



# 2016 Renewable Energy Standard Compliance Report

Public Service Company of Colorado | June 2017

**Proceeding No. 13A-0836E**

# **2016 RENEWABLE ENERGY STANDARD**

## **COMPLIANCE REPORT**

### **I. Statement of RES Compliance & Introduction**

Public Service Company of Colorado (“Public Service” or the “Company”) is pleased to report that the Company is in compliance with the Colorado 2016 Renewable Energy Standard (“RES”) standard. For 2016, the RES required that 20 percent of the Company’s electric energy sales be served from renewable energy, with 1.75 percent from distributed generation. One-half of the distributed generation must be from Retail Distributed Generation. As a result of acquiring the generation described below, Public Service has sufficient RECs to meet its RES obligation for the 2016 compliance year. Public Service also projects that under RES standards it will have sufficient 1) Non DG RECs from existing Eligible Energy Resources for RES compliance well beyond 2020; 2) Wholesale DG RECs from existing Eligible Energy Resources to comply with the RES beyond 2020; and 3) Retail DG RECs from existing customer sited solar resource as well as existing acquisition commitments under Solar\*Rewards and Solar\*Rewards Community programs to comply with the RES beyond 2020.

Pursuant to Colorado Public Utilities Commission (the “Commission”) Rule 3662, investor-owned Qualifying Retail Utilities (“QRUs”) like Public Service are required to file an annual Compliance Report (“Report”) that contains the information set forth in Rule 3662. In general, the Report is designed to give the Commission a status on the QRU’s compliance with the renewable energy standard for the most recently completed compliance year.

Upon receipt of the annual compliance report, the Commission is to provide notice to interested persons who have 30 days within which to provide comment to the Commission on the content of the annual compliance report. The QRU shall then have the opportunity to reply to all comments on or before 45 days following the filing of the annual compliance report.

Within sixty days after the Report is filed, Staff is to make a recommendation as to whether:

- (1) no action should be taken because the QRU has met the standard and correctly calculated the on-going annual net incremental costs for new eligible energy resources;
- (2) changes are needed to the report; or,
- (3) a hearing is required.

Once Staff has made its recommendations, the Commission then enters an order stating whether:

- (1) The QRU complied with the renewable energy standard during the most recently completed compliance year;
- (2) The QRU satisfied the requirements for renewable distributed generation during the most recently completed compliance year;
- (3) The QRU has correctly calculated the on-going annual net incremental costs for new eligible energy resources; and,
- (4) A hearing is necessary.

Public Service is providing this Report in compliance with Rule 3662, which demonstrates that we are in compliance with Colorado's 2016 Renewable Energy

Standard, consistent with the Company's Commission-approved 2014-2016 RES Compliance Plan ("2014 Plan") (Proceeding No. 13A-0836E). The 2014 RES Plan was approved in Decision Nos. R14-0902, C14-1505 and C15-0142.

## **II. Overview of the Company's Efforts to Meet the Renewable Energy Standard**

In addition to meeting the Renewable Energy Standard requirements for 2016, Public Service remains well-positioned to meet the Colorado RES over the next several years. The RES requires the Company to generate 30 percent of electric retail sales from renewable resources by 2020, with 3 percent of that energy coming from renewable distributed generation. The Company's compliance strategy and acquisition of eligible energy resources reflects a desire to protect the environment, provide customers with renewable energy choices that they want and value, and follow through on our commitment to provide safe, reliable and increasingly clean energy at a competitive price. In this portion of the Report, we briefly describe and summarize some of our efforts to meet these commitments.

### **A. Wind**

Wind energy continues to play a significant role in Xcel Energy's renewable energy portfolio. Our early actions to add wind energy at competitive prices and proactively comply with state standards have benefitted our customers and our state. Xcel Energy continues to be recognized as the nation's No. 1 utility wind provider for 12 consecutive years by the American Wind Energy Association, a national trade association.

Wind energy on Xcel Energy's systems has nearly doubled since 2010. Last year wind energy made up nearly 23 percent of Public Service Company of Colorado's energy supply. At the end of 2016, Public Service had more than 2,500 megawatts of wind energy capacity on its system and Xcel Energy had nearly 6,700 megawatts of wind across its various utility operating companies.

Under our ‘steel for fuel’ strategy, we are building new wind farms that will result in billions of dollars in future fuel savings for customers. The savings are currently so significant because of low wind prices and federal tax credits. In 2016, the Company garnered widespread support and received approval of its proposal to build, own and operate the 600 megawatt (“MW”) Rush Creek Wind Project – one of the state’s largest wind generation facilities to be located on Colorado’s wind-rich eastern plains. Construction began in spring of 2017 and will be complete in 2018. It is expected to save customers over \$400 million through the life of the project.

Our ongoing efforts to improve system operations through better forecasting and other measures have resulted in system records in terms of the amount of wind energy available to serve customers. Wind equipped with automatic generation controls can quickly ramp up or down to help balance and respond to generation needs on the system.

With more wind capacity than any other U.S. utility, we have invested in advanced forecasting and operating practices that make wind energy more predictable and easier to manage. Xcel Energy has used WindWX since 2009—one of the most advanced wind-production forecasting systems in the world. Through a multi-year research and development project with Global Weather Corp. (GWC), an affiliate company of the National Center for Atmospheric Research (NCAR), we helped develop this highly detailed wind-forecasting system.

Wind generation is difficult to forecast due to its variability. Most weather forecasting models are designed to generate information about winds near ground level rather than at 200 to 300 feet, where turbine hubs are typically located. Also, landscape

features such as hills and trees can reshape wind speeds and directions, causing turbulence in ways that can greatly influence the amount of energy produced.

The WindWX system uses real-time, turbine-level operating data and applies sophisticated algorithms to forecast the amount of wind power that will be produced. Through ongoing work with GWC, forecasts for a 168-hour period are provided every 15 minutes across Xcel Energy's entire service territory—from the hills of western Minnesota to the plains of eastern Colorado and the Texas Panhandle.

The forecasts, now available worldwide through GWC, are designed to help utilities make better commitment and dispatch decisions, including opportunities to power down less efficient power plants when sufficient winds are forecasted to help meet customer electric demands. So far, we have improved our wind forecasting accuracy by nearly 39 percent, and better forecasting and other operational improvements have saved our customers more than \$66 million in fuel costs through the end of 2016.

We continue to set new daily and hourly system records for wind generation because of our significant capacity and ongoing efforts to improve integration. For example, on April 6, 2016, we achieved an hourly record in Colorado when wind generation provided more than 67 percent of load served.

## **B. Solar**

We are also committing to, and integrating, solar in ever increasing levels. By the end of 2016, we had increased universal solar capacity on our system fourfold compared to 2013. Today, the Company utilizes a combination of cost-effective large scale solar projects and community and privately owned rooftop solar options. Public

Service has a growing number of renewable solutions to offer our customers, including Solar\*Rewards<sup>®</sup>, Solar\*Rewards<sup>®</sup> Community<sup>®</sup>, and Renewable\*Connect<sup>®</sup> in addition to Windsource<sup>®</sup>.

Xcel Energy is committed to developing solar resources at the best price to benefit the greatest number of customers across the state. The Company purchases large-scale solar generation from sizable solar installations in the San Luis Valley in south-central Colorado. These installations include the SunEdison facility (6.95 megawatt<sub>AC</sub>), the SunPower Greater Sandhill facility (19 megawatt<sub>AC</sub>), the Iberdrola Renewables San Luis Valley Solar facility (30 megawatt<sub>AC</sub>), the Solar Technology Acceleration Center (Solar TAC) (.99 megawatt<sub>AC</sub>), and the Cogentrix Alamosa Solar Generating Project (30 megawatt<sub>AC</sub>). In 2016, Solar Star III (50 megawatt<sub>AC</sub>) and Comanche Solar (120 megawatt<sub>AC</sub>) came online.

The Comanche Solar Project approved under the 2013 All-Source Solicitation achieved commercial operation in 2016. This 120-megawatt<sub>AC</sub> project with approximately 450,000 photovoltaic panels was built adjacent to our Comanche generating plant in Pueblo, Colorado on approximately 900 acres of under-utilized grazing land surrounded by existing and future industrial land. The Comanche Solar Project is the largest solar generating facility in the state, the largest east of the Rocky Mountains, and one of the largest in the nation. Over the course of the project's 25-year life, it will produce more than six billion kilowatt hours of clean solar energy and is expected to reduce CO<sub>2</sub> emissions by approximately 3.5 million tons.

Large-scale installations make solar power available at the right cost to the greatest number of people in the communities Xcel Energy serves. The Company

supports the development of large, central solar because of the benefits that come with economies of scale for our customers.

Additionally, more than 30,000 Xcel Energy customers in Colorado have on-site or rooftop solar through our Solar\*Rewards® program. Through Solar\*Rewards, customers interested in installing solar systems at their homes or businesses receive incentives to participate in this program. At 2016 year end, the Company had more than 275<sub>DC</sub> megawatts of on-site, rooftop solar on our Colorado system.

Solar\*Rewards currently supports the installation of systems at several program levels—small systems up to 25 kilowatts and medium systems between 25.1 to 500 kilowatts. The program also has issued requests for proposals to support large systems over 500 kilowatts. The largest systems installed under Solar\*Rewards are located at Denver International Airport and Colorado State University.

The Colorado Public Utilities Commission approved a plan that allows Public Service to acquire up to 24 megawatts of solar energy from small installations and up to 12 megawatts from medium installations each year in 2015 and 2016. In 2016, approximately 16.1 total megawatts of small systems and 2.3 total megawatts of medium systems were installed.

Xcel Energy launched Solar\*Rewards Community® in Colorado in 2012, after the state became one of the first to approve the solar garden concept in 2010. In Colorado, the Company offers Solar\*Rewards Community for customers who want to participate in shared, centralized solar installations. Solar developers build community-based shared solar installations interconnected to our system and then offer subscriptions with various purchase arrangements to customers.

Under the 2014-2016 RES Plan, the Company to date has approved applications to install 52 solar gardens with a capacity of approximately 89<sub>DC</sub> megawatts; 59<sub>DC</sub> megawatts of which have been initially awarded as a result of a competitive solicitation that was issued in 2016.

### **C. Windsource®**

The Company's Windsource® program began in 1998 and continues to be one of the largest voluntary green-energy programs in the United States. The current structure of our Windsource® program originated in the terms of a settlement agreement the Commission-approved in Proceeding No. 08A-260E.

