RE: In the Matter of the Application of Public Service Company of Colorado for Approval of its Solar*Connect Program	))))))	**Third Discovery Request of the Energy Freedom Coalition of America Served on Public Service Company**
PROCEEDING NO. 16A-0055E	)	**April 19, 2016**

DISCOVERY REQUEST EFCA3-2:

Please reference the responses to EFCA1-8, which were provided on April 18, 2016.

a. Please explain in detail why Public Service would not be interested in offering a voluntary solar program to its customers in which competitive third-party solar providers contracted to provide solar energy services to Public Service customers, interconnected with Public Service's system, and retired RECs on those customers' behalf. As part of your explanation, please specify whether Public Service's concerns with or objections to such a program are legal concerns, financial concerns, or some other types of concerns.

b. With respect to the response to part e. of EFCA1-8, please confirm that, in its Phase II rate case currently pending before the Commission, Proceeding No. 16AL-0048E, Public Service has proposed not to grandfather into existing rates any customers who install solar that is interconnected with the Public Service system and does not surrender the RECs generated by the customer's solar installation (i.e., any customer who does not participate in the Solar*Rewards program).

OBJECTION:

Public Service objects to EFCA3-2a on the grounds it seeks information that is not relevant and the request is not reasonably calculated to lead to the discovery of admissible evidence. Public Service objects to EFCA3-2a on the grounds that the request is vague and ambiguous. Public Service objects to EFCA3-2a on the grounds that a response to the request requires speculation. Public Service objects EFCA3-2a on the grounds to the extent it seeks legal analysis and/or conclusions.

Sponsor: Andrew Crain **Date:** April 29, 2016

RESPONSE:

a. See objection.

b. The grandfathering that Public Service has proposed in its Phase II rate case (16AL-0048E) relates to the rate design; Public Service does not propose that customers be grandfathered into existing rates. Customers who are eligible to remain on the Company's existing two part rate structure are customers who own or who have a third party owned solar generation connected in parallel with the Company's electric system and who are enrolled in the Company's Solar*Rewards® program and who receive service under Schedule NM as of December 31, 2016.

Under Public Service's proposed changes in the Phase II rate case, Customers who net meter outside of the Solar*Rewards® program will be subject to the new rate design, if adopted by the Colorado Public Utilities Commission. The Company has notified those customers in the past that their service was subject to regulatory changes.

Sponsor: Tandy Dilworth, Alice K. Jackson **Date:** April 29, 2016

RE: In the Matter of the Application of Public Service Company of Colorado for Approval of its Solar*Connect Program	)))))	**Second Discovery Request of the Energy Freedom Coalition of America Served on Public Service Company**
PROCEEDING NO. 16A-0055E	)	**April 14, 2016**

DISCOVERY REQUEST EFCA2-9:

On page 19, lines 4-5, Ms. Jackson states that "[t]he Company already generates more energy from renewable energy than the minimums established by § 40-2-124, C.R.S."

a. Does Public Service sell excess Renewable Energy Credits (RECs) that are not needed for compliance with the referenced statute (commonly known as Colorado's Renewable Energy Standard, or RES)?

b. If the answer to part a. is "yes," please list the individuals and entities to which Public Service has sold excess RECs that are not needed for compliance with the RES.

c. If the answer to part a. is "yes," please list and describe any applicable restrictions or limitations on Public Service's ability to sell excess RECs not needed for RES compliance (for example, can Public Service sell RECs to any willing purchaser at any time?).

d. If the answer to part a. is "yes," does Public Service believe that the Commission has regulatory oversight authority over such sales and the proceeds from such sales?

e. If the answer to part a. is "yes," what does Public Service do with the proceeds from such sales?

f. If the answer to part a. is "yes," does Public Service or the REC purchaser(s) ever distinguish between RECs created by wind energy and RECs created by solar energy when making such sales?

OBJECTION:

Public Service objects to EFCA2-9 on the grounds that it seeks information that is not relevant and the request is not reasonably calculated to lead to the discovery of admissible evidence.

Sponsor: Andrew Crain **Date:** April 25, 2016

SUPPLEMENTAL OBJECTION:

Public Service objects to EFCA2-9(d) on the grounds that it calls for a legal conclusion and speculation and on the grounds that it seeks information that is not relevant and the request is not reasonably calculated to lead to the discovery of admissible evidence.

Sponsor: Andrew Crain **Date:** April 25, 2016

SUPPLEMENTAL RESPONSE:

Without waiving the above objection, the Company offers the following response:

a. Yes.

b. See objection.

c. The only applicable restrictions or limitations on Public Service's ability to sell excess RECs are specific to program qualifications such as Green-e or specific transactions.

d. See supplemental objection.

e. There are no proceeds from the Windsource program however, all Windsource revenues are 100% shared back to customers through the RESA. All other REC proceeds are shared in accordance with Commission approved business rules for short-term Electric Energy and Renewable Energy Credit Transactions. See Proceeding No. 14A-0580E, Decision No. R14-1151.

f. Yes.

Sponsor: Alice K. Jackson Date: May 6, 2016

RE: In the Matter of the Application of Public Service Company of Colorado for Approval of its Solar*Connect Program	)))))	**Second Discovery Request of the Energy Freedom Coalition of America Served on Public Service Company**
PROCEEDING NO. 16A-0055E	)	**April 14, 2016**

DISCOVERY REQUEST EFCA2-6:

On page 13, lines 5-6, Ms. Jackson states that Public Service has "designed the program [i.e., Solar*Connect] to be similar, though not identical, to the Company's Windsource program."

a. Please describe in detail, from Public Service's perspective, the key differences between the design of the Windsource program and the design of the Solar*Connect program.

b. Please describe in detail why Public Service did not design Solar*Connect to be identical (except for the generation technology) to Windsource.

c. Are the RECs used to supply the Windsource program generated from a single dedicated wind resource?

d. In administering the Windsource program, how does Public Service distinguish RECs created by wind power from RECs created by other renewable energy generation sources, such as solar, to ensure that it is retiring wind RECs for Windsource participants?

e. When a customer subscribes to Windsource, what does the subscription money pay for? Please describe the flow of money used to pay for Windsource participation, including any accounts involved, in detail.

f. If the Windsource program impacts the RESA account, please provide the annual dollar impact of the Windsource program on the RESA account for the last four calendar years.

g. Please provide the total amount of wind energy (or RECs created by wind energy) in megawatt-hours that has been sold through the Windsource program to subscribers in the last four years.

h. Does Public Service have an opportunity to make a profit on the Windsource program?

i. Has Public Service made a profit of any kind from the Windsource program in the last four years?

OBJECTION:

Public Service objects to EFCA2-6(i) on the grounds that the information that it seeks would require a special study.

Sponsor: Andrew Crain **Date:** April 28, 2016

SUPPLEMENTAL RESPONSE:

i. When responding to EFCA2-6(i) the response inadvertently stated that Ponnequin Wind Farm is not retired. The correct response should read "This resource is now retired."

Sponsor: Kerry Klemm, Kevin Schwain **Date:** May 19, 2016

RESPONSE:

a. Please see the response to OCC2-2.

The Company designed Solar*Connect to tie the rates paid by participants to the specific new renewable resource being added to the system for purposes of meeting the needs of the Solar*Connect program. Unlike Windsource® which sources the program energy and RECs from existing system resources. The first Solar*Connect proposal under Proceeding No. 14A-0302E was denied in part due to the reliance on the RESA for program costs which our proposed Solar*Connect program does not. Whereas, Windsource has a direct impact on the RESA.

c. No. Windsource RECs are sourced from Public Service's portfolio of wind resources.

d. The Company uses the WREGIS system to track RECs which has designators for each generator that records RECs in the WREGIS system. The Company can therefore use this identification system to ensure only wind RECs are retired on behalf of Windsource customers.

e. The retail rate premium for Windsource flows to the RESA account.

f. Please refer to the annual Renewable Energy Standard Compliance Reports.

g. Please refer to the annual Renewable Energy Standard Compliance Reports.

h. Because the resources that provide energy to the Windsource program consist of the pool of wind resources that the Company has acquired or owns on the system, yes. The Company is authorized to earn its rate of return for any owned wind resources.

i. Notwithstanding the above objection, Public Service offers the following response.

Possibly. In previous years, the Company owned Ponnequin Wind Farm was one of the resources that provided energy to Windsource. This resource is not retired.

Sponsor: Kerry Klemm, Kevin Schwain **Date:** April 28, 2016

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * * * *

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2017 – 2019 RENEWABLE ENERGY COMPLIANCE PLAN	**)))))**	**PROCEEDING NO. 16A-XXXXE**

<u>DIRECT TESTIMONY AND ATTACHMENTS OF ROBIN KITTEL</u>

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * * * *

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2017 – 2019 RENEWABLE ENERGY COMPLIANCE PLAN	**)))))**	**PROCEEDING NO. 16A-XXXXE**

SUMMARY OF THE DIRECT TESTIMONY OF ROBIN KITTEL

Ms. Robin Kittel is Director of Regulatory and Strategic Analysis of Xcel Energy Services, Inc. In this position she is responsible for providing direction and regulatory leadership on a number of regulatory processes and functions for Public Service Company of Colorado ("Public Service" or "Company"), one of four utility operating company subsidiaries of Xcel Energy Inc. Her duties include in part, the direction, project management and implementation of Public Service's regulatory strategy and programs related to renewable energy plans including customer choice programs.

In her testimony, Ms. Kittel presents an overview of the Company's 2017-2019 Renewable Energy Compliance Plan ("2017 RE Plan" or "Plan") as well as the RESA impacts of the proposed plan.

Public Service's 2017 RE Plan proposes a three-year roadmap that further demonstrates the Company's leadership in transiting to a more sustainable energy future, powered with less carbon-intensive fuel sources. Under the Plan, the Company expands on the customer choice program options previously offered to our customers.

Public Service proposes to add significant amounts of rooftop solar capacity to its Solar*Rewards program, while at the same time leveraging ongoing rate evolutions for such additions so that such capacity can be added in a cost effective manner for all of our customers. Public Service demonstrates a commitment to community solar gardens by committing to take increased amounts of capacity in each year of the Plan through our Solar*Rewards Community programs.

Solar is not the only renewable resource made more available to our customers through this 2017 RE Plan. Our Plan also recommends lowering the premium cost of the Windsource program, making wind energy more affordable for our customers. Lastly, the Plan finalizes a new Recycled Energy program which will allow customers to generate energy from what would otherwise be lost heat from various processes.

