a focus on Public Service Company of Colorado.

As the Director of the Resource Planning and Bidding Group, I have responsibility for overseeing the Company competitive resource acquisition processes as well as the various technical analyses on the resource options that are available to Xcel Energy's operating companies for meeting customer demand.

I have testified before the Colorado Public Utilities Commission regarding electric resource planning issues in numerous dockets.