Windsource® is certified through the Green-e Energy program. To be Green-e Energy certified, the corresponding RECs associated with the energy sold under Windsource® cannot be used to fulfill a state renewable energy goal, and cannot be "double-counted" towards that goal, with one exception. Pursuant to Green-e's National Standard Version 2.1: "If the product meets 100% of a customer's electricity use with eligible renewables, Green-e Energy allows a percentage of a product's content to be satisfied by renewable portfolio standard ("RPS") state-mandated renewables up to the percentage RPS requirement." Consequently, for Windsource® customers who purchased all of their electricity under the Windsource® program in 2016, twenty percent of the RECs associated with the energy they purchased were retired to meet the Renewable Energy Standard. The Commission approved this methodology as part of the Company's 2010 RES Compliance Plan in Decisions No. C10-1033 and R10-0586 in Proceeding No. 09A-772E. Information describing the method of retiring RECs

for 100% Windsource® customer sales has been provided to our Windsource® customers and is also available on the Windsource® pages on Xcel Energy's website.

The Company charges a Windsource® premium to those customers who subscribe to the program. The rate is calculated in accordance with Commission Decision Nos. R09-0117, C10-1033 and C10-1221 entered in Proceeding Nos. 08A-260E and 09A-772E. Premiums from sales under the Windsource® program are credited back to the RESA. In 2016, 45,343 residential and commercial/industrial customers purchased 186,546 megawatt hours ("MWh") of Windsource® and contributed \$4,012,835 to the RESA account.

#### **D. 2016 Comprehensive Settlement Agreement**

In August 2016, after months of negotiations, Public Service, along with 22 other parties representing some of Xcel Energy's biggest electricity users, solar and wind power developers, rooftop solar companies and trade groups, consumer and low-income advocates, and environmental advocacy groups, reached a settlement agreement to open up new avenues for customer choice and expanded clean energy program offerings. The comprehensive settlement agreement approved by the Colorado Public Utilities Commission (Decision No. C16-1075) addressed three pending proceedings: (1) an update to the utility's rate design structures (Phase II electric rate case); (2) creation of a new solar power program for residential and business customers (Renewable\*Connect); and (3) an expansion of the utility's renewable energy programs over the next three years (2017-2019 RES Plan). The comprehensive settlement agreement will allow Public Service to offer customers more control over their energy mix, bring more carbon-free power onto the system, and support emerging energy

technologies—all while ensuring power remains reliable, and prices stay reasonable and affordable for all customers.

Key outcomes of the comprehensive settlement agreement include:

- **Growth of Public Service’s Solar\*Rewards and Solar\*Rewards Community Programs.** Public Service will expand the availability of its rooftop solar and solar gardens programs. In all, the expansions approved as a result of the settlement agreement will result in up to 342 megawatts (MW) of new solar power between 2017 and 2019 (97 MW in 2017; 115 MW in 2018; and 130 MW in 2019).
- **Solar power for traditionally under-served customers.** In an effort to make solar power more accessible to low-income customers, the settlement agreement contemplates a low-income rooftop solar program to expand low-income access to community solar gardens. Additionally, Public Service will increase solar garden access through up to 5.25 MW of company-owned and up to 4 MW per year of competitively bid community solar gardens designated to serve 100 percent low-income customers and service providers.
- **A new solar power program to complement its existing renewable portfolio.** Public Service will launch a new program called Renewable\*Connect. Similar to the Company’s Windsource® program, Renewable\*Connect will give customers a convenient and simple way to “go solar” by purchasing up to 100 percent solar power for their home or business—even if they do not own their residence, do not live near a solar garden, or are unable to install private solar panels on site.

- **Windsor price reduction.** The settlement agreement will lower the current Windsor® premium price from \$2.16 per kilowatt-hour block to \$1.50 per kilowatt-hour block beginning in 2017 making it more affordable for customers to get some or all of their energy from wind-powered resources.
- **Energy storage.** The settlement agreement also allows Public Service to begin crafting standards for connecting energy storage systems (e.g., batteries)—which can store energy for a home or business—to its system. Energy storage is considered a key emerging technology that can help integrate more wind and solar energy onto the power grid and help address the intermittent availability of those resources.
- **Recycled Energy program.** The settlement agreement also sets forth terms for finalizing the Company's proposed Recycled Energy program.

### **III. Results of the 2016 Compliance Plan**

Public Service filed our 2014-2016 RES Compliance Plan ("2014 Plan") on July 24, 2013 in Proceeding No. 13A-0836E. This 2014 Plan was modified and approved by the Commission in Decisions No. R14-0902, C14-1505, and C15-0142 whereby the Commission extended the acquisition levels and incentive approved through the 2016 compliance year. In the 2014 Plan, the Company outlined our acquisition plans for non-solar, central solar and on-site solar eligible energy resources.

Rule 3659(a) states that Renewable Energy Credits ("RECs") will be used to comply with the RES. The Rules define each REC to mean a contractual right to the full set of non-energy attributes, including any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, directly attributed to a specific amount of electric energy generated from an eligible energy resource. One REC results from one megawatt-hour ("MWh") of electric energy generated from an eligible energy resource. By statute, certain eligible energy resources qualify for REC multipliers such that one megawatt-hour from these resources can generate more than one REC for compliance with the RES. Senate Bill 13-252 modified the REC multiplier to eliminate a REC multiplier for eligible energy resources that become operational after January 1, 2015.

#### **A. Non Distributed Generation**

As a result of prior Resource Plan filings, All-Source and targeted solicitations and other Company and Commission action, Public Service currently has 2,503 MW of wind generation capacity on our system that qualifies as non-Distributed Generation ("DG") eligible energy resources. The Company acquires the full electrical output as well

as all RECs produced from these wind resources for compliance with the Non-DG portion of the RES. All of the generation from these facilities is eligible for the 1.25 REC multiplier when used for compliance with the exception of the 249 MW Golden West wind farm that went commercial at the end of 2015. The Company currently has 13 operational large wind resources that are considered non-DG for RES compliance (see Attachment C).

As a result of the 2011 Electric Resource Plan and the subsequent 2013 All-Source Solicitation, the Company proposed, and was granted permission to acquire approximately 450 MW of additional wind generation capacity as well as approximately 170 MW of additional photovoltaic solar generation capacity. These facilities came online in 2014 (Limon III) and 2015 (Golden West) and the 170 MW of solar online in 2016 (Solar Star III and Comanche Solar). All told, these facilities are expected to generate approximately 2,125,000 MWh annually.

## **B. Wholesale DG**

The Company currently has 208 MW of resources which qualify as Wholesale DG resources for RES compliance. This includes various hydroelectric resources, landfill gas resources, photovoltaic solar resources, and wind resources. All of the generation from these facilities is eligible for the 1.25 REC multiplier when used for compliance with the Colorado RES. The following resources are currently operational and are considered as Wholesale DG for RES compliance (see Attachment C):

- SunE Alamosa Solar
- Cogentrix Solar
- Greater Sandhill Solar
- San Louis Solar (Iberdrola)
- SolarTAC (SunE, Amonix, EPRI)
- Northern Colorado Wind II

NREL Siemens Wind  
Ridgecrest Wind  
Waste Management Landfill Gas  
Additional owned and contracted hydroelectric resources

### **C. Retail Distributed Generation**

On January 4, 2016, the Solar\*Rewards® program opened for new applications per the approved 2014 RES Compliance Plan. For the Small program, incentive levels were approved at \$0.01/kWh for third-party owned systems and \$0.02/kWh for customer owned systems. A total of 2 MW was made available in the first month and each subsequent month for a total of 24 MW in 2016. Similarly, the Medium program incentive levels were approved at \$0.05/kWh for all systems. A total of 3 MW was made available for the first quarter and each subsequent quarter for a total of 12 MW in 2016. No capacity was made available for the Large program in 2016. In 2016, of 4,545 total applications received for small systems, 2,906 applications were installed for a total of approximately 16.1 megawatts. For medium systems, of 141 total applications received, 27 applications were installed in 2016 for a total of approximately 2.3 megawatts.

Beginning in 2013, the Interconnection processing fee, which is a non-refundable design review fee to offset engineering costs, was collected with all applications submitted on or after January 1, 2013, as authorized by Commission Rule 3667 (III). The fee for Solar\*Rewards systems that are less than or equal to 10 kW is \$100; the fee for systems greater than 10 kW and up to 250 kW is \$1,000; the fee for systems greater than 250 kW is \$2,000. Also beginning in 2013, a formal 60-day extension policy was developed to allow applications extra time for completion, as long as certain application milestones had been met. New in 2015, was the additional requirement that all

customers with production meters be charged the cost of the production meter consistent with Commission Rule 3658. The cost per production meter is dependent upon the tariff class of the participating customer.

Also in 2016, the Company offered both an RFP and standard offer through the Solar\*Rewards® Community program. Through the 2016 RFP, the Company has awarded 32 projects for a total of 59 MW. Through the standard offer 5 projects were accepted for a total of 500 kW. Additionally, in 2016, one of the approved 2013 Solar\*Rewards Community gardens was installed, for a total of 1.5 MW (see Attachment H).

#### **IV. REC Tracking & Compliance**

The Company tracks RECs through an internal REC tracking system and the Western Renewable Energy Generation Information System ("WREGIS") system. Commission Rule 3659 (j) requires all renewable energy resources 1 MW and larger to be registered with WREGIS. WREGIS is a third-party REC tracking and verification system for the western states (including Colorado), developed through a collaborative effort between the Western Governors Association, the Western Regional Air Partnership, and the California Energy Commission. Public Service, through Xcel Energy Services Inc. ("XES"), participates in the Stakeholder Advisory, Policy and Change Control Committees of WREGIS. Public Service believes that WREGIS and other regional REC tracking and verification systems add significant credibility to, and aid in the development of, REC markets. Xcel Energy's registered generating facilities have been uploading data to WREGIS since the last quarter of 2008.

During the 2016 compliance year, the Company used its internal REC tracking database to retire RECs from distributed generation solar facilities under 1 MW for 2016 RES compliance. Any WREGIS RECs that were used for 2016 compliance or Windsource® were also retired in WREGIS. During the 2016 compliance year the Company maintained its internal REC tracking database and WREGIS in tandem.

##### **A. Demonstration of Compliance**

In order to demonstrate compliance with the Colorado 2016 RES, we have included several attachments to this report providing the data identified in Rule 3662, which are set forth in Attachment A, Rule Requirements.

Attachment B shows the Company's 2016 actual retail energy sales and lays out the resulting Renewable Energy Standard compliance requirements which flow from those sale numbers.

Attachment C, Renewable Energy Credit Compliance Summary, is similar to Tables 4-2 and 4-3 as originally filed in our 2014 RES Compliance Plan, Volume 2. The numbers reflect actual RECs generated in 2016 and RECs used for compliance in 2016.