Public Service believes this Plan advances the goal of satisfying Colorado's growing energy needs in the most reliable, clean and affordable way possible. We respectfully ask the Commission for its approval.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * * * *

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2017 – 2019 RENEWABLE ENERGY COMPLIANCE PLAN	**)))))**	**PROCEEDING NO. 16A-XXXXE**

DIRECT TESTIMONY AND ATTACHMENTS OF ROBIN L. KITTEL

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LIST OF ATTACHMENTS

Attachment No. RLK-1	2017 RE Plan Volume 1
Attachment No. RLK-2	2017 RE Plan Volume 2
Attachment No. RLK-3	2017 RE Plan Volume 3

GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronyms/Defined Term	Meaning
2017 RE Plan, RE Plan, Plan, or Compliance Plan	Public Service's 2017-2019 Renewable Energy Compliance Plan
CSG	Community Solar Garden
DG	Distributed Generation
DSM	Demand Side Management
DSMCA	Demand Side Management Cost Adjustment
ECA	Electric Commodity Adjustment
ERP	Electric Resource Plan
G &T Fees	Generation and Transmission Standby Capacity Reservation Fees
kW	Kilowatt
kWh	Kilowatt-hour
Large Retail DG	Retail Distributed Generators > 1MW
MW	Megawatt
NDA	Non-Disclosure Agreement
No RES Plan	Company's Plan to acquire only non-renewable resources
Non-DG	Non Distributed Generation
O&M	Operations and Maintenance
PCCA	Purchased Capacity Cost Adjustment
PTC	Production Tax Credit
Public Service or Company	Public Service Company of Colorado

Acronyms/Defined Term	**Meaning**
PV	Photovoltaic
QRU	Qualified Retail Utility
R Rate	Standard Retail Rate
RD TOU Rate	Residential-Demand Time of Use Rate
RE	Renewable Energy
REC	Renewable Energy Credit
RES	Renewable Energy Standard
RES Plan	Renewable Energy Standard Plan
RESA	Renewable Energy Standard Adjustment
Retail DG	Retail Distributed Generation
RFP	Request for Proposal
S&F	Service and Facilities
S*R®	Solar*Rewards®
Schedule RE	Recycled Energy Service
SRCS Tariff	Solar*Rewards® Community Service Tariff
TCA	Transmission Cost Adjustment
WECC	Western Electricity Coordinating Council
Wholesale DG	Wholesale Distributed Generation
WREGIS	Western Renewable Energy Generation Information System
Xcel Energy	Xcel Energy Inc.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * * * *

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2017 – 2019 RENEWABLE ENERGY COMPLIANCE PLAN	**)))))**	**PROCEEDING NO. 16A-XXXXE**

<u>DIRECT TESTIMONY AND ATTACHMENTS OF ROBIN KITTEL</u>

I. <u>INTRODUCTION AND OVERVIEW</u>

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Robin Kittel. 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, Regulatory and Strategic Analysis.

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 at the end of my testimony.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to provide an overview of the Company's 2017-2019 Renewable Energy Compliance Plan ("2017 RE Plan" or "Plan") including an introduction of the Company witnesses filing testimony in support of this Application. I explain the legislative background concerning Colorado's Renewable Energy Standard ("RES"), present the requirements the Company must meet in order to comply with the RES and in order to comply with the Commission's RE Plan Rules, as well as lay out the Company's eligible energy resource production that not only meet but also exceed these RES standards in an economic manner.

I describe our proposal to grow our customer choice programs made up of eligible energy resources over our acquisition planning period of 2017 through 2019. I provide an overview of the cost recovery under the Renewable Energy Standard Adjustment ("RESA"). Finally, I provide a list of approval requests.

Q. HAS THE COMPANY PROVIDED A COPY OF ITS RENEWABLE ENERGY PLAN AS PART OF ITS APPLICATION?

A. Yes, the Company's 2017 RE Plan is attached to my testimony in three Volumes. Attachment RLK-1 is Volume 1 of the 2017 RE Plan. Attachment RLK-2 is Volume 2. Attachment RLK-3 is Volume 3.

Q. WHAT APPROVALS IS THE COMPANY SEEKING IN THE 2017 RE PLAN?

A. Public Service respectfully requests that the Commission approve the overall plan, including without limitation approval of:

- The Company's proposed acquisition levels, incentives, and program changes for Solar*Rewards and Solar*Rewards Community pending the outcome of the Phase II Rate Design in Proceeding No. 16AL-0048E;
- The Company's proposed acquisition levels, incentives, Schedule RE tariff as well as associated tariff changes for Recycled Energy service;
- The Company's proposed changes to the pricing of the Windsource program and associated tariff changes;
- The Company's modeled incremental and avoided costs for resources not previously locked down and the resetting of the lock down for modeled incremental and avoided costs of resources previously locked down, for the term of this Plan.

Q. PLEASE PROVIDE AN OVERVIEW OF PUBLIC SERVICE'S 2017 RE PLAN.

A. The Company is pleased to state that we have been in compliance with Colorado's RES every year since 2007 and we are exceeding the compliance standard today. This has been achieved because Public Service has taken a proactive approach to adding eligible energy resources to our system. Leadership on these types of acquisitions has been beneficial to our customers and the State of Colorado. We appreciate the support of the Colorado Public

Utilities Commission and the numerous institutions and individuals who have helped make these results possible.

The Company's 2017 RE Plan furthers what we believe should be the goal everyone: the provision of energy in the most reliable, clean and affordable way possible. The 2017 RE Plan provides a three-year roadmap that expands customer choice programs that provides clean energy options for our customers who want choices that support their environmental preferences and sustainability goals. The Company is invested in our community and customers with their growing energy preferences and therefore we are committed to providing alternative energy solutions. Just as important, the 2017 RE Plan also ensures that the Company's eligible energy acquisitions and on-going RES compliance remains affordable for all of our customers.

Q. DOES THE COMPANY SUPPORT ROOFTOP SOLAR RESOURCES?

A. Absolutely. Our 2017 RE Plan demonstrates our commitment to rooftop solar. We are recommending the capacity of our Solar*Rewards program. For our residential customers we are expanding it by 50 MW over the course of the Plan. We recognize that many of our commercial customers have sustainability goals or environmental preferences and are therefore we are expanding the capacities available under our Medium Solar*Rewards program for PV systems 25 kW up to 500 kW. For these customers we are proposing 18 MW each year which is 50 percent more capacity every year in the medium program. For our large customers with greater energy needs, we are reopening our Large

Solar*Rewards program to accommodate customer-sited systems that exceed 500 kW. We are proposing 24 MW of capacity be allocated to these customers.

Q. DOES THE COMPANY SUPPORT OTHER FORMS OF SOLAR RESOURCES?

A. Yes. We recognize not all our customers are able to add solar directly on their properties but still have an interest in participating further in renewable energy options. For these customers, we offer additional options, one of those presented as a part of this filing is more solar garden capacity every year under our Plan. In a separate application filed in Proceeding No. 16A-0055E, the Company is also proposing a new solar program called Solar*Connect which, if approved by the Commission, will give customers another simple and convenient way to choose to meet their renewable interests.

Q. WHAT ABOUT OTHER ELIGIBLE ENERGY OPTIONS?

A. Our 2017 RE Plan isn't just about solar; we are also proposing to reduce the price of our Windsource program which has a long history of providing a green product to our customers, paid for by them through their Xcel Energy bill. Windsource is an easy, convenient way to participate in renewable energy for a large segment of our customers. An independent third party certifies that every Renewable Energy Credit (REC) generated and retired on a Windsource customer's behalf is in fact generated by wind on the Public Service's system.

In addition to the wind and solar programs, the 2017 RE Plan also seeks approval of a Recycled Energy program up to 20 MW per year. The Recycled

Energy program is a tariffed service whereby Recycled Energy is generated by what would otherwise be waste heat or steam at a customer's site.

Q. COULD YOU PLEASE PROVIDE A SUMMARY OF ALL THE ELIGIBLE ENERGY CAPACITY ADDITIONS THE COMPANY IS PROPOSING?

A. See Table 1.

Table 1: 2017 RE Plan Proposed Capacities (In MW_{DC})

Program	2017 Capacity	2018 Capacity	2019 Capacity	Total RES Capacity
Sm Opt A	24	24	24	
Sm Opt B	9	18	24	123
Medium	18	18	18	54
Large	6	8	10	24
Min CSG	10	10	10	30
Max CSG	30	30	30	90
Total Solar (Max)	87	98	106	291
Recycled Energy	20	20	20	60
Total Customer Choice	107	118	126	351

II. <u>WITNESS INTRODUCTIONS</u>

Q. WHO ARE THE OTHER COMPANY WITNESSES AND HOW DOES THEIR TESTIMONY MEET THE FILING REQUIREMENTS OF RULE 3657?

A. The following witnesses are providing testimony in support of this application.

- Ms. Jannell E. Marks, the Director of Sales, Energy and Demand Forecasting, sponsors Section 3 of Attachment RLK-1. Ms. Marks presents the Company's sales forecast from 2005 through 2030 which reflect the RES compliance requirements in Table 4-1. This sales forecast is the same forecast the Company provided under Decision No. C16-0127 issued on February 16, 2016 and that will be used in the soon to be filed Electric Resource Plan ("ERP"). This Section is responsive to Rule 3657(b)(I)(D);
- Mr. Jeffrey C. Haskins, Renewable Energy Portfolio Manager, sponsors Section 4 of Attachment No. RLK-1 which describes the Company's estimates of the RECs that it needs to meet the Renewable Energy Standard; the Company's projected REC transfers; the Company Windsource sales; and any RECs traded. He also sponsors Tables 4-1 through 4-4 in Attachment No. RLK-2 which provide estimated REC production by resource. This Section and Tables are responsive to Rule 3657(b)(I)(E) and 3657(b)(III);
- Ms. Kerry R. Klemm, Manager, Consumer Product Management, sponsors portions of Section 5, specific to the Company's proposed expansion of our customer choice solar program under Solar*Rewards and Solar*Rewards Community, as well as our Windsource program discussion under Section 6

of Attachment RLK-1. Ms. Klemm also sponsors Attachment RLK-3. These Sections respond to Rules 3657 (b)(I)(E), (F), (G), (H) (J) and (L); Rule 3657(b)(II); Rule 3657(b)(V); and Rule 3665 (d)(I)(B).

- Mr. Samuel J. Hancock, Manager, Regulatory Project Management, sponsors Sections 5's Non DG and Wholesale DG resources on the system in Attachment RLK-1. Mr. Hancock also sponsors Section 7 of Attachment RLK-1. Through Section 7 Mr. Hancock supports the RESA calculations which project the retail rate impact for the period from 2015 through 2026. Section 7 describes the requirements of Rule 3661(h)(V) regarding the resetting the incremental costs of eligible energy resources previously locked down under prior compliance plans. The Company's 2017 RE Plan is also consistent with Rule 3661(h)(V) in that the incremental costs for eligible energy resources not explicitly locked by prior Commission orders are to be set by this Plan, for the term of the Plan. Mr. Hancock lastly sponsors Tables 7-2 and 7-3 which provide the various costs and credits to the RESA which are presented in Attachment RLK-2. Section 7 is responsive to Rules 3657(b)(I)(A), (B), (C), (E), (F), (G), and (I). Per Commission Decision No. C16-0127, the RESA balance associate with a potential 1 GW of new Non DG is offered in our Notice of Intent filing in this Proceeding.
- Mr. Scott B. Brockett, Director, Regulatory Administration sponsors the portion of Section 6 specific to the Company's Recycled Energy program and tariff offering filed in compliance with Commission Decision No. C15-1280 in Proceeding 15AL-0118E.

Q. WHAT SECTIONS OF THE PLAN DO YOU SPONSOR?

A. I sponsor the following Section of Attachment RLK-1, again, Volume 1 of the Plan:

- Section 1 is the Executive Summary;
- Section 2 briefly summarizes the various Sections of the Plan and lists the filing requirements in Rule 3657;
- Section 8 describes the cost recovery mechanisms and accounting treatment associated with implementing the Renewable Energy Standard, which is responsive to Rule 3657 (b)(I)(A). The RESA has a positive balance and is expected to remain so through the planning horizon.
- Section 9 describes the Company's net metering provisions allowed under Commission Rule. Currently, the Company offers the ability of customers with customer sited renewable resources to offset on a kWh for kWh their energy charge commensurate with the energy produced by the renewable resource. Section 9 is responsive to Rule 3657(b)(IV).
- Section 10 states that Public Service is not proposing any changes to the Commission's interconnection rules or requirements at this time. Solar*Rewards standard contracts, Request for Proposal (RFPs) and Interconnection Agreements are found in Volume 3 of this Plan at Attachment RLK-3. This Section is responsive to Rule 3657 (b)(V).
- In Section 11 is the Conclusion. It lists the approvals requested by the Company in our 2017 RE Plan. This Section is responsive to Rule 3657(c).