Attachment D compares the 2016 RESA forecasted expenditures and revenues to the actual expenditures and revenues. It also compares the 2016 forecasted RESA deferred account balance and the 2016 actual RESA deferred account balance. The Company designed this attachment so that it reflects the relevant information contained in Table 7-2 as filed in the Supplemental Direct Testimony of Samuel J. Hancock, Attachment SJH-4, in the 2014 RES Compliance Plan. Although Attachment D reflects the actual totals by column, it also contains a breakdown of the actual costs by individual resource. This segregation of costs by resource allows one to easily assess the resources that contributed to the actual RESA costs for 2016.

Attachment E sets forth each individual resource that has costs that are allocated between the RESA and ECA. Attachment E provides the incremental costs for each resource expressed as \$/MWh as charged in 2016. Set forth at the bottom of the attachment are the adjustments, if any, made to the \$/MWh figure. Second, this Attachment shows the recorded volumes for each resource. Third, Attachment E shows the Average Hourly Incremental Cost ("AHIC") for 2016 and volumes of Solar\*Rewards that elected to sell excess kWh credits to the Company per Rule 3664 (b). The AHIC is also used to compensate Solar\*Rewards Community garden owners

for unsubscribed energy required by Rule 3665 (c)(V). The 2016 volumes of the unsubscribed energy are also shown in Attachment E.

As part of Commission Decision No. C11-1080 approving the Company's 2010 RES Compliance Plan, the Commission directed the Company to provide comparisons between the modeled incremental costs and the actual incremental costs of eligible energy resources that are charged against the RESA account, and to provide an explanation of significant deviations. Attachment D provides the modeled costs as compared to actuals where Attachment F explains the differences between the modeled costs and the actual costs of eligible energy resources to the extent the variance is notable.

Attachment G provides the winning bids under the 2016 Solar\*Rewards Community program.

Attachment H provides a copy of all Solar\*Rewards Community contracts signed since the Company's last Compliance Report.

Finally, included in Attachment I are the Solar\*Rewards Community volumes and corresponding billing credits per rate class, the average hourly incremental cost and the total number of unsubscribed kWhs as required by Rule 3662 (a)(XVIII). Also included in Attachment I are associated metrics regarding low-income subscriptions.

Because the Company is not claiming that the retail rate impact cap limitation inhibited its ability to meet the requirements, there is no need to report the data required in Subsection (XV) (c) of Rule 3662.

In compliance with Rule 3662 (XV), the Commission has approved the Company's methodology for calculating the retail rate impact for the 2016 RES

compliance year. Because the Company is not claiming that the retail rate impact cap limited its ability to comply with the 2016 RES, no modifications pertaining to the calculation of the retail rate impact for 2016 were necessary.

The Company is providing the Commission with an electronic copy of this filing, as well as posting it on the Company's website at [www.xcelenergy.com](http://www.xcelenergy.com) under "Filings" in the Rates and Regulations directory.

# Attachment A

## **Code of Colorado Regulations 4 CCR 723-3**

### **Section 3662 - Annual Compliance Report**

- (a) Each investor owned and cooperative electric association QRU shall file an annual RES compliance report no later than June 1 to report on the status of the QRU's compliance with the RES for the most recently completed compliance year. Unless expressly noted otherwise, the annual RES compliance report of each investor owned and cooperative electric association QRU shall provide the following information for the most recently completed compliance year.
  - (I) The total MWH sold by the QRU to its retail customers in Colorado and the associated eligible energy required for compliance with the RES, including the requirements for retail renewable distributed generation and wholesale renewable distributed generation, as applicable.
  - (II) The total amount and source of eligible energy and RECs acquired by the QRU during the compliance year for to meet the RES, including the requirements for retail renewable distributed generation and wholesale renewable distributed generation, as applicable. The QRU shall separately identify and quantify amounts of eligible energy and RECs by each type of resource, including residential retail renewable distributed generation and nonresidential renewable distributed generation, as applicable. The QRU shall also separately identify eligible energy and RECs generated by early eligible energy resources.
  - (III) The total amount of RECs by category acquired by the investor owned QRU during the compliance year and the total amount and

source of eligible energy generated by the QRU-owned eligible energy resources.

- (IV) The total amount of eligible energy and RECs borrowed forward, pursuant to rule 3654, in previous compliance years that were made up during the compliance year to achieve compliance with each component of the RES.
- (V) The total amount of eligible energy and RECs borrowed forward, pursuant to rule 3654, from future compliance years to achieve compliance with each component of the RES in the compliance year.
- (VI) The total amount and source of eligible energy and RECs the QRU is carrying back from the year following the compliance year under rule 3654 to achieve compliance with each component of the RES in the compliance year.
- (VII) The total amount of eligible energy and RECs the QRU has carried forward from prior calendar years under rule 3654 to apply in the compliance year for each component of the RES.
- (VIII) The total amount of eligible energy and RECs the QRU has acquired in the compliance year that the QRU proposes to carry forward under rule 3654 to future years for each component of the RES.
- (IX) The total amount of eligible energy and RECs the QRU has counted toward compliance with the RES, including the requirements for retail renewable distributed generation and wholesale renewable distributed generation, as applicable, in the compliance year. The QRU shall separately identify amounts of

renewable energy by each type of resource and eligible energy or RECs generated by early eligible energy resources.

- (X) The total amount of renewable energy or RECs acquired by the QRU during the compliance year pursuant to the SRO program.
- (XI) The total amount of RECs retired by the investor owned QRU during the compliance year pursuant to a voluntary green pricing program.
- (XII) The total amount of RECs sold or traded by the investor owned QRU during the compliance year along with the profit and losses of such transactions and the method for calculating these margins.
- (XIII) Whether the QRU has invested in any eligible energy resource and whether that resource is under construction or in operation.
- (XIV) The funds expended from the RESA account and other revenue sources and the retail rate impact of the eligible energy and RECs acquired by the investor owned QRU. If the investor owned QRU has not acquired sufficient eligible energy and RECs to meet the RES under rule 3654 or the requirements for renewable distributed generation under rule 3655 due to the retail rate impact cap under rule 3661, the retail rate impact cap shall be recalculated based on the actual compliance year values. To the extent the recalculation of the retail rate impact cap demonstrates that additional funds are available based on actual compliance year values, the investor owned QRU shall use those additional funds to acquire RECs, to the extent necessary, to achieve the compliance levels set forth in rules 3654 and 3655 or until the additional funds have been spent if the investor owned QRU intends to claim that the retail rate impact cap prevented it from achieving compliance with the standard.

- (XV) A description of the method used to develop the retail rate impact calculation.
  - (XVI) The proposed calculation of on-going annual net incremental costs for eligible energy resources that will come on line prior to the end of the following compliance year that have not been locked down pursuant to an investor owned QRU's compliance plan filing.
  - (XVII) The funds advanced by the investor owned QRU during the compliance year, if any, to augment the amounts collected from retail customers through the RESA.
  - (XVIII) The average hourly incremental cost of electricity during the compliance year, the total number of CSG kWh which were unsubscribed for each CSG during that period, and the total kWh and corresponding billing credits paid to CSG subscribers during the compliance year by each retail rate class for each CSG.
- (b) In the annual RES compliance report filed by the investor owned or cooperative electric association QRU, the QRU must explain whether it achieved compliance with the RES, including the requirements for retail renewable distributed generation and wholesale renewable distributed generation, as applicable, during the most recently completed compliance year, or explain why the QRU had difficulty meeting the RES or the requirements for retail renewable distributed generation and wholesale renewable distributed generation, as applicable.
  - (c) If, in its annual RES compliance report, the investor owned QRU did not comply with its RES as a direct result of absolute limitations within a requirements contract from a wholesale electric supplier, then the QRU must explain whether it acquired a sufficient amount of either eligible RECs or documented and verified energy savings through energy

efficiency and/or conservation programs, or both to rectify the noncompliance so as to excuse the investor owned QRU from any administrative fine or other administrative action.

- (d) On the same date that the investor owned or cooperative electric association QRU files its annual RES compliance report, the QRU shall post its annual compliance report excluding confidential material on its website to facilitate public access and review.
- (e) On the same date that the investor owned or cooperative electric association QRU files its annual RES compliance report, if the QRU did not file using the Commission's E-Filings System, it shall provide the Commission with an electronic version of its annual compliance report excluding confidential material. The Commission may place the non-confidential portion of each QRU's annual compliance report on the Commission's website in order to facilitate public review.
- (f) Each qualifying wholesale utility shall submit an annual report to the Commission no later than June 1 of each year. In addition, the qualifying wholesale utility shall post each annual report on its website. In each annual report, the qualifying wholesale utility shall:
  - (I) describe the steps it took during the most recently completed compliance year to comply with the RES of 20 percent of retail sales by 2020 as established in § 40-2-124(8), C.R.S.;
  - (II) for the compliance years before 2020, describe whether it is making sufficient progress toward meeting the standard in 2020 or is likely to meet the 2020 standard early. If it is not making sufficient progress toward meeting the standard of 20 percent in 2020, it shall explain why and shall indicate the steps it intends to take to increase the pace of progress; and

- (III) for the 2020 compliance year and each compliance year thereafter, describe whether it has achieved compliance with the RES established in § 40-2-124(8), C.R.S., and whether it anticipates continuing to do so. If it has not achieved such compliance or does not anticipate continuing to do so, it shall explain why and shall indicate the steps it intends to take to meet the standard and by what date.

# Attachment B

**Attachment B**  
**Public Service Company of Colorado**  
**2016 Actual Energy Sales and Resulting RES Compliance Requirements**  
**2016 Renewable Energy Standard Compliance Report**

<b>Calendar Year</b>	<b>Retail Sales (MWhs)</b>	<b>RES<sup>1</sup> (RECs)</b>	<b>RES DG Requirement (RECs)</b>	<b>Retail DG (RECs)</b>	<b>Wholesale (RECs)</b>	<b>Non-DG Requirement (RECs)</b>
2016	28,798,203	5,759,641	503,969	251,985	251,984	5,255,672

<sup>1</sup> RES Requirements

2016 20% Retail Sales with 1.75% coming from DG half of which must be Retail DG

# Attachment C

**2016 Renewable Energy Standard Compliance Report**  
**Public Service Company of Colorado**  
**Attachment C**

**2016 Forecasted Renewable Energy Standard Compliance Amounts**

Row			<u>Notes</u>	
1	Colorado Retail Electric Sales	28,798,203 MWh		
2	Total RES Requirement	5,759,641 RECs	20% x (1)	
3	DG Requirement	503,969 RECs	1.75% x (1)	1.750%
4	Retail DG RES Requirement	251,985 RECs	50% x (3)	
5	Wholesale DG RES Requirement	251,984 RECs	(3) - (4)	0.875%
6	Non-DG RES Requirement	5,255,672 RECs	(2) - (3)	18.250%

Attachment C - Renewable Energy Credit Compliance Summary  
Public Service Company of Colorado  
2016 Renewable Energy Standard Report

		RECs Carried Forward	REC Adjustments	Retail RECs Available	RECs Retired for Windsource	REC Sales	Total RECs Available	In-State REC Bonus Applied (3)	Additional Community REC Bonus Applied	Total RECs Available for 2016 RES Compliance	Renewable Energy Standard	RECs Retired For 2016 RES Compliance	RECs Carried Forward After 2016 RES Compliance
Column Reference		2011-2015 (1)	2011-2015 (2)	2016	2016		2011-2016				2016		
Calculation		a	b	c	d	e	f	g	h	i	j	k	l
							(a + b + c - d - e)	(f x 0.25)		(f + g + h)			(i - k - l)
Row													
1	<b><u>Retail DG Solar Systems</u></b>												
2	Small Customer-Owned (<10 kW)	143,867		100,587			244,454	21,117		265,571		66,167	199,404
3	Small Third Party Developer (<10 kW)	177,901		118,640			296,541	26,563		323,104		9,621	313,483
4	Medium 1 (10 - 500 kW)	98,413		109,972			208,385	22,701		231,086		103,104	127,982
5	Medium 2 (101 - 500 kW)	-		-			-	-		-		-	0
6	RFP Large	104,408		50,120			154,528	13,553		168,081		69,767	98,314
7	REC Only	1,499		1,499			2,998	388		3,386		3,326	60
8	SR Community	27,132		29,554			56,686	-		56,686		-	56,686
9	<b>Total Retail DG Solar</b>	553,220		410,372		-	963,592	84,322	-	1,047,914	251,985	251,985	795,929
10													
11	<b><u>Wholesale DG Solar Systems</u></b>												
12	Power Purchase w/RECs:												
13	SunE Alamosa	41,291		7,405			48,696	12,174		60,870		28,965	31,905
14	Cameo Solar	-		-			-	-		-		-	0
15	Cogentrix	248,858		61,267			310,125	77,531		387,656		164,293	223,364
16	Greater Sandhill	159,086		39,911			198,997	49,749		248,746		98,774	149,972
17	San Luis Solar	300,186		77,241			377,427	94,357		471,784		187,576	284,208
18	SunE at SolarTAC	893		160			1,053	263		1,316		636	680
19	Amonix at SolarTAC	1,076		-			1,076	269		1,345		1,284	61
20	EPRI at SolarTAC	266		176			442	111		553		55	498
21	<b>Total Wholesale DG Solar</b>	751,656		186,160	-	-	937,816	234,454	-	1,172,270		481,583	690,688
22													
23	<b><u>Wholesale DG Wind</u></b>												
24	Company Owned Generation												
25	Ponnequin II-VI	201,112		-			201,112	50,278		251,390		122,415	128,975
26	Power Purchase w/RECs:						-	-		-		-	0
27	Northern Colorado Wind II	258,720		64,876			323,596	80,899		404,495		177,046	227,449
28	NREL Siemens	9,331		1,615			10,946	2,737		13,683		6,173	7,511
29	Ponnequin I	5,683		-			5,683	1,421		7,104		7,104	0
30	Ridgecrest	201,045		68,931	-	-	269,976	67,494		337,470		149,446	188,024
31	<b>Total Wholesale DG Wind</b>	675,891		135,422	-	-	811,313	202,829	-	1,014,142		462,184	551,958
32													
33	<b><u>Wholesale DG Biomass</u></b>												
34	Power Purchase w/RECs:												
35	75th St Digester	-		-			-	-		-		-	0
36	WM Denver/Aurora Disposal Site	78,205		20,703			98,908	24,727		123,635		48,491	75,144
37	<b>Total Wholesale DG Biomass</b>	78,205		20,703	-	-	98,908	24,727	-	123,635		48,491	75,144
38													
39	<b><u>Wholesale DG Hydropower</u></b>												
40	Company-Owned Generation:												
41	Ames	22,510		6,972			29,482	7,371		36,853		16,875	19,978
42	Georgetown	19,102		3,680			22,782	5,696		28,478		10,513	17,966
43	Palisade	4,992		-			4,992	1,248		6,240		6,240	0
44	Salida	5,877		1,816			7,693	1,923		9,616		3,786	5,830
45	Shoshone	246,900		69,868			316,768	79,192		395,960		150,371	245,589
46	Tacoma	19,861		4,021			23,882	5,971		29,853		22,964	6,889
47							-	-		-		-	0
48	Bridal Veil	340		-			340	85		425		425	0
49	Betasso/Silver Lake/Lakewood	52,471		11,579			64,050	16,013		80,063		33,178	46,886
50	Boulder Canyon	-		-			-	-		-		-	0
51	Kohler	1,418		321			1,739	435		2,174		914	1,260
52	Maxwell	1,074		241			1,315	329		1,644		965	679
53	Orodel	768		183			951	238		1,189		719	470
54	Sunshine	6,950		1,764			8,714	2,179		10,893		4,124	6,769
55	Dillon Dam	35,232		13,754			48,986	12,247		61,233		18,694	42,539
	Foothills	22,080		6,145			28,225	7,056		35,281		20,871	14,410
	Hillcrest	19,520		7,518			27,038	6,760		33,798		23,639	10,159

[illegible]

Attachment C - Renewable Energy Credits Acquired/Transferred  
Public Service Company of Colorado  
2016 Renewable Energy Standard Report

			Capacity (MW) (1)	RECs Acquired 2016	City of Boulder Transfers 2016	Wholesale Wind Purchases 2016	Wholesale Allocation 2016	Total Retail RECs Available 2016
Renewable Resources			a	b	c	d	e	f
Column Reference								
Calculation								(b - c - d - e)
Row								
1								
2								
3								
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	Power Purchase w/RECs:						
47		Bridal Veil	-	0	0	0	0
48		Betasso/Silver Lake/Lakewood	10.00	23,160	11,581	0	11,579
49		Boulder Canyon	-	0	0	0	0
50		Kohler	0.15	641	320	0	321
51		Maxwell	0.07	484	243	0	241
52		Orodel	0.22	368	185	0	183
53		Sunshine	0.81	3,527	1,763	0	1,764
54		Dillon Dam	1.90	13,754	0	0	13,754
55		Foothills	2.30	6,145	0	0	6,145
56		Hillcrest	2.30	7,518	0	0	7,518
57		Roberts Tunnel	6.10	7,092	0	0	7,092
58		Strontia Springs	1.20	3,368	0	0	3,368
59		Gross Reservoir	8.10	18,032	0	0	18,032
60		Lake George	-	0	0	0	0
61		Ouray	-	0	0	0	0
62		Vallecito Dam	-	0	0	0	0
63		Redlands	1.40	8,047	0	0	8,047
64		Stagecoach	0.80	0	0	0	0
65		Grand Valley	1.50	5,301	0	0	5,301
66		Orchard Mesa	1.50	5,301	0	0	5,301
67		Mt. Elbert	-	0	0	0	0
68	Total Wholesale DG Hydropower			202,272	14,092	0	175,003
69							
70	Total Wholesale DG			569,616	14,092	0	517,288
71							
72	Non-DG Wind						
73		Cedar Creek	300.50	856,979	0	0	856,979
74		Cedar Creek II	250.80	735,292	0	0	458,753
75		Cedar Point	252.00	661,319	0	0	661,319
76		Colorado Green	162.00	507,648	0	0	477,333
77		Foote Creek III	0.00	0	0	0	0
78		Golden West	249.40	854,805	0	0	854,432
79		Limon Wind	200.00	710,208	0	0	710,208
80		Limon Wind II	200.00	631,518	0	0	631,518
81		Limon Wind III	200.60	797,435	0	0	797,435
82		Logan	201.00	590,079	0	0	416,204
83		Northern Colorado Wind I	151.80	423,111	0	0	423,111
84		Peetz Table	199.50	615,187	0	0	615,187
85		Spring Canyon	60.00	202,556	0	0	202,556
86		Twin Buttes	75.00	260,666	0	0	260,666
87	Total Non-DG Wind			7,846,803	0	0	7,365,701
88							
89	Non-DG Solar	Solar Star III	50.00	125,132	0	0	125,132
90		Comanche Solar	120.00	84,593			84,593
91	Total Non-DG Solar			209,725	0	0	209,725
92							
93	Total Renewable Resources			9,036,516	14,092	0	8,503,086
94							
95	Notes:						
96							
97	(1)	Retail DG solar capacity presented in DC; all other generators presented in AC					

**Attachment C**  
**Public Service Company of Colorado**  
**2016 Renewable Energy Standard Report**

		RECs Acquired		
		RES Compliance	2016 RES Compliance	Percent
		<u>Plan*</u>	<u>Report</u>	<u>Difference</u>
Column Reference		a	b	c
Calculation				(b-a)/a
Row	<b><u>Renewable Resources</u></b>			
1	<b><u>Retail DG Solar Systems</u></b>	336,459	410,372	<b>22%</b>
2				
3	<b><u>Wholesale DG Solar Systems</u></b>	221,538	204,043	<b>-8%</b>
4				
5	<b><u>Wholesale DG Wind</u></b>	209,282	141,324	<b>-32%</b>
6				
7	<b><u>Wholesale DG Biomass</u></b>	18,457	21,977	<b>19%</b>
8				
9	<b><u>Wholesale DG Hydro</u></b>	231,738	202,272	<b>-13%</b>
10				
11	<b><u>Non-DG Wind</u></b>	7,018,140	7,846,803	<b>12%</b>
12				
13	<b><u>Non-DG Solar</u></b>	0	209,725	<b>100%</b>
14				
15	<b>Total Renewable Resources</b>	8,035,614	9,036,516	<b>12%</b>

8,035,614

checked against filed plan

\* 2014-2016 RES Compliance Plan values

# Attachment D

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Total Renewable Energy Costs					RESA Related Revenues				RESA Related Expenditures			RESA Balance			
	On-Site Solar Costs	NEW Central Solar Costs	NEW Wind Energy Costs	NEW Other Renewable Energy Costs	NEW Total Renewable Energy Costs	RESA Rider Revenue	Windsource Revenue	REC Margins	Total RESA Revenue	Incremental Costs	Ongoing Incremental Costs	RESA/ WRGIS/ Windsource ADM	Annual Excess / (Deficiency)	Interest	Annual Excess / (Deficiency)	Rolling Balance
													Deferred Rolling Balance at December 31, 2015			
Model - 2016 S*RC REC Pmts.	\$26,646,931 \$2,443,140	\$447,539	\$29,126,560	\$282,793	\$58,946,963	\$59,776,375	\$4,124,272	\$0	\$63,900,647	\$9,343,306 \$2,443,140	\$27,822,472	\$842,296	\$25,869,780	\$4,000,241	\$29,870,021	\$39,583,522 \$60,026,019
Adjusted Actual 2016	\$31,693,122	\$6,886,384	\$28,428,609	\$0	\$67,008,115	\$53,500,289	\$4,012,835	\$5,780,915	\$63,294,039	\$15,453,463	\$23,163,237	\$530,576	\$24,146,763	\$3,518,068	\$27,664,831	\$67,248,353
Delta*	(\$2,603,051)	(\$6,438,845)	\$697,951	\$282,793	(\$8,061,152)	\$6,276,086	\$111,437	(\$5,780,915)	\$606,608	(\$3,667,017)	\$4,659,235	\$311,720	\$1,723,017	\$482,173	\$2,205,190	(\$7,222,334)

\*Note: Delta = Modeled minus Adjusted Actual

Onsite Group C			
S*R RECs	\$ 26,458,650		
S*RC - REC Pmts.	\$ 1,829,063		
S*RCS Tariff (bill credit)	\$ 3,405,409		
Total	<u>\$31,693,122</u>		
New Solar			
	\$ 17,546	EPRI Solar Tac	
	\$ 5,970,230	Comanche Solar	
	\$ 898,608	Solar Star	
Total	<u>\$ 6,886,384</u>		
New Wind			
	\$ 24,579,526	Golden West	
	\$ 3,794,792	Ridgecrest	
	\$ 54,291	NREL Siemens Energy	
Total	<u>\$28,428,609</u>		

\*New = Unlocked Resources (Table 7-2(a)).