Q. ARE THERE ANY OTHER FILING REQUIREMENTS OF RULE 3657 YOU WISH TO ADDRESS AT THIS TIME?

A. Yes. Rule 3657 (b)(I)(K) requires the Company indicate its ownership outlook. The Company reserves its rights under Rule 3660 to own new eligible energy resources.

In Section 6, the Company includes a brief description of the Solar*Connect filing and the effect it has on our REC tracking. Based on the Solar*Connect filing in Proceeding No. 16A-0055E, the Company is not projecting that Solar*Connect has an impact on the RESA.

Q. IS THE COMPANY LOOKING FOR ELIGIBLE ENERGY ACQUISTIONS BEYOND 2017 THROUGH 2019?

A. No, This 2017 RE Plan requests the Commission to consider acquisition levels of our customer choice programs offered under the Solar*Rewards, Solar*Rewards Community, and Recycled Energy for the years 2017 through 2019. The Company is not proposing, in this Plan, any acquisitions of additional wholesale DG or non-DG resources. The Company is also not seeking any type of approvals for its Solar*Connect proposal which is currently being considered in Proceeding No. 16A-0055E.

Q. WHY IS IT APPROPRIATE TO PLAN FOR THE YEARS 2017-2019 IN THIS PLAN?

A. The Company believes that the Commission gave direction in Decision No. C14-1505 at paragraph 32 that extending the planning of the eligible energy resource programs into more years will provide further continuity and predictability in the Company's programs over a single-year plan. The Company's believes the 2017 through 2019 RE Plan we are presenting here is consistent with the policy of the Commission both under Rule 3657 as well as that prior Commission decision. Over the next few years it is probable that the advancements of new technologies and pricing alternative will influence future programs; setting an acquisition period longer than the three years doesn't make sense. We have seen the cost of solar drop quicker than past projections which further supports a three year Plan is appropriate for market stability.

Q. WAS THE 2017 RE PLAN DISCUSSED IN ANY OTHER RECENT COMMISSION DECISIONS?

A. Yes. In Decision No. C16-0127 in Proceeding 15V-0473E, the Commission agreed to disaggregate the 2017 RE Plan filing with that of the Company's Electric Resource Plan which is to be filed no later than June 1, 2016. In that Decision, the Commission required the Company to file a Notice of Intent, discussing the interrelationship of several Public Service proceedings, and updated modeling assumptions to be used by the Company. The Company has complied with the Commission's decision.

The sales forecasts, presented by Ms. Marks in Section 3, are the same load forecast that was filed on February 29, 2016, via a separate application providing the strategist modeling assumptions. The other modeling assumptions used in the RES/No RES model runs are also consistent with the assumptions filed in the separate application. RESA impacts associated with the potential 1 GW of new eligible energy resources are included in the February 29, 2016 Notice of Intent filings, including the NOI in this Proceeding.

In this 2017 RE Plan, the Company is presenting a 10 year planning horizon required by Rule 3661(e) and we have identified the acquisition period of 2017 through 2019. The Company has not determined the resource acquisition period of the Electric Resource Plan as of the filing of this testimony. The Company would ask the Commission to find the eligible energy acquisition planning for 2017 through 2019, as presented by the Company in this 2017 RE Plan is appropriate, irrespective of the undetermined resource acquisition plan period to be filed for in the upcoming Public Service ERP proceeding. In response to the earlier question I explained why a three year acquisition period for the 2017 RE Plan.

III. BACKGROUND

Q. PLEASE PROVIDE THE LEGISLATIVE BACKGROUND FOR THE COMPANY'S 2017 RE PLAN.

A. In 2004 the citizens of Colorado approved a RES through Ballot Amendment 37, which required certain electric utilities to generate or cause to be generated 10 percent of their energy from renewable energy resources by 2020, with lower intermediate standards beginning in 2007. Included under Amendment 37 was a requirement for four percent of the renewable energy standard in any year to be supplied by solar resources, of which half had to come from customer-sited solar located behind a customer's meter. In 2007, the General Assembly expanded the RES to 20 percent renewable energy by the year 2020 under House Bill 07-1281, which legislation kept most of the original framework of Amendment 37 but increased the amount that could be charged to customers to acquire renewable energy from one percent to two percent of the customer's total bill. The next change occurred in Senate Bill 09-51, which allowed solar panels to be owned by entities other than the retail customer and allowed these entities ("third party developers") to sell electricity from the solar facilities they placed on customer sites to the retail customer under the Qualified Retail Utility's ("QRU") standard offer program which for Public Service is our Solar*Rewards program. In addition, SB09-51 increased the system size a QRU could include under its standard offer program for on-site solar facilities to 500 kW. As a result of these legislative changes Public Service has offered our Solar*Rewards program under standard offers to acquire Renewable Energy

Credits from customer sited PV systems from 0.05 kW up to and including 500 kW.

In 2010, changes to the RES were enacted through the General Assembly's passage of HB10-1001. The passage of HB10-1001 resulted in a 30 percent RES requirement by 2020. Another significant change brought about through the enactment of HB10-1001 was the elimination of a solar-specific renewable energy standard. The solar-specific renewable energy standard was replaced with a much higher level Distributed Generation standard. By 2020, HB10-1001 requires investor owned QRUs to acquire Distributed Generation equal to 3 percent of their retail sales.

There were two types of Distributed Generation created by HB10-1001: (1) retail distributed generation ("Retail DG"), defined as a renewable energy resource that is designed primarily to provide electric energy to serve the customer's load which is located on the site of a customer's facilities and interconnected on the customer's side of the utility meter; and (2) wholesale distributed generation ("Wholesale DG"), defined as a renewable energy resource in Colorado with a nameplate rating of thirty megawatts or less that does not qualify as retail distributed generation. At least one-half of the distributed generation standard must be met with retail distributed generation. Throughout this RE Plan, the Company refers to the various mandates of the RES as "Wholesale DG", "Retail DG", and "non-DG" to ensure that we meet the total RES and the minimum requirements in each category.

Thus, with the enactment of HB10-1001, the General Assembly almost quadrupled the amount of generation a QRU must acquire from customer-sited generation when compared to the levels the law required immediately prior to the passage of HB10-100.1

In this same session, House Bill 10-1342 established what are commonly termed “solar gardens,” a facility that is large enough to meet the solar needs of many customers. Customers may participate in these solar projects by acquiring a share of a larger facility for purposes of receiving a dollar credit on their electric bills commensurate with their share of the solar garden generation that they acquired. This bill limited Public Service Company to acquiring no more than 6 MW of Solar Garden capacity each year from 2011 through 2013 and provides for the Commission to establish the minimum and maximum capacity starting in 2014 and beyond.

Q. HAVE THERE BEEN OTHER LEGISLATIVE CHANGES THAT AFFECT THE RES?

A. Yes. Senate Bill 13-252 (“SB 13-252”) was recently enacted to expand the RES compliance to cooperative electric associations and expanded the definition of eligible energy resources to include resources using coal mine methane and synthetic gas produced by pyrolysis of municipal solid waste so long as the Commission determines that the greenhouse gases emitted by these resources is not greater than the volume of greenhouse gases that would have been emitted into the atmosphere over a subsequent five year period had the resource not converted the gas to electricity.

Q. ARE THERE ANY ADDITIONAL LEGISLATIVE CHANGES THAT AFFECT THE RES?

A. Yes, House Bill 15-1284 ("HB 15-1284"), enacted in 2015, changed the requirement for the physical location of a solar garden. HB 15-1284 expanded the authority of a solar garden be able to offer subscriptions to customers located in the same county to the customers in adjacent counties. The Company has already implemented this requirement in recognition of this statutory change.

Three other bills (House Bill 15-1377, Senate Bills 15-046 and 15-254) also affected the RES, however, these bills did not impact investor-owned utilities such as Public Service.

Q. HAS THE COMMISSION ADDRESSED SEVERAL RENEWABLE ENERGY STANDARD ISSUES OVER THE YEARS?

A. Yes. The Commission has considered the RES for the two investor-owned utilities in Colorado through numerous rulemakings. In addition, the Commission has considered and approved the specific Compliance Plans of Public Service in separate proceedings for the Compliance Years of 2006 through 2016. Because of the long history of this topic through the legislature, Commission rulemakings, and investor-owned utility compliance plans and reports, there has been much discussion by the Commission on the RES before this 2017 RE Plan was ever developed.

Q. PLEASE DESCRIBE THE RENEWABLE ENERGY STANDARD RULES PROMULGATED BY THIS COMMISSION.

A. The Commission enacted the Renewable Energy Standard Rules, which are codified at 4 CCR 723-3-3650 *et. seq*, ("RES Rules"), to implement the provisions of Amendment 37 and subsequent changes to the law described above. The statutory requirements of the RES are codified at C.R.S. §40-2-124. Legislative changes associated with the 2010 statutory changes were included in the rulemaking proceeding initiated by the Commission, Proceeding No. 10R-674E. More recent 2015 statutory changes are the subject of the pending Commission rulemaking, Proceeding No. 15R-0699E.

Commission Rule 3654 now requires Public Service to generate or cause to be generated through various purchases, standard offers or other forms of incentives, eligible energy in the following amounts:

Table 2. Renewable Energy Standard

Period	**RES**	**Distributed Generation (DG)**	**Retail Distributed Generation**
2015 – 2016	20% of retail sales	1.75% of retail sales	At least ½ of DG
2017-2019	20% of retail sales	2% of RES	At least ½ of DG
2020 and beyond	30% of retail sales	3% of retail sales	At least ½ of DG

Rule 3659 requires RECs be used to meet the Renewable Energy Standard. RECs are defined in Rule 3652(y). Rule 3654 currently contains a 25 percent multiplier for early eligible energy generated in Colorado. Since the passage of Amendment 37, there have been two changes made to this in-state multiplier. First, under Commission Rule 3654(f) in response to HB 10-1001, eligible energy generated by retail distributed generation for which a qualifying retail utility has entered into a purchase transaction prior to August 11, 2010, qualifies for the 1.25 multiplier, but otherwise retail distributed generation does not qualify for the 1.25 multiplier. The second change was created by SB 13-252 which eliminated any in-state preference; as a result all eligible energy, wherever generated, is entitled to the 1.25 multiplier, except for retail distributed generation and except for any facility beginning operation on or after January 1. 2015. So, in judging both planned compliance in advance of a calendar year (as in this 2017 RE Plan) and in confirming actual compliance after a Calendar year, the Commission looks at RECs generated in any calendar year, although the Company would note that one day the energy from Recycled Energy Resources maybe considered for compliance purposes. The Company retires RECs in sufficient quantities to meet its compliance obligations and has a software system in place to ensure that a REC is only used once, either for Compliance with the RES or for some other purpose.

Q. HAS THE COMPANY COMPLIED WITH THE RENEWABLE ENERGY STANDARD?

A. Yes. I am pleased to state the Company has complied with the RES every year, since 2007. Since 2006, the Company has presented to the Commission in its RES Compliance plans a proposal that allows us to meet and exceed the RES.

The Company has filed with the Commission annual compliance reports under Rule 3662 that demonstrate that the Company has met compliance.

Q. WILL PUBLIC SERVICE BE IN POSITION TO COMPLY WITH THE RES FOR COMPLIANCE YEARS 2017, 2018 AND 2019?

A. Yes. The Company is actually ahead of compliance in all categories of the standard (Retail DG, Wholesale DG, and Non-DG) and will be able to meet the 2017 through 2019 RES requirements without additional generation acquisitions. Notwithstanding that fact, this 2017 RE Plan requests additional increases in solar acquisition levels for our Solar*Rewards programs, in an economic manor without negatively impacting the RESA and leveraging ongoing rate evolutions.

IV. NON DG AND WHOLESALE DG ACQUISITIONS

Q. YOU MENTIONED THE COMPANY IS NOT REQUESTING AUTHORIZATION FOR ACQUIRING ADDITIONAL WHOLESALE DG OR NON DG UNDER THIS PLAN. PLEASE EXPLAIN.

A. As stated earlier, the Company's existing eligible energy resource allow us to exceed the RES beyond 2020. For example, the Company has acquired 234 MW of eligible energy resources that are classified as Wholesale DG that produces approximately 500,000 RECs annually while our compliance requirement is on average 296,000 RECs each year 2017 through 2019. These are listed in Tables 4-2 in Attachment RLK-2. Likewise, the Company also exceeds compliance with our non-DG eligible energy resources with the Non-DG resources providing just under 7.4 million RECs annually versus a compliance requirement of 5.3 million RECs on average.

V. RETAIL DG ACQUISITION

Q. WHAT ARE THE COMPANY'S PLANS FOR ACQUIRING CUSTOMER- SITED SOLAR?

A. In general, the Company meets our Retail DG requirement from our Solar*Rewards and Solar*Rewards Community programs (collectively called "Solar*Rewards Programs"). Since 2007 the Company has acquired 254 MW of Solar*Rewards program capacity resulting in the production of approximately 320,000 RECs on an annual basis which puts the Company beyond the RES compliance requirement for the retail DG component which requires approximately 296,000 RECs on average each year over 2017 – 2019.

To break it down, the Company has added by the end of 2015, 237 MW of Solar*Rewards since the start of our program in 2006 with acquisition plans for 2016 of 66 MW; furthering the Company's REC bank for Retail DG compliance. Our 2017 RE Plan for our rooftop programs is proposing to add 201 MW over 2017 through 2019.

Recently, the Company filed a Verified Motion seeking approval of a settlement agreement with Solar*Rewards Community developers awarded projects in our 2015 RFP. That settlement agreement, if approved, would provide for the acquisition of potentially an additional 59 MW (2016 CSG RFP) of Solar*Rewards Community projects: 29.5 MW associated with 2014 and 29.5 MW for 2016. The settlement provides that Public Service may participate in the ownership of up to 4 MW of CSGs awarded through the 2016 CSG RFP to the extent that Public Service engages independently or with other entities for low income subscriber participation through non-profit 501(c)(3) organization participation in a specific CSG.

In Section 5 in Attachment RLK-1 of the Plan, the Company sets forth a significant expansion of incremental Solar*Rewards beyond REC compliance needs but consistent with the statutory declaration for C.R.S. 40-2-124, that declares "…[i]t is in the best interest of the citizens of Colorado to develop and utilize renewable energy resources to the maximum practicable extent." Through this Plan, Public Service seeks to expand the options and capacity available for Small Solar*Rewards program; expand its Medium Solar*Rewards option, and reinstitute a Large Solar*Rewards program offering. Through this Plan we are committing to increase solar garden capacity that we take every year under our Plan through our Solar*Rewards Community program while also recommending a consistent program maximum of 30 MW each year. In totality the Plan detail in Section 5 proposes significant increases in the amount of capacity through our Solar*Rewards programs during 2017-2019. The Company provides program details related to the Solar*Rewards and Solar*Rewards Community programs through the testimony of Ms. Kerry Klemm.

Q. WHAT ARE THE PRINCIPAL CHANGES TO THE SMALL SOLAR PROGAM IN THIS 2017 RE PLAN?

A. We are expanding the Small Solar*Rewards program offerings in this 2017 RE Plan. We are proposing two Small Solar*Rewards options; Option A at 24 MW on an annual basis to reflect the current Small program today. Option B is a new offering which starts with 9 MW in 2017, increases to 18 MW in 2018 and 24

MW in 2019. As I explain below, the Option B program will be voluntary for customer who elect to be on the RDTOU Rate proposed in the Phase II rate case, Proceeding No. 16AL-0048E, and who elect to participate in Solar*Rewards. The gradual increase in capacity is to recognize this program option may have a slower adoption rate at the start and grow over time.

Q. ARE THE INCENTIVES UNDER THE TWO SMALL SOLAR*REWARDS OPTIONAL PROGRAMS DIFFERENT?

A. Yes. First, the two new options are in recognition of the new rate designs proposed under the Company's Electric Phase II rate design. We have proposed to adjust the REC incentive to compensate customer commensurate for any rate adjustment as a result of the fixed grid usage charge or a new demand rate class for R class customer. For the traditional Small Solar*Rewards program offering the REC incentive would compensate customers commensurate with a fixed grid usage charge assessed on customers who are taking retail electric service under the R Service schedule. In effect holding potential new solar customers indifferent to the new grid usage charge. For customers who would voluntarily elect to move to the new Residential Demand Time of Use Rate schedule (RD TOU) we proposed to offer a higher REC incentive again commensurate with the class average demand costs plus the fixed grid usage charge. Again, in effect holding potential new Option B solar customers indifferent to the new tariff rate. The details of these Options are discussed more fully in Ms. Klemm's testimony.

Q. ARE THE COMPANY'S PROPOSED CAPACITY AND PRICING LEVELS CONTINGENT ON RECEIVING THE APPROVALS IT SEEKS IN PHASE II?

A. In part. The Company recognizes the Phase II rate case was filed just over a month ago and will take time to adjudicate. Our proposed REC incentives under the Small Solar*Rewards program is based on the filed case. Should the Commission approve tariffs and rates that differ from the filed case, the Company requests that the incentives be reevaluated consistent with the decision affecting the R Service class tariff or the RDTOU tariff.

Q. WHAT ABOUT THE MEDIUM SOLAR*REWARDS PROGRAM?

A. At this time, we believe an expansion of the Medium Program offering is appropriate. For the Company's Medium program, we offered 12 MW in both 2015 and 2016at a rate of 3 MW per quarter. The capacity was fully subscribed before the end of each quarter. The Company also polled our employees who are responsible for managing the accounts of many of our larger customer regarding their current interest in adding solar to their facilities and received indication that there is interest in this program. The Company seeks to address this interest from these customers by offering 18 MW per year for the Medium program; a 6 MW increase in capacity every year above the 2015 and 2016 capacity offerings of the Medium program.

Q. WHAT ABOUT THE LARGE SOLAR*REWARDS PROGRAM?

A. The Company believes that there may be interest by some of our larger customers to participate in a Large Solar*Rewards program. The Large Solar*Rewards program will solicit projects under a Request for Proposal (RFP) for projects that are larger than 500 kW. Under the Large Program, the size limitation is dictated by the limitation in statute of being no more than 120 percent of the customer's annual consumption. The last time the Company offered any capacity under the Large Solar*Rewards Program was in the RFP issued in 2012. We plan on having the Large Solar*Rewards program ramp-up by offering 6 MW in 2017, 8 MW in 2018 and 10 MW in 2019.

Q. IS THE COMPANY PROPOSING TO ACQUIRE OTHER CUSTOMER SITED ELIGIBLE ENERGY RESOURCES UNDER THIS PLAN?

A. Yes, we are proposing to continue offering additional Solar*Rewards Community program and a Recycled Energy program.

Q. IS THE COMPANY PROPOSING A MINIMUM AND MAXIMUM FOR THE SOLAR*REWARDS COMMUNITY PROGRAM?

A. Yes, as stated earlier, the Company is proposing a minimum Solar*Rewards Community program of 10 MW with a maximum program size of 30 MW for each of the three years under the Plan. Over the three year 2017 RE Plan, an additional 30 MW up to possibly 90 MW of new capacity could be acquired under this program. As Mr. Hancock explains, the RES/No RES modeling included the costs of this program based on the maximum 30 MW each year for modeling purposes. Ms. Klemm discusses in more detail the use of an RFP for the acquisition of Solar*Rewards Community.

Q. WILL THE RFP REFLECT OFFERING SUBSCRIBERS THE CLASS AVERAGE BILL CREDIT?

A. Yes. As mentioned earlier, on February 24, 2016 the Company filed a Verified Motion seeking approval of a settlement agreement[1] between the successful 2015 Solar*Rewards Community RFP developers and the Company. The settlement is a comprehensive settlement which included agreement to alter subscriber's bill credits from individually calculating bill credits for demand class customers to a class average bill credit stated in our SRCS tariff. Should the Commission approve the tariff revisions filed with the settlement, the Company is anticipating that the class average bill credit will continue to apply to all Solar*Rewards Community subscribers as a result of any offer under the Company's 2017 RE Plan. Included in our motion to approve the settlement are the proposed changes to the SRCS tariff. The requested tariff changes in that Proceeding also require a variance of Rule3665 (c)(I)(B). The Company anticipates that the settlement will be approved well before this proceeding goes to a hearing, therefore we have not at this time requested any tariff changes, or associated rule waivers necessary to implement such changes at this time in this proceeding

Q. IS THE COMPANY INCLUDING A PROVISION IN THE SOLAR*REWARDS COMMUNITY GARDENS RFP FOR BOTH POSITIVE AND NEGATIVE BIDS?

A. Yes. The RFP process discussed in Section 5 will permit both positive and negative bid submittals which will be used in the evaluation of the bids. The

[1] See Proceeding No. 13A-0836E

Company believes that we should not limit the value developers put on the market opportunity of connecting to our system and providing subscriptions to our customers. We believe the market will set the appropriate opportunity cost. There should not be an artificial limitation on how a developer wishes to bid.

The Company recognizes that there has been concern from the solar industry in regards to Public Service considering negative RFP bids for Solar*Rewards Community. Although I am not a lawyer, I am not aware of any provision either Colorado statutes or Commission Rules that limits the terms under which the Company may acquire RECs. While the RES statute and RES Rules reference the "purchase" of "the electricity and renewable energy credits generated from one or more community solar gardens" both the rules and the statute are silent as to how the garden developer may structure its response to a competitive solicitation from the Company. The RECs that a utility is acquiring and that a developer is selling are not being transferred on a stand-alone basis, but are coupled with the production and delivery of energy to the grid. Effectively a garden developer, if selected by Public Service, obtains the benefit of three streams of revenue: from subscribers for the share of the garden that they purchase (a negotiated amount), from a utility for excess energy (at our average hourly incremental cost), and from the utility for RECs (based on CSG bid prices). In this context the Solar*Rewards Community contract provides for the Company's purchase of electricity and RECs and gives the developer a market opportunity, even if one component of the contract is set at a negative price. Therefore, the Company believes a REC transaction must not be viewed in isolation or that it has to be set at an some level above $0 to satisfy Commission rule because the REC transfer does not occur in isolation, but is part of a larger transaction that includes the production of electricity for the benefit of subscribers, the Company and garden owner as a result of being selected as a winning bidder.

VI. COST RECOVERY

Q. HOW DOES THE COMPANY RECOVER THE COSTS OF RENEWABLE ENERGY?

A. We recover the costs of renewable energy through a combination of the RESA deferred account and the ECA deferred account. This allocation is consistent with legislative directive as well as Commission rule. C.R.S. §40-2-124(1)(g), implemented by Commission Rule 3661, which establishes a maximum retail rate impact for the Renewable Energy Standard program of two percent of the total electric bill annually for each customer. The statute provides: "The retail rate impact shall be determined net of new alternative sources of electricity supply from non-eligible energy resources that are reasonably available at the time of the determination." Public Service developed a deferred account to track these incremental costs of the renewable energy acquired, called the Renewable Energy Standard Adjustment ("RESA") account. The RESA is a rate adjustment mechanism that currently adds 2% to each customer's total bill. The RESA deferred account tracks the revenues received from the RESA rider and the incremental costs of renewable energy incurred by the Company.