	Incremental Costs	Ongoing Inc. Costs
Solar*Rewards		
Before 1/1/2009		
On-site A		\$ 3,532,701
1/1/09 to 9/30/09		
On-site B		\$ 347,931
After 9/30/09		
On-site C	\$ 21,803,361	
On-site Avoided	\$ (14,612,966)	\$ (4,496,644)
	<u>\$ 7,190,395</u>	<u>\$ (616,011)</u>
	Incremental Costs	Ongoing Inc. Costs
Solar*Rewards Community		
S*RC	\$ 1,829,063	
S*RC Sub/Unsubscribed	\$ 2,137,561	
	<u>\$ 3,966,624</u>	<u>\$ -</u>
Utility Solar		
Sunpower (Sandhill)		\$ 3,202,980
SunE Alamosa		\$ 2,015,592
San Luis		\$ 5,121,480
SunE Solar TAC		\$ 7,975
EPRI Solar TAC	\$ 8,203	
Comanche Solar	\$ 246,676	
Solar Star	\$ 75,710	
	<u>\$ 330,589</u>	<u>\$ 10,348,027</u>
Wind		
NCWI		\$ 46,808
NCWII		\$ 345,322
Cedar Point		\$ 12,002,826
Cedar Creek II		\$ 9,365,966
Limon I		\$ (5,584,108)
Limon II		\$ (2,745,593)
Limon III	\$ 249,658	
Ridgecrest	\$ 1,752,191	
Siemens/NREL	\$ 35,152	
Golden West	\$ 1,928,854	
	<u>\$ 3,965,855</u>	<u>\$ 13,431,221</u>
Total	<u>\$ 15,453,463</u>	<u>\$ 23,163,237</u>

# Attachment E

## Attachment E

				2016	2016	2016
Account number	Technology	Contract	Generator	Total Cost	RESA Cost	ECA Cost
5066001	Hydro	City of Boulder	Betasso/Silverlake	\$ 443,114.81		\$ 443,114.81
5066001	Hydro	City of Boulder	Kohler	\$ 12,142.10		\$ 12,142.10
5066001	Hydro	City of Boulder	Maxwell	\$ 9,788.50		\$ 9,788.50
5066001	Hydro	City of Boulder	Orodel	\$ 7,133.15		\$ 7,133.15
5066001	Hydro	City of Boulder	Sunshine	\$ 65,309.58		\$ 65,309.58
5066001	Hydro	Denver Water Board	Dillon Dam	\$ 438,447.41		\$ 438,447.41
5066001	Hydro	Denver Water Board	Foothills	\$ 199,105.70		\$ 199,105.70
5066001	Hydro	Denver Water Board	Gross Reservoir	\$ 574,630.74		\$ 574,630.74
5066001	Hydro	Denver Water Board	Hillcrest	\$ 245,008.50		\$ 245,008.50
5066001	Hydro	Denver Water Board	Roberts Tunnel	\$ 239,557.00		\$ 239,557.00
5066001	Hydro	Denver Water Board	Strontia Springs	\$ 101,734.68		\$ 101,734.68
5066001	Hydro	Grand Valley Water Users Association	Grand Valley Water Users Association	\$ 216,060.74		\$ 216,060.74
5066001	Hydro	Orchard Mesa Irrigation District	Orchard Mesa Irrigation District	\$ 216,060.74		\$ 216,060.74
5066001	Hydro	Redlands Water & Powr Company	Redlands Water & Powr Company	\$ 246,176.42		\$ 246,176.42
5066001	Hydro	STS Hydropower, LTD.	STS - Mt. Elbert	\$ 173,569.72		\$ 173,569.72
5066001	Hydro	Ute Hydro	Ute Hydro	\$ 42,274.07		\$ 42,274.07
5066001	Biomass/LT	WM Renewable Energy, LLC	WM Renewable Energy, LLC	\$ 1,310,737.33		\$ 1,310,737.33
				\$ 4,540,851.19	\$ -	\$ 4,540,851.19
5070001	Solar	Sunpower	SNDHL	\$ 6,634,022.25	\$ 3,202,980.00	\$ 3,431,042.25
5070001	Solar	Miscellaneous Retail Solar Purchases	Miscellaneous Retail Solar Purchases	\$ (1,126,723.10)		\$ (1,126,723.10)
5070001	Solar	Solar Gardens subscribed/Unsubscribed	Solar Gardens subscribed/Unsubscribed	\$ 3,405,409.21	\$ 2,137,561.00	\$ 1,267,848.21
5070001	Solar	Cogentrix of Alamosa	Cogentrix of Ala	\$ 8,452,075.08		\$ 8,452,075.08
5070001	Solar	San Luis Solar LLC	San Luis Solar LLC	\$ 10,678,680.92	\$ 5,121,480.00	\$ 5,557,200.92
5070001	Solar	SunEAlamosa	SunEAlamosa	\$ 3,554,211.26	\$ 2,015,592.00	\$ 1,538,619.26
5070001	Solar	EPRI Solar Tac	EPRI Solar Tac	\$ 17,546.23	\$ 8,203.00	\$ 9,343.23
5070001	Solar	Comanche Solar PV, LLC	Comanche Solar PV, LLC	\$ 5,970,230.40	\$ 246,676.00	\$ 5,723,554.40
5070001	Solar	Solar Star	Solar Star	\$ 898,607.53	\$ 75,710.00	\$ 822,897.53
5070001	Solar	SunEdison LLC	SunEdison LLC	\$ 16,907.46	\$ 7,975.00	\$ 8,932.46
Total Solar				\$ 38,500,967.24	\$ 12,816,177.00	\$ 25,684,790.24
5069001/5069006	Wind	Alstom Power Inc	Alstom Power Inc	\$ 18,372.09		\$ 18,372.09
5069001/5069006	Wind	Cedar Creek	CdrCrk	\$ 41,666,174.46		\$ 41,666,174.46
5069001/5069006	Wind	Cedar Creek II	Cedar Creek II	\$ 39,036,837.51	\$ 9,365,966.00	\$ 29,670,871.51
5069001/5069006	Wind	Cedar Point Wind, LLC	Cedar Point Wind, LLC	\$ 46,555,839.16	\$ 12,002,826.00	\$ 34,553,013.16
5069001/5069006	Wind	Gamesa Wind US, LLC	Gamesa Wind US, LLC	\$ 18,325.79		\$ 18,325.79
5069001/5069006	Wind	Golden West Power Partners	Golden West Power Partners	\$ 24,579,525.81	\$ 1,928,854.00	\$ 22,650,671.81
5069001/5069006	Wind	Limon I	Limon I	\$ 22,595,830.08	\$ (5,584,108.00)	\$ 28,179,938.08
5069001/5069006	Wind	Limon II	Limon II	\$ 18,573,391.56	\$ (2,745,593.00)	\$ 21,318,984.56
5069001/5069006	Wind	Limon III	Limon III	\$ 20,252,195.26	\$ 249,658.00	\$ 20,002,537.26
5069001/5069006	Wind	Logan	Logan	\$ 29,282,273.23		\$ 29,282,273.23
5069001/5069006	Wind	National Renewable Energy Laboratory	National Renewable Energy Laboratory	\$ 23,815.08		\$ 23,815.08
5069001/5069006	Wind	Northern CO Wind Energy II	NCoWndll	\$ 4,423,541.10	\$ 345,322.00	\$ 4,078,219.10
5069001/5069006	Wind	Northern Colorado Wind Farm	NCoWnd	\$ 25,996,416.13	\$ 46,808.00	\$ 25,949,608.13
5069001/5069006	Wind	PacifiCorp	COLOGREEN	\$ 20,940,466.18		\$ 20,940,466.18
5069001/5069006	Wind	Peetz Table	Peetz Table	\$ 30,428,863.71		\$ 30,428,863.71
5069001/5069006	Wind	Ridge Crest Wind Partners, LLC	RIDGECREST	\$ 3,794,791.64	\$ 1,752,191.00	\$ 2,042,600.64
5069001/5069006	Wind	Siemens Energy, Inc.	Siemens Energy, Inc.	\$ 54,291.39	\$ 35,152.00	\$ 19,139.39
5069001/5069006	Wind	Spring Canyon Energy LLC (Invenergy)	SprCanWind	\$ 7,765,395.29		\$ 7,765,395.29
5069001/5069006	Wind	Twin Buttes	TWNBTS	\$ 11,939,446.30		\$ 11,939,446.30
5069001/5069006	Wind	Transfers for the Trading Book		\$ 802,062.20		\$ 802,062.20
				\$ 348,747,853.97	\$ 17,397,076.00	\$ 331,350,777.97
Wind		Ponnequin Owned PPA	PONN	\$ -	\$ 841.00	\$ (841.00)
Total Wind				\$ 348,747,853.97	\$ 17,397,917.00	\$ 331,349,936.97
Total				\$ 391,789,672.40	\$ 30,214,094.00	\$ 361,575,578.40
Onsite		Avoided Costs		\$ -	\$ (18,971,821.28)	\$ 18,971,821.28
Total Incremental Costs				\$ 391,789,672.40	\$ 11,242,272.72	\$ 380,547,399.68
Onsite		Common to All Programs		\$ -	\$ -	
Onsite		Customer Sited Solar < 25 kW		\$ 2,244,526.33	\$ 2,244,526.33	
Onsite		Customer Sited Solar >25.1 kW -500 kW		\$ 9,282,349.63	\$ 9,282,349.63	
Onsite		Customer Sited Solar Large RFP		\$ 7,926,881.54	\$ 7,926,881.54	
Onsite		Small 3rd Party Developer		\$ 7,004,892.02	\$ 7,004,892.02	
Onsite		Non-Customer Sited Solar		\$ -	\$ -	
Onsite		Wholesale Costs		\$ -	\$ -	
Onsite		Solar Gardens 10-50kW		\$ -	\$ -	
Onsite		Solar Gardens 50.01 - 500 kW		\$ 389,486.59	\$ 389,486.59	
Onsite		Solar Gardens 500.01 - kW - 2MW		\$ 1,439,576.76	\$ 1,439,576.76	
Total Other RESA Expense				\$ 28,287,712.87	\$ 28,287,712.87	
					\$ 39,529,985.59	\$ 380,547,399.68

2016 Average Hourly Incremental Cost (AHIC) was \$0.01355 per kWh.  
Solar Rewards Community volumes purchased at the AHIC in 2016 was 182,478 kWh.