Only the incremental cost of eligible energy resources (sometime referred to in shorthand as "renewable energy" although Recycled Energy is still included in such shorthand) is paid through the RESA account. The non-incremental cost is paid through the Electric Commodity Adjustment. The non-incremental cost is equivalent to the cost of non-eligible energy resources that are displaced by the acquisition of the eligible energy resources. On Public Service's system, the non-incremental cost is sometimes referred to as the "avoided cost".

The incremental costs of eligible energy resources cannot be directly measured because the utility must compare the actual cost of the resource that is acquired with the hypothetical cost of the resource that it did not acquire (with the proverbial "road not taken.") As a consequence, the incremental costs that are paid through the RESA are determined by sophisticated computer modeling of Public Service's generation system and through the development of two plans, referred to in Commission Rule 3661(h) as the "RES Plan" and the "No RES Plan." Mr. Sam Hancock describes this modeling in more detail in his testimony as well as in Section 7 of the Plan.

The amount for eligible energy costs that match the costs of the avoided non-eligible energy resources are recovered through the ECA account and those costs above or "incremental" to the avoided non-eligible energy costs are recovered through the RESA account.

By continuing to recover only the incremental costs through the RESA, the RESA provides a ready check on whether the Company has complied with the two percent retail rate impact limit in Rule 3661(a).

Although the net incremental costs have always been positive and thus attributable to the RESA, should there ever be a negative net incremental cost, the Company would only charge costs to the ECA which are actual costs. The Company believes this is consistent with past Commission Decisions that required the Company to only charge customers the actual costs of an eligible energy resource cost. In other words, a net negative incremental charge would not be charged to the ECA and transferred to the RESA.

Q. IS THE RETAIL RATE IMPACT SECTION OF THE PLAN IN COMPLIANCE WITH THE COMMISSION RULE?

A. Yes, the Retail Rate Impact Section of the Plan is in compliance with Commission Rule 3661. Specifically, Rule 3661(a) provides that the net retail rate impact of Public Service's actions comply with the RES statute and Commission Rule if the RESA rate does not exceed two percent of the annual total electric bill for each retail customer. Public Service is not proposing to charge our customers more than a 2 percent RESA charge. In addition, Rule 3661(f) requires the Company to estimate the retail rate impact of its RES at the beginning of the Compliance Year and for a minimum of ten years after, and identify the funds needed to comply with the RES and retail rate impact rules. We provide this information in Section 7 of the Plan and related Table 7-2(c).

Q. PLEASE SUMMARIZE THE RETAIL RATE IMPACTS FOR PUBLIC SERVICE'S CUSTOMERS.

A. As required by both Commission Rule 3661 and C.R.S. §40-2-124(1)(g)(I), Public Service has completed a retail rate impact analysis. Beginning in January 2009, the RESA was increased to 2 percent pursuant to Decision No. C08-0203.[2] The revenues collected by the RESA are used to cover the incremental costs of eligible energy resources and program administration costs.

[2] Docket No. 08L-056E.

Q. DOES THE COMPANY PROPOSE TO MAINTAIN THE CURRENT ALLOCATION OF COST RECOVERY FOR RENEWABLES BETWEEN THE ECA AND RESA?

A. Yes. Public Service plans to use the same cost recovery mechanisms for our 2017 RE Plan that the Commission approved for prior Compliance Plans;[3] namely, (1) the ECA to recover the costs of Eligible Energy that match the costs of the avoided non-renewable resources and (2) the RESA to recover (a) the costs of the Eligible Energy that are incremental to the costs of the avoided non-renewable resources and (b) the program and administration costs. Included in the calculation of costs paid for by the ECA is an equivalent avoided cost for the solar production from our Solar*Rewards systems. Because the Solar*Rewards costs are charged to the RESA a separate calculation of the avoided costs equivalent to the production is performed and these costs are charged against the ECA and credited to the RESA.

Q. HAS THE COMPANY ALWAYS ALLOCATED THE SOLAR*REWARDS AVOIDED COST TO THE ECA?

A. Yes. Since the very first RES Compliance Plan, Proceeding No. 06A-478E, the Company has provided to the Commission a forecast of incremental costs as well as the amount of costs to be charged to the ECA. The Commission first approved this allocation of in Decision No. C07-0676.

[3] The Commission approved this cost recovery mechanism in Decision No. C09-1037 in Proceeding No. 08A-532E, R10-0586, C10-1033 and C12-0606 and reaffirmed it in Decisions No. R14-0902 and C14-1505.

Q. WHAT IS THE STATUS OF THE COMPANY'S RESA BALANCE AT THE END OF 2015?

A. The status of the deferred balance in the RESA at the end of 2015 is $39,583,522. The Company used this balance as the starting balance for the 10 year planning horizon set forth in Table 7-2(c) in Column V.

Q. DOES THE RESA REMAIN POSITIVE OVER THE 10 YEAR PLANNING HORIZON?

A. Yes. See Table 2.

Table No. 3. RESA Balance Table 7-2(c)

	RESA Rolling Balance (Deferred)
2015	39,583,522
2016	64,638,011
2017	36,188,360
2018	36,210,223
2019	56,574,095
2020	113,768,841
2021	191,921,872
2022	275,846,948
2023	367,596,986
2024	466,818,329
2025	573,011,274
2026	688,239,085

Q. IS THE COMPANY'S PLAN IN COMPLIANCE WITH RULE 3661(h)(V) ?

A. Yes. Rule 3661(h)(V) requires the Company to reset the avoided and incremental costs of Eligible Energy Resources in the Company's RE Plan after 2015. As Mr. Hancock explains in his Direct Testimony, the Company's current eligible energy resources have reset the assessed avoided cost and thus the incremental costs which is reflected in Tables 7-1 through 7-3. One note, the Commission locked down for the life of the asset the incremental costs of SunE Alamosa and Solar*Rewards acquired before October 2009. Table 7-2(c) summary reflects the unlocking of all Eligible Energy Resources excluding SunE Alamosa and the early Solar*Rewards systems.

VII. APPROVALS REQUESTED

Q. WHAT IS THE COMPANY REQUESTING THE COMMISSION APPROVE UNDER THIS APPLICATION?

A. Public Service has presented a comprehensive 2017 through 2019 Renewable Energy Plan for the Commission's consideration.

Public Service respectfully requests that the Commission approve the overall plan, including without limitation approval of:

- The Company's proposed acquisition levels, incentives, and program changes for Solar*Rewards and Solar*Rewards Community pending the outcome of the Phase II Rate Design in Proceeding No. 16AL-0048E.;
- The Company's proposed acquisition levels, incentives, Schedule RE tariff as well as associated tariff changes for Recycled Energy service.;
- The Company's proposed changes to the pricing of the Windsource program and associated tariff changes;
- The Company's modeled incremental and avoided costs for resources not previously locked down and the resetting of the lock down for modeled incremental and avoided costs of resources previously locked down, for the term of this Plan.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does

Statement of Qualifications

Robin Kittel

Experience	2001 – Present	*Xcel Energy Inc.*	Denver, Colorado
	Director, Regulatory and Strategic Analysis		May 2015 to present
	Director, Regulatory Administration		Sept 2006 – May 2015
	Director, Business Relations		August 2001- Sept 2006
	Manager, Policy Analysis		March 2001 – August 2001

As Director of Regulatory and Strategic Analysis, I am responsible for the regulatory and policy direction for Public Service Company of Colorado on environmental, transmission, and resource regulatory matters. In this capacity, I have testified before the Commission on previously filed RES Compliance Plans as well as other policy matters such as Innovative Clean Technologies, Transmission and Meter Testing Programs.

In my previous roles at Xcel Energy, I was responsible for our wholesale customers taking service under a number of different tariffs and rate schedules, which were administered under my supervision. Additionally, I was responsible for the coordination and effective participation in Regional Transmission Organization developments, implementation of new market rules and changes to reliability standards. I directed similar policy participation in other industry organizations such as Edison Electric Institute, North American Reliability Council, and North American Energy Standards Board. I represented Xcel Energy on key stakeholder committees with Southwest Power Pool (SPP) and Western Electricity Coordinating Council (WECC) board of directors; I chair the Market Operations Policy Committee for SPP and am a member of the WestConnect Steering Committee.

I actively participated in Federal Energy Regulatory Commission (FERC) activities such as rulemakings and other active dockets that effect Xcel Energy policies and practices. I provide Transmission policy comments on state jurisdictional legislative and regulatory matters as needed.

I am a registered Professional Engineer licensed in Texas.

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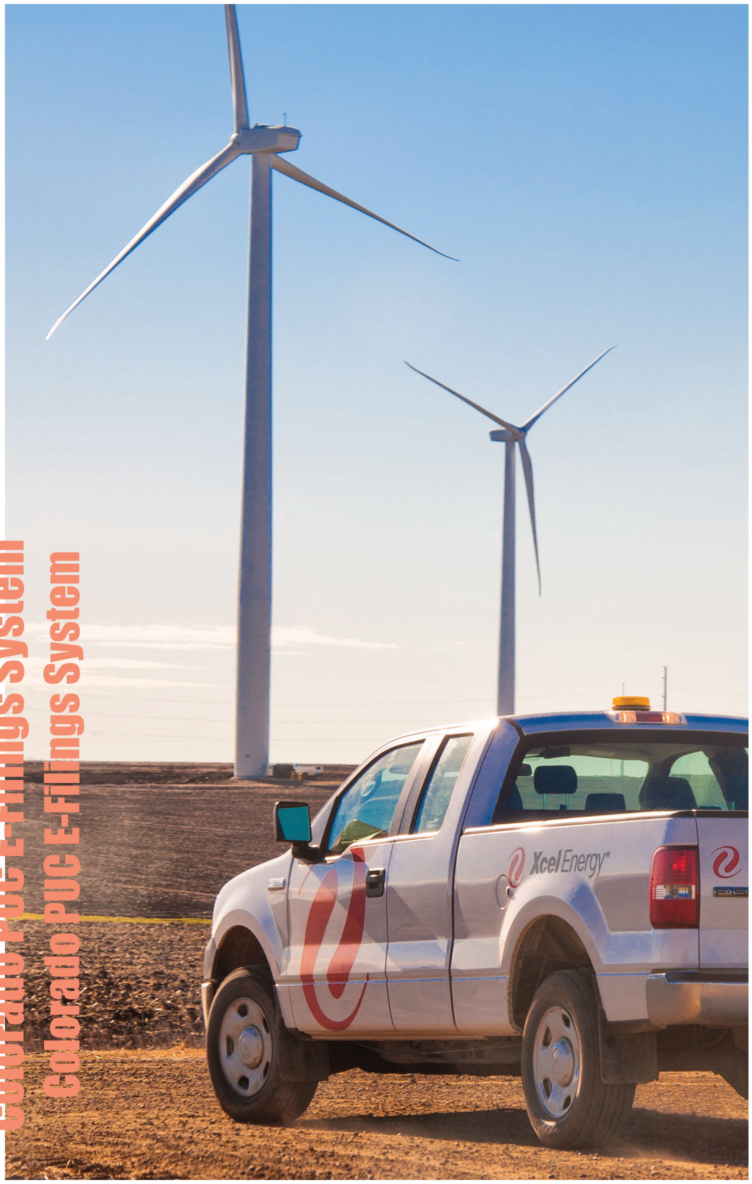

2017 Renewable Energy Plan

Public Service Company of Colorado | February 2016

Volume 2

Table 4-1 - Renewable Energy Plan Requirements Forecast
Public Service Company of Colorado
2017 Renewable Energy Standard Compliance Plan

Row	(a) Calendar Year	(b) Retail Sales (MWhs)	(c) RES[1] (Recycled Energy And RECs)	(d) RES DG Requirement (RECs Only)	(e) Retail DG Minimum (RECs Only)	(f) Wholesale DG Minimum (RECs Only)	(g) Non-DG Requirement (Recycled Energy And RECs)
1	2015	28,696,721	5,739,344	502,193	251,096	251,096	5,237,152
2	2016	29,038,422	5,807,684	508,172	254,086	254,086	5,299,512
3	2017	29,355,686	5,871,137	587,114	293,557	293,557	5,284,023
4	2018	29,546,862	5,909,372	590,937	295,469	295,469	5,318,435
5	2019	30,004,547	6,000,909	600,091	300,045	300,045	5,400,818
6	2020	30,617,950	9,185,385	918,539	459,269	459,269	8,266,847
7	2021	31,351,135	9,405,341	940,534	470,267	470,267	8,464,806
8	2022	31,571,658	9,471,497	947,150	473,575	473,575	8,524,348
9	2023	31,800,646	9,540,194	954,019	477,010	477,010	8,586,174
10	2024	32,053,198	9,615,959	961,596	480,798	480,798	8,654,363
11	2025	32,236,554	9,670,966	967,097	483,548	483,548	8,703,870
12	2026	32,440,281	9,732,084	973,208	486,604	486,604	8,758,876
13							
14	Checks		-	-	-	-	-
15							

Row	[1]RES Requirements	Total	DG
16	[1]RES Requirements		
17		Total	DG
18	2015	20%	1.75%
19	2016	20%	1.75%
20	2017	20%	2.00%
21	2018	20%	2.00%
22	2019	20%	2.00%
23	2020	30%	3.00%
24	2021	30%	3.00%
25	2022	30%	3.00%
26	2023	30%	3.00%
27	2024	30%	3.00%
28	2025	30%	3.00%
29	2026	30%	3.00%

Table 4-2 - Renewable Energy Credits Aquired/Sold/Retired
Public Service Company of Colorado
2017 Renewable Energy Standard Compliance Plan

Row				Capacity (MW) (1)	2015	FORECAST 2016	2017	2018	2019
	Column Reference								
Row	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	**Retail DG**								
2		Small Program			169,647	212,758	271,589	345,877	423,267
3		Medium Program			90,118	148,390	173,417	205,682	237,780
4		Large Program			43,220	41,828	41,612	49,766	63,458
5		Solar Rewards Community			17,389	25,631	81,303	139,485	213,184
6		REC Only			1,499	1,499	1,499	1,499	1,499
7	**Total Retail DG**				321,873	430,106	569,420	742,308	939,187
8									
9	**Wholesale DG**								
10									
11	**Utility Solar**								
12		Power Purchase w/RECs:							
13			SunE Alamosa	6.20	16,318	17,240	17,095	17,021	16,923
14			Greater Sandhill	19.00	44,419	46,059	45,704	45,473	45,242
15			SolarTAC	1.16	317	281	281	281	0
16			Cogentrix	30.00	57,222	63,252	62,763	62,446	62,129
17			San Luis Solar	30.00	74,015	76,930	76,353	75,967	75,582
18	**Total Utility Solar**				192,290	203,762	202,196	201,188	199,876
19									
20	**Biomass**								
21		Power Purchase w/RECs:							
22			WM Denver/Aurora Disposal Site	3.28	21,630	20,198	20,198	20,198	20,198
23	**Total Biomass**				21,630	20,198	20,198	20,198	20,198
24									
25	**Small Hydropower**								
26		Company-Owned Generation:							
27			Ames	3.60	9,737	9,500	9,500	9,500	9,500
28			Georgetown	1.44	4,580	4,430	4,430	4,430	4,430
29			Salida	1.31	870	1,714	1,714	1,714	1,714
30			Shoshone	14.40	78,454	85,000	85,000	85,000	85,000
31			Tacoma	4.50	1,460	9,490	9,990	9,990	9,990
32		Power Purchase w/RECs:							
33			Bridal Veil	0	0	0	0	0	0
34			Betasso/SL/Lakewood	10.00	26,985	29,215	8,918	0	0
35			Boulder Canyon	0	0	0	0	0	0
36			Grand Valley/Orchard Mesa	3.00	13,678	11,531	11,531	11,531	11,531
37			Kohler	0.15	726	669	0	0	0
38			Maxwell	0.07	540	0	0	0	0
39			Orodell	0.22	373	571	563	0	0
40			Sunshine	0.81	3,537	3,273	2,694	0	0
41			Dillon Dam	1.90	10,716	10,293	10,293	10,293	10,293
42			Foothills	2.30	5,170	5,527	5,527	5,527	5,527
43			Hillcrest	2.30	747	6,706	6,706	6,706	6,706
44			Roberts Tunnel	6.10	3,547	11,914	11,914	11,914	11,914
45			Strontia Springs	1.20	5,793	6,630	6,630	6,630	6,630
46			Gross Reservoir	8.10	21,627	18,171	18,171	18,171	18,171
47			Redlands	1.40	6,528	6,881	6,881	6,881	6,881
48			Stagecoach	0.80	3,745	0	0	0	0
49			Mt. Elbert	0	0	0	6,087	0	0
50	**Total Small Hydropower**				198,813	221,515	206,548	188,287	188,287

Retail DG (MW) Capacity	2015	FORECAST 2016	2017	2018	2019
Solar Rewards	233.32	255.00	299.13	360.58	431.67
Solar Rewards Community	16.56	20.97	25.47	55.46	85.45
Non Solar Rewards Connected	3.87	9.47	17.24	25.32	33.47

Row	Column Reference (b) (c) (d)	Capacity (MW) (1)	2015	FORECAST 2016	2017	2018	2019
Row	(b) (c) (d)	(e)	(f)	(g)	(h)	(i)	(j)
51							
52	**Wind**						
53	Company Owned Generation:						
54	Ponnequin II-VI	26.40	49,225	0	0	0	0
55	Power Purchase w/RECs:						
56	NREL Siemens	2.30	8,302	11,764	0	0	0
57	Northern Colorado Wind II	22.50	63,628	70,901	70,677	70,677	70,677
58	Ridgecrest	29.70	64,652	72,432	0	0	0
59	**Wholesale DG Wind**		185,807	155,098	70,677	70,677	70,677
60	**Total Wholesale DG**		598,540	600,573	499,618	480,350	479,037
61							
62	**Non-DG**						
63	**Recycled Energy**						
64	Power Purchase Offsetting Requirement:						
65	Recycled Energy	0	0	0	0	0	0
66	**Total Recycled Energy**		0	0	0	0	0
67							
68	**Wind**						
69	Power Purchase w/RECs:						
70	Cedar Creek	300.50	733,942	825,633	822,849	822,849	822,849
71	Cedar Creek II	250.80	654,250	750,932	748,400	748,400	748,400
72	Cedar Point	252.00	666,751	826,961	824,961	824,961	824,961
73	Colorado Green	162.00	408,125	463,409	462,384	462,384	35,636
74	Limon I	200.00	647,015	712,107	710,431	710,431	710,431
75	Limon II	200.00	556,173	630,955	629,438	629,438	629,438
76	Limon III	200.60	771,288	837,315	835,146	835,146	835,146
77	Logan	201.00	516,348	580,702	578,891	578,891	578,891
78	Northern Colorado Wind I	151.80	371,753	435,214	433,832	433,832	433,832
79	Peetz Table	199.50	554,361	617,144	615,215	615,215	615,215
80	Spring Canyon	60.00	179,442	196,013	195,644	195,644	195,644
81	Twin Buttes	75.00	227,373	236,194	235,689	235,689	235,689
82	**Total Non-DG Wind**		6,286,819	7,112,580	7,092,880	7,092,880	6,666,133
83							
84	**Solar**						
85	Comanche Solar	120.00	0	148,323	310,259	308,704	307,149
86	Solar Star	50.00	8,376	140,156	139,104	138,404	137,704
87	**Total Non-DG Solar**		8,376	288,479	449,363	447,108	444,853
88							
89	**Total Non-DG**		6,295,195	7,401,059	7,542,243	7,539,988	7,110,986
90							
91							
92	**Total Non Retail DG Renewable Resources**		6,893,736	8,001,632	8,041,861	8,020,338	7,590,023
93	**Total Renewable Resources**		7,215,608	8,431,738	8,611,281	8,762,645	8,529,210
94							
95	Wholesale Allocation		(465,380)	(477,436)	(497,533)	(510,174)	(463,897)
96	Retired for Windsource		(159,748)	(156,029)	(151,366)	(146,845)	(142,459)
97	RECs Sold		(788,051)	(209,425)	-	-	-
98							
99	**Total RECs Available**		5,802,429	7,588,848	7,962,382	8,105,626	7,922,854
100							
101	Compliance Requirements:						
102	Retail DG		251,096	254,086	293,557	295,469	300,045
103	Wholesale DG		251,096	254,086	293,557	295,469	300,045
104	Non-DG		5,237,152	5,299,512	5,284,023	5,318,435	5,400,818
105							
106	Compliance Obligation REC Carry Over		19,104,965	20,505,633	23,976,395	27,789,711	31,728,684
107	RECs Available		5,802,429	7,588,848	7,962,382	8,105,626	7,922,854
108	In State Bonus including qualified Retail DG		1,337,583	1,689,598	1,722,071	1,742,719	1,648,638
109	Add'l Community Based Bonus		0	0	0	0	0
110							
111	Total RECs Available for Compliance		26,244,977	29,784,079	33,660,848	37,638,056	41,300,176
112	RES / RECs Retired for Compliance		(5,739,344)	(5,807,684)	(5,871,137)	(5,909,372)	(6,000,909)
113	**RECs Carried Forward**		**20,505,633**	**23,976,395**	**27,789,711**	**31,728,684**	**35,299,267**

Table 4-3 - Planned Procurement of RECs
Public Service Company of Colorado
2017 Renewable Energy Standard Compliance Plan

Row	Calendar Year	Retail DG RECs (1)	Retail DG RECs Retired for Windsource	Retail DG RECs Sold (2)	Bonus RECs (3)	Community-Based Bonus RECs	Retail DG Total RECs	Wholesale DG RECs (1)	New Wholesale DG RECs (1)	Wholesale DG RECs Retired for Windsource
	Column Reference	a	b	c	d	e	f	g	h	i
	Calculation						(a - b - c + d + e)			
1	**2015**	321,873	-	-	23,816	-	345,689	542,812	-	-
2	**2016**	430,106	-	-	23,816	-	453,922	552,019	-	-
3	**2017**	569,420	-	-	23,816	-	593,236	465,842	-	-
4	**2018**	742,308	-	-	23,816	-	766,124	453,033	-	-
5	**2019**	939,187	-	-	23,816	-	963,003	453,020	-	-
6	**2020**	1,138,784	-	-	23,816	-	1,162,600	452,432	-	-
7	**2021**	1,338,289	-	-	23,816	-	1,362,105	448,363	-	-
8	**2022**	1,536,768	-	-	23,816	-	1,560,584	446,861	-	-
9	**2023**	1,734,220	-	-	23,816	-	1,758,036	437,400	-	-
10	**2024**	1,930,645	-	-	23,816	-	1,954,461	425,617	-	-
11	**2025**	2,126,044	-	-	23,816	-	2,149,860	414,048	-	-
12	**2026**	2,320,418	-	-	23,816	-	2,344,234	406,090	-	-