# Attachment F

## **I. Introduction**

In Commission Decision No. C11-1080 approving the Company's 2010 RES Compliance Plan, the Company was directed to provide in its future RES compliance plan reports a comparison between the forecasted and the actual RESA incremental costs of eligible energy resources assessed against the Renewable Energy Standard Adjustment ("RESA") deferred account. The Company was also directed to explain any significant deviations between the Company's modeled and actual RESA incremental costs. This Attachment F is being provided in compliance with this requirement. In Proceeding No. 13AL-816E the Commission approved certain ECA/RESA transfers. The tables attached to this 2016 RES Report reflect the Commission holdings in that proceeding.

Two attachments to this report provide the support for this Attachment F: Attachment D and Attachment E. Attachment D of this report generally presents the differences between the forecasted incremental costs set forth in Table 7-2(a), (b) and (c) in the 2014 RES Compliance Plan as filed by Company witness Samuel J. Hancock in Supplemental Direct Testimony, Attachment SJH-4, and the actual RESA incremental costs. Attachment D is a RESA cost view only; it shows the total incremental costs of all eligible energy resources that are charged to the RESA deferred account.

Attachment E of this report shows the total costs of all renewable resources allocated between the ECA and the RESA as required by Decision Nos. R12-0261 and C12-0606.

## **II. Analysis**

The Company performs modeling according to Rule 3661 to determine the amount of costs for eligible energy resources to be allocated between the ECA deferred account and the RESA deferred account.

### **A. Rule 3661, RESA and ECA Accounting and Monthly RESA Reports**

In accordance with Rule 3661, the RESA is only charged the incremental costs of the eligible energy resources on our system installed after July 2, 2006. Rule 3661 details the architecture for how we are to use our computer models to determine the difference in costs between two alternative scenarios of electric resources. The first scenario ("RES Plan") includes the eligible energy resources we propose to acquire. The second scenario (the "No RES Plan") removes the eligible energy resources we propose to acquire and replaces them with those reasonably available non-renewable resources necessary to replace the eligible energy resources so that the Company can meet its capacity and energy requirements. The cost difference between these two model runs equals the incremental costs of the renewable energy we propose to acquire. These incremental costs are allocated to the RESA. The costs calculated as part of the No RES model run are considered "Avoided Energy Costs" and are allocated to the ECA. These costs are considered "avoided" because our acquisition of generation produced from eligible energy resources permits us to avoid, to some extent, acquiring generation from new non-renewable resources, such as additional gas-fired capacity (either combustion

turbine or combined cycle generation), and/or re-dispatching existing resources to satisfy the energy needs of the system.

The process outlined above generally describes the manner in which the costs of energy -- including the incremental costs of eligible energy resources -- are calculated and the accounts to which those costs are ultimately charged. However, the accounting process used to ensure that the proper costs are allocated between the RESA and the ECA is described in detail under the 2014 RES Compliance Plan Volume I Section 8 and is incorporated into this Attachment F by reference.

Each month the Company submits to the Commission a “Monthly RESA Report.” The Monthly RESA Report sets forth, among other things, all of the incremental costs for eligible energy resources that are charged to the RESA. These incremental costs charged to the RESA are set forth within the “Summary” tab of the Monthly RESA Report. The monthly “Incremental Costs” of the eligible energy resources acquired under the Solar\*Rewards® programs (including Solar\*Rewards Community) are set forth under the heading “Expenditure by Type”.

The Solar\*Rewards® (including Solar\*Rewards Community) portion of the Monthly RESA Report also specifies the total -- not just incremental -- costs of each Solar\*Rewards® program by program size. The total costs are the annual REC costs for the entire Solar\*Rewards® program. These total costs are set forth in the Monthly RESA Report both in the “Summary” Tab and as detailed in separate Tabs for the small, medium and large programs.

### **III. Variance Between Forecast and Actual RESA Costs in Attachment D**

The below comparisons of forecasted, or modeled, costs to actual costs are based upon the updated costs presented in Attachment SJH-4. The Company believes that a delta of \$1 million or more requires an explanation for reporting purposes. All detailed calculations for resources comparing forecasted costs to actual costs by category are provided in Attachment D.

#### **A. Column A – On-Site Solar Costs**

Column A labeled On-Site Solar Costs reflects a difference in costs of \$29 million forecasted vs. \$31.7 million actual resulting in a total difference of \$2.6 million. This variance is attributable to the bill credits attributable to Solar\*Rewards Community which are included in the actual costs, but were not included at the time of modeling.

#### **B. Column B – New Central Solar Costs**

Column B labeled New Central Solar Costs reflects a difference in costs of \$448k forecasted vs. \$6.9 million actual resulting in a total difference of \$6.4 million. This variance is attributable to the Comanche Solar project that resulted from the Company's 2013 All-Source Solicitation and came online in 2016. The project was acquired after the modeling occurred.

**C. Column E – New Total Renewable Energy Costs**

Column E labeled New Total Renewable Energy Costs reflects a difference of \$54.7 million forecasted vs. \$67 million actual resulting in a total difference of \$12.3 million. This variance results from the variances described in Columns A and B.

**D. Column F – RESA Rider Revenue**

Column F labeled RESA Rider Revenue reflects difference in revenues of \$59 million forecasted vs. \$53.5 million actual, resulting in a total difference of \$6.3 million. The variance simply reflects lower RESA Revenue than what was forecasted for 2016.

**E. Column G – REC Margins**

Column H labeled REC Margins reflect the customers' share of the margins generated from the selling of RECs. The \$5.8 million variance simply reflects the fact that no REC sales were projected for 2016 when in fact the Company did have the opportunity to sell RECs.

**F. Column J - Incremental Costs**

Column J reflects the RESA incremental costs associated with the acquisition of new renewable resources and/or resources not otherwise locked down. Column J includes the RESA share of the costs for new renewable energy resources including on-site solar, central solar and wind resources. We originally forecast that these incremental costs would total \$11.8 million in 2016, which includes Solar\*Rewards

Community REC payments. The actual costs for Column J are \$15.5 million for 2016 resulting in a difference of \$3.7 million.

The variance is attributable to more costs associated with the Solar\*Rewards and Solar\*Rewards Community programs with a greater number of systems being operational in 2016. Adding to this variance is the \$247k in incremental costs associated with the Company's Comanche Solar project.

#### **G. Column K - Ongoing Incremental Costs**

Column K labeled Ongoing Incremental Costs reflects the ongoing incremental costs of eligible energy resources or those renewable resources whose incremental costs were locked down. The forecasted ongoing incremental costs were approximately \$28 million as compared to actual ongoing incremental costs of \$23.6 million as shown in Attachment D. The difference between forecast and actual was approximately \$4.7 million.

The difference can be mainly attributed to lower than expected incremental costs from lower levels of actual wind generation as compared to what was modeled.

#### **H. Column M - Annual Excess or Deficiency**

Column M labeled Annual Deficiency reflects the actual and forecasted amounts of the annual deficiency in the RESA balance. The actual annual deficiency in 2016 was positive \$2.1 million meaning there were less revenues than costs being applied to the account. This is reflected by the difference between Column I - Total RESA Revenues minus Columns J through L (RESA Related Expenditures).

**I. Column O – Annual Excess or Deficiency**

The total shown on Attachment D reflects the cumulative effect of the actual costs as compared to the forecasted costs along with the interest component which include all associated variances previously described.

**J. Column P - Rolling Balance**

The Rolling Balance is the culmination of the 2016 year end RESA balance plus the annual excess or deficiency with interests. The variance is reflective of those described above for Columns M.

# Attachment G

Attachment G  
Public Service Company of Colorado  
Cumulative Solar\*Rewards RFP Bidder List  
2016 Renewable Energy Standard Report

Solicitation	Capacity Award Recipient	Garden Street or Lat/Long	Garden City	Garden Zip Code	County	Name Plate Capacity (kW DC)	Operational
2012 Standard Offer (SO)	Clean Energy Collective	5050 N Telluride	Denver	80239	DENVER	499.17	Y
	Clean Energy Collective	7581 E Academy Blvd.	Denver	80230	DENVER	400.075	Y
	Clean Energy Collective	21560 W 56th Ave. Unit B	Golden	80403	JEFFERSON	115.15	Y
	Clean Energy Collective	1600 66th St	Boulder	80303	BOULDER	496.455	Y
	Clean Energy Collective	710 Wellington Rd	Breckenridge	80424	SUMMIT	497.965	Y
	Clean Energy Collective	12920 CO Highway 9	Breckenridge	80424	SUMMIT	499.515	Y
	Clean Energy Collective	790 Tower Road	Aurora	80012	ARAPAHOE	497.965	Y
	Community Energy Solar	760 East County Line Road	Lafayette	80026	BOULDER	498.3	Y
	Clean Energy Collective	790 N. Tower Rd.	Aurora	80011	ARAPAHOE	500	Y
2012 RFP	Community Energy Solar	710 East County Line Road	Lafayette	80026	BOULDER	498.3	Y
	Ecoplexus	13401 Riverside Drive	Sterling	80751	LOGAN	1999.8	Y
	Clean Energy Collective	21560 W 56th Ave. Unit A	Golden	80007	JEFFERSON	569.17	Y
2013 SO	Ecoplexus	2930 D 1/4 Road	Grand Junction	81594	MESA	1999.8	Y
	SunShare	31481 E County Road 18 (Jewell)	Watkins	80137	ARAPAHOE	499.3	Y
	SunShare	17797 E 51ST AVE	Denver	80249	DENVER	499.4	Y
	SunShare	17897 E 51ST AVE	Denver	80249	DENVER	499.4	Y
	SunShare	5061 1/2 Imboden Rd	Watkins	80137	ADAMS	497.2	Y
	Clean Energy Collective	5050 N Telluride	Denver	80010	DENVER	497.35	Y
	Clean Energy Collective	1600 S. 66th St	Boulder	80301	BOULDER	499.9	Y
	Clean Energy Collective	987 5th St SW	Leadville	80461	LAKE	499.9	Y
	SunShare	5051 1/2 Imboden Rd	Watkins	80137	ADAMS	497.2	Y
2013 RFP	Community Energy Solar	106 E. 1st Avenue	Antonito	81120	CONEJOS	500	Y
	SunShare	9105 Alkire Street	Arvada	80005	JEFFERSON	1496.88	Y
	SunShare	5011 1/2 Imboden Rd	Waktins	80137	ADAMS	1499.4	Y
2015 RFP	SunShare	4976 1/2 Imboden Rd	Watkins	80137	ADAMS	1496.1	Y
	Clean Energy Collective	13727 US 285	La Jara	81140	CONEJOS	1988.1	N
	Clean Energy Collective	28102 E. Quincy Ave.	Aurora	80138	ARAPAHOE	1984.5	N
	Clean Energy Collective	33850 E 38th Ave	Watkins	80137	ADAMS	1984.5	N
	Clean Energy Collective	12010 HWY 61	Sterling	80751	LOGAN	1988.1	N
	Clean Energy Collective	5260 Imboden Rd.	Watkins	80137	ADAMS	1988.1	N
	Clean Energy Collective	15990 CR 29	Platteville	80651	WELD	1984.5	N
	SunShare	21000 E 6th Ave	Aurora	80018	ARAPAHOE	1995	N
	SunShare	37055 E. County Road 30	Watkins	80136	ARAPAHOE	1999.5	N
	SunShare	28102 E. Quincy Ave Unit 2	Aurora	80138	ARAPAHOE	1999.5	N
	SunShare	33975 E. 48th Ave.	Watkins	80137	ADAMS	1999.5	N
	SunShare	5135 Imboden Road	Watkins	80137	ADAMS	1999.5	N
	SunShare	14228 County Road 42	Gilcrest	80623	WELD	1999.5	N
	SunShare	5900 Hudson Road	Watkins	80137	ADAMS	1999.5	N
	SunShare	30953 County Road 27	Greeley	80631	WELD	1999.5	N
2015 SO (offered in 2016)	Community Energy Solar	38511 CO-17	Antonito	81120	CONEJOS	1500	N
	Microgrid	2500 Lawrence	Denver	80205	DENVER	100	N
	Microgrid	2501 Dallas St	Aurora	80010	ADAMS	100	N
	SET Ventures Group	2500 Plaza Dr	Littleton	80129	DOUGLAS	99.6	N
	Microgrid	9105 Alkire Street	Arvada	80111	JEFFERSON	100	N
2016 RFP	Microgrid	5035 Imboden Road	Watkins	80137	ADAMS	100	N
	Community Energy Solar	39.980501, -105.063196	Lafayette	80026	BOULDER	2000	N
	Community Energy Solar	37.403614, -105.430036	Fort Garland	81133	COSTILLA	2000	N
	Community Energy Solar	37.574246, -106.106506	Monte Vista	81101	RIO GRANDE	2000	N
	Community Energy Solar	37.571974, -106.097105	Monte Vista	81144	RIO GRANDE	2000	N
	Microgrid	2250 E. Jewell Ave.	Denver	80210	DENVER	500	N
	Microgrid	285 South Turkey Creek Rd	Morrison	80465	JEFFERSON	1000	N
	Microgrid	3411 C RD	Palisade	81526	MESA	2000	N
	Community Energy Solar	37.428282, -105.886087	Alamosa	81101	ALAMOSA	2000	N
	Community Energy Solar	37.422853, -105.891279	Alamosa	81101	ALAMOSA	2000	N
	DHA	39°54'15.12" N,(39.9042 N) 104°39'54.64" W, (104.665178 W)	Denver	80249	DENVER	1999.69	N
	Oak Leaf Energy Partners	37.457901, -105.883179	Alamosa	81101	ALAMOSA	1997.1	N
	Oak Leaf Energy Partners	39.884023, -105.239755	Golden	80403	JEFFERSON	1997.1	N
	Oak Leaf Energy Partners	39.735207, -105.216628	Golden	80401	JEFFERSON	1997.1	N
	Oak Leaf Energy Partners	39.811963, -105.200493	Golden	80403	JEFFERSON	1997.1	N
	Oak Leaf Energy Partners	39.909808, -105.128495	Broomfield	80021	JEFFERSON	1997.1	N
	Oak Leaf Energy Partners	39.831527, -105.225564	Arvada	80007	JEFFERSON	1997.1	N
	Oak Leaf Energy Partners	39.738488, -105.219161	Golden	80401	JEFFERSON	1997.1	N
	Oak Leaf Energy Partners	40.427104, -104.643843	Greeley	80631	WELD	1997.1	N
	Oak Leaf Energy Partners	40.598248, -104.723160	Ault	80610	WELD	1997.1	N
	Oak Leaf Energy Partners	40.711980, -104.770997	Nunn	80648	WELD	1184	N
	Oak Leaf Energy Partners	39.646251, -107.776848	Rifle	81650	GARFIELD	1997.1	N
	Oak Leaf Energy Partners	39.207989, -106.316164	Leadville	80461	LAKE	1997.1	N
	Oak Leaf Energy Partners	39.391922, -107.215635	Carbondale	81623	GARFIELD	1997.1	N
	Microgrid	767 35 3/10th Rd	Palisade	81526	MESA	2000	N
	Native Suns	17396 Jefferson County Hwy 93	Morrison	80465	JEFFERSON	1000	N
	Native Suns	3201 West 32nd Avenue	Golden	80401	JEFFERSON	2000	N
	Community Energy Solar	39.634893, -104.649585	Watkins	80137	ARAPAHOE	2000	N
	Community Energy Solar	40.305168,-104.513169	Kersey	80644	WELD	2000	N
	Community Energy Solar	40.228213, -104.775071	Platteville	80651	WELD	1500	N
	Community Energy Solar	38.532534, -106.079999	Salida	81201	CHAFFEE	2000	N
	Community Energy Solar	37.181835, -105.983823	Romeo	81140	CONEJOS	2000	N
	Community Energy Solar	37.202509, -105.980958	Romeo	81140	CONEJOS	2000	N

# Attachment H



Solar Garden ID No. SRC023375

## **Solar\*Rewards Community Agreement**

### **Solar\*Rewards Community Photovoltaic (PV) Systems For SRC Producers**

This Agreement is made and entered into this 25 day of Jan, 2016, by and between Public Service Company of Colorado, d/b/a/ Xcel Energy ("Public Service" or "Company"), a Colorado corporation, whose address is 1800 Larimer Street, Denver, Colorado 80202, and Jeffco Community Solar Gardens LLC ("SRC Producer"), a Colorado Limited Liability Company, whose business address is 1441 18th Street, Suite 400, Denver, CO 80202, each of which may be referred to herein individually as a "Party" or collectively as the "Parties."

#### **RECITALS:**

This Agreement governs the relationship between Public Service and SRC Producer, both on behalf of itself and as authorized agent for SRC Subscribers (as defined in Section 1.18 below) and the PV System Owner (as defined in Section 1.12 below), with respect to the Photovoltaic Energy and associated Renewable Energy Credits ("RECs") generated by the community solar garden photovoltaic solar system (the "PV System") installed, or to be installed, at the location described in Exhibit A attached hereto, with a rated Direct Current (DC) nameplate capacity of 1500.000 kW.

In consideration of the premises and mutual covenants herein contained, the Parties hereto agree as follows:

#### **ARTICLE I**

##### **DEFINITIONS**

As used herein, the following terms shall have the meanings specified or referred to below which shall apply equally to single and plural forms. Except as otherwise provided for herein, capitalized terms shall have the meanings set forth in Section 3652 of the Rules Regulating Electric Utilities of the Colorado Public Utilities Commission, 4 *Code of Colorado Regulations* 72333652, as of the date of this Agreement.

- 1.1. "Commission" shall mean the Public Utilities Commission of the State of Colorado.
- 1.2. "Date of Commercial Operation" shall mean the day upon which Commercial Operation is first achieved pursuant to Section 4.2 hereof.
- 1.3. "Electric Tariffs" shall mean Public Service's electric tariffs as in effect and on file with the Commission from time to time.
- 1.4. "Force Majeure" shall have the meaning as set forth in Section 6.1 of this Agreement.
- 1.5. "House Power" shall mean the supply of retail power for consumption at the Solar Garden Site.

1.6. "Interconnection Agreement" shall mean the separate agreement to be entered into between SRC Producer and Public Service providing the terms and conditions by which SRC Producer may interconnect and operate the PV System in parallel with Public Service's electric distribution system at the Solar Garden Site.

1.7. "Monthly Subscription Information" shall mean the information stored within the SRC Application System, as timely entered or changed by SRC Producer via the SRC Application System pursuant to Section 4.6 hereof, setting forth the names of the SRC Subscribers holding Subscriptions in the PV System, each such SRC Subscriber's identifying information, and the SRC Allocation applicable to each such SRC Subscriber's Subscription, reflecting each SRC Subscriber's allocable portion of Photovoltaic Energy and associated RECs produced by the PV System during a particular Production Month.

1.8. "Photovoltaic Energy" shall mean the net electric energy generated from the PV System, using solar radiation energy to generate electricity, including any and all associated RECs, delivered to Public Service and measured at the Production Meter. Photovoltaic Energy shall be of a power quality of 60 cycle, three-phase alternating current that is compliant with the Interconnection Agreement.

1.9. "Production Meter" shall mean the measuring facility installed by Public Service pursuant to Section 5.1 hereof to measure the Photovoltaic Energy produced by the PV System at the point where the Photovoltaic Energy changes possession from SRC Producer to Public Service.

1.10. "Production Month" shall mean the calendar month during which Photovoltaic Energy is produced by the PV System and delivered to Public Service at the Production Meter.

1.11. "PV System" shall mean the solar electric generating facility to be located at the Solar Garden Site, including the photovoltaic panels, inverter, output breakers, facilities necessary to connect to the Production Meter, protective and associated equipment, improvements, and other tangible assets, contract rights, easements, rights of way, surface use agreements and other interests or rights in real estate reasonably necessary for the construction, operation, and maintenance of the electric generating facility that produces the Photovoltaic Energy subject to this Agreement.

1.12. "PV System Owner" shall mean the entity or entities holding legal title or otherwise having full rights of ownership in and to the PV System. If the PV System Owner is the same entity as SRC Producer, then Section 3.2 hereof shall not be applicable.