Row	Calendar Year	Wholesale DG RECs Sold (2)	Bonus RECs	Wholesale DG Total RECs	Existing Non-DG RECs (1)	New Non-DG RECs (1)	Recycled Energy	Non-DG Wind RECs Retired for Windsource	Non-DG RECs Sold (2)	Non-DG Bonus For RECs & Recycled Energy	Recycled Energy & Non-DG Total RECs
	Column Reference	j	k	l	m	n	o	p	q	r	s
	Calculation		((g + h - i - j) * 0.25)	(g + h - i - j + k)							(m + n + o - p - q + r)
1	**2015**	-	135,703	678,515	5,847,404	176,955	-	159,748	788,051	1,224,901	6,301,460
2	**2016**	-	138,005	690,024	6,656,505	1,288,192	-	156,029	209,425	1,572,763	9,152,006
3	**2017**	-	116,461	582,303	6,694,941	1,365,109	-	151,366	-	1,615,609	9,524,294
4	**2018**	-	113,258	566,291	6,689,512	1,361,875	-	146,845	-	1,615,137	9,519,679
5	**2019**	-	113,255	566,275	6,304,090	1,363,438	-	142,459	-	1,520,832	9,045,900
6	**2020**	-	113,108	565,540	6,283,297	1,363,890	-	129,137	-	1,518,685	9,036,736
7	**2021**	-	112,091	560,454	6,258,460	1,356,587	-	125,280	-	1,513,134	9,002,901
8	**2022**	-	111,715	558,576	6,250,753	1,352,790	-	121,540	-	1,511,757	8,993,760
9	**2023**	-	109,350	546,750	6,243,503	1,349,098	-	117,912	-	1,510,492	8,985,181
10	**2024**	-	106,404	532,021	6,254,023	1,349,033	-	114,392	-	1,513,599	9,002,262
11	**2025**	-	103,512	517,560	6,229,646	1,341,867	-	110,978	-	1,508,081	8,968,615
12	**2026**	-	101,523	507,613	6,070,314	1,337,947	-	107,667	-	1,468,660	8,769,254

Notes:

(1) RECs presented are net of wholesale transfers and City of Boulder transfers (if applicable) and do not include in-state bonus

(2) RECs sold based on executed transactions by vintage

(3) Bonus applied to retail DG based on purchase transactions entered into prior to August 11, 2010

Table 4-4 - Planned Procurement of Solar Connect RECs
Public Service Company of Colorado
2017 Renewable Energy Standard Compliance Plan

Row	Calendar Year	Solar Connect RECs	Non-DG RECs Retired for Solar Connect(1)	RECS Remaining
	Column Reference Calculation	**a**	**b**	**c (a-b)**
1	**2015**	-	-	0
2	**2016**	-	-	0
3	**2017**	-	-	0
4	**2018**	115,592	115,592	0
5	**2019**	115,014	115,014	0
6	**2020**	114,667	114,667	0
7	**2021**	113,858	113,858	0
8	**2022**	113,280	113,280	0
9	**2023**	112,702	112,702	0
10	**2024**	112,350	112,350	0
11	**2025**	111,546	111,546	0
12	**2026**	110,968	110,968	0

Notes:
(1) Solar Connect RECs Retired on behalf of customers

Table 7-1

Public Service Company of Colorado

Renewable Energy Standard Adjustment Estimate
For the Years 2016-2026

Table 7-1

Renewable Resource Costs
Base Case (NO CARBON)
($000)

	UNLOCKED Renewable Resources			LOCKED Renewable Resources			
Year	**Total** Costs to be Recovered	**Incremental** Costs Recovered by RESA	**Avoided** Costs Recovered by ECA	**Total** Costs to be Recovered	**Incremental** Costs Recovered by RESA	**Avoided** Costs Recovered by ECA	
2016	$93,691	$14,677	$79,014	$182,767	$28,289	$154,478	
2017	$282,817	$96,134	$186,683	$6,241	$1,572	$4,668	[1]
2018	$294,977	$67,250	$227,726	$6,206	$1,430	$4,776	
2019	$306,143	$48,577	$257,566	$6,166	$1,343	$4,823	
2020	$318,786	$14,984	$303,801	$6,142	$1,005	$5,137	
2021	$329,754	($26,569)	$356,324	$6,093	$760	$5,332	
2022	$341,304	($45,274)	$386,578	$6,059	$1,080	$4,978	
2023	$352,546	($38,291)	$390,837	$6,019	$1,026	$4,993	
2024	$364,449	($48,534)	$412,983	$5,995	$850	$5,145	
2025	$375,046	($73,170)	$448,216	$5,947	$748	$5,199	
2026	$386,360	($75,774)	$462,134	$5,913	$633	$5,280	

[1] The grey shading denotes the costs for Northern Colorado I, Northern Colorado II, Solar Rewards Jan-Sept 2009, Cedar Creek II, Cedar Point, Iberdrola (aka San Luis Solar), Greater Sand Hill, Limon I and Limon II are presented as unlocked in this RE Plan. As such, for the greyed years the costs for these resources will move from the Locked to the Unlocked columns and will have their incremental costs calculated using current modeling assumptions.

Table 7-2 (a)

Public Service Company of Colorado

Renewable Energy Standard Adjustment Estimate
For the Years 2016-2026

2017 Renewable Energy Plan
UNLOCKED Renewable Resources Incremental and Avoided Costs
Base Case (NO CARBON)

A	B	C	D	E	F	G	H	I	J	K	L	M		
	Unlocked Renewable Resources except On-Site Solar						Unlocked On-Site Solar			Unlocked Totals				
	Central Solar Total Cost	Wind Total Cost	Other Renewable Total Cost	Total Cost (B+C+D)	B, C, D Modeled Incremental Cost [1]	B,C,D Calculated Avoided Cost (E-F) [2]	On-Site Solar Total Cost	Modeled On-Site Solar Avoided Cost [2]	Calculated On-Site Solar Incremental Cost (H-I) [1]	Total Costs (E+H)	Incremental Costs (F+J) [1]	Avoided Costs (G+I) [2]		
2016	15,902,314	53,093,116	0	68,995,430	7,765,108	61,230,322	24,695,610	17,784,158	6,911,452	93,691,040	14,676,560	79,014,480		2016
2017	42,792,428	210,445,515	0	253,237,943	89,521,966	163,715,977	29,578,903	22,966,659	6,612,244	282,816,846	96,134,210	186,682,637	[3]	2017
2018	44,702,258	214,240,949	0	258,943,207	62,892,589	196,050,618	36,033,658	31,675,788	4,357,870	294,976,865	67,250,460	227,726,406		2018
2019	44,607,454	218,111,229	0	262,718,684	47,037,503	215,681,180	43,424,068	41,884,934	1,539,133	306,142,751	48,576,637	257,566,115		2019
2020	44,619,409	222,717,469	0	267,336,877	20,196,623	247,140,255	51,448,969	56,661,191	(5,212,222)	318,785,846	14,984,400	303,801,446		2020
2021	44,420,987	226,168,042	0	270,589,029	(11,422,848)	282,011,877	59,165,413	74,311,682	(15,146,269)	329,754,442	(26,569,117)	356,323,559		2021
2022	44,330,139	230,348,340	0	274,678,479	(22,763,189)	297,441,668	66,625,161	89,136,102	(22,510,941)	341,303,639	(45,274,131)	386,577,770		2022
2023	44,240,090	234,615,455	0	278,855,545	(14,022,570)	292,878,115	73,690,217	97,958,478	(24,268,262)	352,545,761	(38,290,832)	390,836,593		2023
2024	44,256,414	239,665,357	0	283,921,771	(16,356,665)	300,278,436	80,527,101	112,704,637	(32,177,536)	364,448,872	(48,534,201)	412,983,073		2024
2025	44,063,997	243,482,842	0	287,546,839	(30,695,749)	318,242,588	87,499,026	129,972,926	(42,473,900)	375,045,865	(73,169,649)	448,215,514		2025
2026	43,977,856	248,085,180	0	292,063,036	(26,583,187)	318,646,223	94,296,744	143,487,741	(49,190,996)	386,359,781	(75,774,183)	462,133,964		2026

[1] Incremental costs of renewable resources are recovered through the RESA.

[2] Avoided costs of renewable resources are recovered through the ECA.

[3] The grey shading denotes the costs for Northern Colorado I, Northern Colorado II, Solar Rewards Jan-Sept 2009, Cedar Creek II, Cedar Point, Iberdrola (aka San Luis Solar), Greater Sand Hill, Limon I and Limon II are presented as unlocked in this RE Plan. As such, for the greyed years the costs for these resources will move from the Locked table (7-3b) to the Unlocked table (7-3a) and will have their incremental costs calculated using current modeling assumptions.

Table 7-2 (b)

Public Service Company of Colorado

Renewable Energy Standard Adjustment Estimate
For the Years 2016-2026

2017 Renewable Energy Plan
LOCKED Renewable Resources Incremental and Avoided Costs
Base Case (NO CARBON)

A	B	C	D	E	F	G	H	I	J	K	L	M		
	Locked Renewable Resources except On-Site Solar						Locked On-Site Solar			Locked Totals				
	Central Solar Total Cost	Wind Total Cost	Other Renewable Total Cost	Total Cost (B+C+D)	B, C, D Locked Incremental Cost [1]	B,C,D Calculated Avoided Cost (E-F) [2]	On-Site Solar Total Cost	Locked On-Site Solar Avoided Cost [2]	Calculated On-Site Solar Incremental Cost (H-I) [1]	Total Costs (E+H)	Incremental Costs (F+J) [1]	Avoided Costs (G+I) [2]		
2016	20,852,902	157,840,448	0	178,693,350	28,715,290	149,978,059	4,073,860	4,499,795	(425,935)	182,767,210	28,289,356	154,477,854		2016
2017	3,743,863	0	0	3,743,863	2,094,000	1,649,863	2,496,940	3,018,562	(521,623)	6,240,803	1,572,377	4,668,425	[3]	2017
2018	3,727,656	0	0	3,727,656	2,052,000	1,675,656	2,478,580	3,100,210	(621,631)	6,206,236	1,430,369	4,775,866		2018
2019	3,706,047	0	0	3,706,047	1,989,000	1,717,047	2,460,360	3,106,401	(646,041)	6,166,407	1,342,959	4,823,448		2019
2020	3,699,694	0	0	3,699,694	1,911,000	1,788,694	2,442,280	3,348,211	(905,931)	6,141,974	1,005,069	5,136,905		2020
2021	3,668,229	0	0	3,668,229	1,846,000	1,822,229	2,424,350	3,509,865	(1,085,515)	6,092,580	760,485	5,332,094		2021
2022	3,652,022	0	0	3,652,022	1,947,000	1,705,022	2,406,560	3,273,411	(866,851)	6,058,582	1,080,149	4,978,433		2022
2023	3,630,412	0	0	3,630,412	1,928,000	1,702,412	2,388,910	3,290,804	(901,894)	6,019,322	1,026,106	4,993,217		2023
2024	3,623,859	0	0	3,623,859	1,928,000	1,695,859	2,371,400	3,449,032	(1,077,632)	5,995,259	850,368	5,144,890		2024
2025	3,592,595	0	0	3,592,595	1,928,000	1,664,595	2,354,030	3,534,330	(1,180,300)	5,946,625	747,700	5,198,925		2025
2026	3,576,389	0	0	3,576,389	1,928,000	1,648,389	2,336,800	3,631,652	(1,294,852)	5,913,189	633,148	5,280,041		2026

[1] Incremental costs of renewable resources are recovered through the RESA

[2] Avoided costs of renewable resources are recovered through the ECA

[3] The grey shading denotes the costs for Northern Colorado I, Northern Colorado II, Solar Rewards Jan-Sept 2009, Cedar Creek II, Cedar Point, Iberdrola (aka San Luis Solar), Greater Sand Hill, Limon I and Limon II are presented as unlocked in this RE Plan. As such, for the greyed years the costs for these resources will move from the Locked table (7-3b) to the Unlocked table (7-3a) and will have their incremental costs calculated using current modeling assumptions.

Table 7-2 (c)

Public Service Company of Colorado
Renewable Energy Standard Adjustment Estimate
For the Years 2016-2026

RESA Revenue %	
2.000%	2016
2.000%	2026

2017 Renewable Energy Plan
Estimated RESA Balance
Base Case (NO CARBON)

A	B	C	D	E	F	G	H	I	J	K	L	M
	Renewable Resource Total Costs		RESA Related Costs			RESA Related Revenues/Credits				ECA Related Costs		
	Unlocked Costs (Table 7-2a, Col K)	Locked Costs (Table 7-2b, Col K)	Unlocked Incremental Costs (Table 7-2a, Col L)	Locked Incremental Costs (Table 7-2b, Col L)	RESA Program & Admin Costs	RESA Rider Revenue	WindSource Revenue	REC Margin Revenue	Wholesale Customer RESA RJA Credit	Unlocked Avoided Costs (Table 7-2a, Col M)	Locked Avoided Costs (Table 7-2b, Col M)	
2016	93,691,040	182,767,210	14,676,560	28,289,356	838,403	56,768,819	3,772,742	964,178	3,248,875	79,014,480	154,477,854	2016
2017	282,816,846	6,240,803	96,134,210	1,572,377	864,333	58,322,086	2,810,940		6,690,461	186,682,637	4,668,425	2017
2018	294,976,865	6,206,236	67,250,460	1,430,369	1,020,921	59,515,860	3,064,170		4,844,415	227,726,406	4,775,866	2018
2019	306,142,751	6,166,407	48,576,637	1,342,959	1,049,749	60,950,796	3,190,800		3,599,446	257,566,115	4,823,448	2019
2020	318,785,846	6,141,974	14,984,400	1,005,069	1,081,241	62,155,276	3,241,440		1,644,985	303,801,446	5,136,905	2020
2021	329,754,442	6,092,580	(26,569,117)	760,485	1,113,678	63,398,381	3,292,095		(723,531)	356,323,559	5,332,094	2021
2022	341,303,639	6,058,582	(45,274,131)	1,080,149	1,147,089	64,666,349	3,342,735		(1,598,920)	386,577,770	4,978,433	2022
2023	352,545,761	6,019,322	(38,290,832)	1,026,106	1,181,501	65,959,676	3,393,390		(943,612)	390,836,593	4,993,217	2023
2024	364,448,872	5,995,259	(48,534,201)	850,368	1,216,946	67,278,869	3,444,030		(1,142,203)	412,983,073	5,144,890	2024
2025	375,045,865	5,946,625	(73,169,649)	747,700	1,253,455	68,624,447	3,494,685		(2,309,558)	448,215,514	5,198,925	2025
2026	386,359,781	5,913,189	(75,774,183)	633,148	1,291,058	69,996,935	3,545,325		(2,014,214)	462,133,964	5,280,041	2026

N O

	P	Q	R
	Totals		
	Total Renewable Resource Costs (B+C)	Total RESA Costs (D+E+F)	Total RESA Revenue (G+H+I+J)
2015			
2016	276,458,250	43,804,319	64,754,615
2017	289,057,649	98,570,920	67,823,487
2018	301,183,101	69,701,750	67,424,444
2019	312,309,159	50,969,344	67,741,041
2020	324,927,820	17,070,711	67,041,701
2021	335,847,022	0	65,966,945
2022	347,362,221	0	66,410,164
2023	358,565,084	0	68,409,454
2024	370,444,131	0	69,580,696
2025	380,992,490	0	69,809,573
2026	392,272,969	0	71,528,046

S	T	U	V	
Calculations				
Annual Excess/ (Deficiency) (R-Q)	Interest	Annual Excess/ (Deficiency) w/ Interest (S+T)	RESA Rolling Balance (Deferred)	
			39,583,522	2015
20,950,296	4,104,193	25,054,489	64,638,011	2016
(30,747,433)	2,297,781	(28,449,651)	36,188,360	2017
(2,277,306)	2,299,169	21,864	36,210,223	2018
16,771,697	3,592,174	20,363,871	56,574,095	2019
49,970,990	7,223,757	57,194,747	113,768,841	2020
65,966,945	12,186,086	78,153,031	191,921,872	2021
66,410,164	17,514,912	83,925,076	275,846,948	2022
68,409,454	23,340,584	91,750,038	367,596,986	2023
69,580,696	29,640,647	99,221,343	466,818,329	2024
69,809,573	36,383,372	106,192,945	573,011,274	2025
71,528,046	43,699,766	115,227,812	688,239,085	2026

Interest Rate	6.780%

Table 7-3 (a)

Public Service Company of Colorado
Renewable Energy Standard Adjustment Estimate
For the Years 2016-2026

Locked Incremental Costs (Transferred from the ECA to the RESA)

	Total Incremental Cost ($000)			Incremental Cost ($/MWh)	
	SunE Alamosa [1]	NCW - 151 MW	NCW - 23 MW	NCW - 151 MW	NCW - 23 MW
2016	2,260	51	380	0.12	5.36
2017	2,208				
2018	2,185				
2019	2,161				
2020	2,094				
2021	2,052				
2022	1,989	Incremental Resource Cost Unlocked			
2023	1,911				
2024	1,846				
2025	1,947				
2026	1,928				

	Total Incremental Cost ($000)						Incremental Cost ($/MWh)					
	Cedar Creek II	Cedar Point	Iberdrola	Greater SandHill	Limon I	Limon II	Cedar Creek II	Cedar Point	Iberdrola	Greater SandHill	Limon I	Limon II
2016	10,215	16,091	5,469	3,335	(5,958)	(3,030)	13.60	19.46	71.09	72.40	(8.37)	(4.80)
2017												
2018												
2019												
2020												
2021												
2022				Incremental Resource Cost Unlocked								
2023												
2024												
2025												
2026												

Locked Avoided Costs (Transferred from the RESA to the ECA)

	Total Avoided Cost ($000)		Avoided Cost ($/MWh)
	Solar Rewards Prior to 2009 [1]	Solar Rewards Jan-Sept 2009	Solar Rewards Jan-Sept 2009
2016	2,924	1,576	109.78
2017	3,019		
2018	3,100		
2019	3,106		
2020	3,348		
2021	3,510		
2022	3,273	Avoided Resource Cost Unlocked	
2023	3,291		
2024	3,291		
2025	3,291		
2026	3,291		

[1] Locked down costs in Docket No. 08A-532E were locked on a total dollar basis

Table 7-3 (b)

Public Service Company of Colorado
Renewable Energy Standard Adjustment Estimate
For the Years 2016-2026

Locked Incremental Costs (Transferred from the ECA to the RESA)

Approved Plan	Resource	Description	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2009 RES Plan	SunE Alamosa [1]	Incremental Cost ($000)	$ 2,161	$ 2,094	$ 2,052	$ 1,989	$ 1,911	$ 1,846	$ 1,947	$ 1,928	$ 1,928	$ 1,928	$ 1,928
2010 RES Plan	NCW - 151 MW	Locked Inc Cost ($/MWh)	$ 0.12					Incremental Resource Cost Unlocked					
		Expected Generation (MWh)	435,214										
		Incremental Cost ($000)	$ 51										
	NCW - 23 MW	Locked Inc Cost ($/MWh)	$ 5.36										
		Expected Generation (MWh)	70,901										
		Incremental Cost ($000)	$ 380										
2012 RES Plan	Cedar Creek II	Locked Inc Cost ($/MWh)	$ 13.60					Incremental Resource Cost Unlocked					
		Expected Generation (MWh)	750,932										
		Incremental Cost ($000)	$ 10,215										
	Cedar Point	Locked Inc Cost ($/MWh)	$ 19.46										
		Expected Generation (MWh)	826,961										
		Incremental Cost ($000)	$ 16,091										
	Iberdrola	Locked Inc Cost ($/MWh)	$ 71.09										
		Expected Generation (MWh)	76,930										
		Incremental Cost ($000)	$ 5,469										
	Greater Sandhill	Locked Inc Cost ($/MWh)	$ 72.40										
		Expected Generation (MWh)	46,059										
		Incremental Cost ($000)	$ 3,335										
	Limon I	Locked Inc Cost ($/MWh)	$ (8.37)										
		Expected Generation (MWh)	712,107										
		Incremental Cost ($000)	$ (5,958)										
Limon II Application	Limon II	Locked Inc Cost ($/MWh)	$ (4.80)					Incremental Resource Cost Unlocked					
		Expected Generation (MWh)	630,955										
		Incremental Cost ($000)	$ (3,030)										
Total Locked Incremental Costs			$ 28,715	$ 2,094	$ 2,052	$ 1,989	$ 1,911	$ 1,846	$ 1,947	$ 1,928	$ 1,928	$ 1,928	$ 1,928

Locked Avoided Costs (Transferred from the RESA to the ECA)

Approved Plan	Resource	Description	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2009 RES Plan	On-Site Solar (Pre-2009) [1]	Locked Avoided Cost ($000)	$ 2,924	$ 3,019	$ 3,100	$ 3,106	$ 3,348	$ 3,510	$ 3,273	$ 3,291	$ 3,449	$ 3,534	$ 3,632
2010 RES Plan	On-Site Solar (Jan - Sept 2009)	Locked Avoided Cost ($/MWh)	$ 109.78					Avoided Resource Cost Unlocked					
		Expected Generation (MWh)	14,356										
		Locked Avoided Cost ($000)	$ 1,576										
Total Locked Avoided Costs			$ 4,500	$ 3,019	$ 3,100	$ 3,106	$ 3,348	$ 3,510	$ 3,273	$ 3,291	$ 3,449	$ 3,534	$ 3,632

[1] Locked down costs in Docket No. 08A-532E were locked on a total dollar basis

RE: In the Matter of the Application of Public Service Company of Colorado for Approval of its Solar*Connect Program	))))))	**Sixth Discovery Request of the Energy Freedom Coalition of America Served on Public Service Company**
PROCEEDING NO. 16A-0055E	)	**May 4, 2016**

DISCOVERY REQUEST EFCA6-5:

Please reference the Direct Testimony of Public Service's witness Ms. Alice Jackson, page 21, lines 23-25, where Ms. Jackson states, "Public Service will assume certain risks as part of offering this program. In return, Public Service likewise should have an opportunity to retain a limited amount of excess revenues."

a. Are the risks that Public Service would assume as a part of the Solar*Connect program the Company's sole justification for why it should have an opportunity to retain a limited amount of excess revenues?

b. If the answer to part a. is "no," please list and explain all reasons that Public Service believes it should have an opportunity to retain a limited amount of excess revenues from the Solar*Connect program, other than the risks that Ms. Jackson refers to in the referenced testimony.

RESPONSE:

a. Yes, all the program risks as detailed in testimony support the opportunity for the Company to retain the limited amount of excess revenues.

b. Not applicable.

Sponsor: Alice K. Jackson **Date:** May 16, 2016