1.13. "Renewable Energy Credit" or "REC" shall have the meaning set forth in 4 CCR 723-3-3652(t) and means a contractual right to the full set of non-energy attributes, including any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, directly attributable to a specific amount of capacity and/or electric energy generated from an Eligible Energy Resource, including any and all environmental air quality credits, benefits, emissions reductions, off-sets, allowances, or other benefits as may be created or under any existing or future statutory or regulatory scheme (federal, state, or local) by virtue of or due to the PV System's actual energy production or the PV System's energy production capability because of the PV System's environmental or renewable characteristics or attributes. For the avoidance of doubt, a "REC" excludes (i) any local, state or federal production tax credit, depreciation deductions or other tax credits providing a tax benefit to SRC Producer or the owner of the PV System based on ownership of, or energy production from, any portion of the PV System, including the investment tax credit expected to be available to SRC Producer or the owner of the PV System with respect to the PV System under Internal Revenue Code Section 48 (Energy Credits); (ii) any direct governmental grant or payment inuring to the benefit of SRC Producer or the owner of the PV System based on ownership of, or energy production from, any portion of the PV System, pursuant to Section 1603 of the American Recovery and Reinvestment Act, or other federal or state legislation; and (iii) depreciation and other tax benefits arising from ownership or operation of the PV System unrelated to its status as a generator of renewable or environmentally clean energy. One REC results from one megawatt-hour of electric energy generated from an eligible energy resource.

1.14. "Solar Garden Site" shall mean the parcel of real property on which the PV System will be constructed and located, including any easements, rights of way, surface use agreements and other interests or rights in real estate reasonably necessary for the

construction, operation and maintenance of the PV System. The Solar Garden Site is more specifically described in Exhibit A to this Agreement.

1.15. "Solar\*Rewards Community Application and Subscriber Management System" or "SRC Application System" is the interactive, internet website-based interface maintained by Public Service through which SRC Producer may establish qualification and provide information and complete documents necessary for acceptance in Public Service's Solar\*Rewards Community Program, and may enter or change the Monthly Subscription Information reflecting each SRC Subscriber's allocable portion of the Photovoltaic Energy and associated RECs produced by the PV System each Production Month.

1.16. "SRC Allocation" shall mean the monthly allocation, stated in kilowatts ("kW") as a share of the total nameplate capacity of the PV System, applicable to each SRC Subscriber's Subscription reflecting such SRC Subscriber's allocable portion of Photovoltaic Energy and associated RECs produced by the PV System in a particular Production Month. In accordance with Section 4.6 below, the SRC Producer is required to timely provide the SRC Allocation to Public Service on a monthly basis through the SRC Application System, which Public Service will in turn use to calculate the SRC Credit for each billing month.

1.17. "SRC Credit" shall mean the dollar amount paid by Public Service to each SRC Subscriber as a credit on the SRC Subscriber's retail electric service bill to compensate the SRC Subscriber for its beneficial share of Photovoltaic Energy produced by the PV System and delivered to Public Service from the SRC Producer, in accordance with Rate Schedule SRC of Public Service's Electric Tariffs.

1.18. "SRC Subscriber" shall mean the retail electric service customer of Public Service who: (a) owns a beneficial share of the Photovoltaic Energy and associated RECs produced by the PV System pursuant to a Subscription; (b) has attributed such Subscription to one or more premises served by Public Service where it is the customer of record; and (c) has entered into a SRC Subscriber Agency Agreement with SRC Producer.

1.19. "SRC Subscriber Agency Agreement" shall mean an agreement entered into between each SRC Subscriber and SRC Producer, in a form substantially the same as the SRC Subscriber Agency Agreement attached hereto as Exhibit B, by and through which each SRC Subscriber has authorized SRC Producer to act as SRC Subscriber's agent for purposes of this Agreement, including, among other things, to sell SRC Subscriber's beneficial share of Photovoltaic Energy and associated RECs generated by the PV System to Public Service.

1.20. "Subscription" shall mean a proportional interest owned or held by a particular SRC Subscriber in the PV System within the meaning of Section 40-2-127(2)(b)(III), C.R.S., which meets all of the requirements set forth in Section 3.3 below.

## ARTICLE II

### TRANSFER OF PHOTOVOLTAIC ENERGY AND ASSOCIATED RECS

2.1 Sale and Delivery of Subscribed Photovoltaic Energy. Effective upon the Date of Commercial Operation, SRC Producer shall sell and deliver to Public Service at the Production Meter all of the Photovoltaic Energy produced by the PV System and attributable to Subscriptions held by all SRC Subscribers in the PV System.

(a) For each SRC Subscriber, Public Service shall apply an SRC Credit each billing period to such SRC Subscriber's bill for retail electric service in accordance with Rate Schedule SRC of Public Service's Electric Tariffs based upon the SRC Subscriber's SRC Allocation as set forth in the Monthly Subscription Information applicable to the preceding Production Month. The Production Month to which the SRC Credit is applicable shall not necessarily match the billing period for retail electric service bill in which the SRC Credit is applied.

(b) For purposes of applying the SRC Credit to SRC Subscribers' bills, Public Service shall be entitled to rely exclusively on the Monthly Subscription Information as timely entered or changed by SRC Producer via the SRC Application System in accordance with

the procedures set forth in Section 4.6 below. The correction of previously-applied SRC Credits among SRC Subscribers due to any inaccuracy reflected in such Monthly Subscription Information with regard to an SRC Subscriber's Subscription in the PV System and the beneficial share of Photovoltaic Energy produced by the PV System shall be the full responsibility of the SRC Producer.

**2.2 Purchase and Sale of RECs Associated with Subscribed Photovoltaic Energy.** Effective upon the Date of Commercial Operation, SRC Producer agrees to sell and Public Service agrees to purchase all of the RECs associated with the Photovoltaic Energy produced by the PV System and delivered to Public Service at the Production Meter attributable to Subscriptions held by all SRC Subscribers, based upon the Monthly Subscription Information applicable to each Production Month. The price to be paid by Public Service for the purchase of such RECs hereunder shall be expressed in dollars per kilowatt-hour (kWh), with one REC being generated for each MWh of power generated by the PV System. Public Service shall pay SRC Producer the price of 0.000 per kWh for RECs purchased pursuant to this section. Payments for such purchases shall be made monthly by check to SRC Producer for the RECs associated with the subscribed portion of Photovoltaic Energy recorded at the Production Meter during the immediately preceding Production Month. Such REC payment shall be made within thirty (30) days of the applicable meter reading.

**2.3 Purchase and Sale of Unsubscribed Photovoltaic Energy and Associated RECs.** Effective upon the Date of Commercial Operation, SRC Producer agrees to sell and Public Service agrees to purchase all of the Photovoltaic Energy and associated RECs produced by the PV System and delivered to Public Service at the Production Meter not attributable to a Subscription held by any SRC Subscriber based upon the Monthly Subscription Information applicable to the Production Month. Public Service shall pay SRC Producer a price per kWh for the Photovoltaic Energy and associated RECs purchased pursuant to this section that is equal to the Company's average hourly incremental cost of electricity supply over the most recent calendar year. Public Service's actual average hourly incremental cost of electricity supply over the most recent calendar year shall be calculated in accordance with the methodology for determining Public Service's actual average hourly cost of the last 10 MW dispatched for any purpose set forth in Schedule 9, Generator Imbalance Service, of its then-effective Open Access Transmission Tariff on file with the Federal Energy Regulatory Commission. Such actual average hourly incremental cost shall be posted from time-to-time on Xcel Energy's website. Payments for such purchases shall be made monthly by check to SRC Producer for the unsubscribed portion of the Photovoltaic Energy recorded at the Production Meter during the immediately preceding Production Month and the RECs associated therewith. Such payment shall be made within thirty (30) days of the applicable meter reading.

**2.4 Title, Risk of Loss, and Warranty of Title.** As between the Parties, SRC Producer shall be deemed to be in control of the Photovoltaic Energy output from the PV System up to and until delivery and receipt by Public Service at the Production Meter and Public Service shall be deemed to be in control of such energy from and after delivery and receipt at such Production Meter. Title and risk of loss related to the Photovoltaic Energy and all associated RECs shall transfer to Public Service at the Production Meter. SRC Producer warrants and represents to Public Service that it has or will have at the time of delivery good and sufficient title to all Photovoltaic Energy output and/or the ability to transfer good and sufficient title of same to Public Service. SRC Producer warrants and represents to Public Service that it has or will have at the time of delivery good and sufficient title to all RECs associated with such Photovoltaic Energy output and/or the ability to transfer good and sufficient title of all such RECs to Public Service.

**2.5 Exclusive Dealing.** SRC Producer shall not sell any Photovoltaic Energy or any associated RECs generated from the PV System to any person other than Public Service during the Term of this Agreement, and Public Service shall purchase and own all Photovoltaic Energy and associated RECs produced by the PV System.

## ARTICLE III

### REPRESENTATIONS OF THE PARTIES AND CONDITIONS PRECEDENT

**3.1** SRC Producer represents and warrants as follows:

(a) SRC Producer is either the PV System Owner or is a subscriber organization organized under Section 40-2-127, C.R.S., and has been duly authorized by the PV System Owner to beneficially operate the PV System and to issue subscriptions in the PV System to SRC Subscribers.

(b) SRC Producer has been duly authorized to sell and deliver to Public Service Photovoltaic Energy produced by the PV System on behalf of all SRC Subscribers having valid Subscriptions in the PV System, the purchase price and full consideration for which are the SRC Credits to be applied on the SRC Subscribers' electric service bills in accordance with Rate Schedule SRC of Public Service's Electric Tariffs.

(c) SRC Producer has the right and authority to sell the unsubscribed Photovoltaic Energy produced by the PV System to Public Service on behalf of the PV System Owner, the SRC Subscribers and itself.

(d) SRC Producer has the right and authority to sell all of the RECs associated with the Photovoltaic Energy produced by the PV System and delivered to Public Service at the Production Meter.

3.2 If the PV System Owner and the SRC Producer are not the same person, then the undersigned PV System Owner hereby agrees and consents to the terms of this Agreement and hereby authorizes SRC Producer to perform any and all acts necessary on its behalf to carry out the duties, responsibilities and obligations provided for herein as SRC Producer, and to sell on the PV System Owner's behalf any and all of PV System Owner's interest in the Photovoltaic Energy and associated RECs produced by the PV System to Public Service in accordance with the terms hereof.

3.3 Requirements and Restrictions Applicable to SRC Subscribers and Subscriptions. The conditions set forth in the following subparagraphs (a) through (f) of this Section 3.3 must be satisfied at all times during the Term of this Agreement, except as specifically provided otherwise below. Public Service reserves the right to refuse to accept any additions, deletions or changes to the Monthly Subscription Information to the extent such addition, deletion or change results in non-compliance with any of such conditions. For purposes of this Agreement, the SRC Allocation for any SRC Subscriber or Subscription that no longer satisfies the below conditions for qualification as a valid SRC Subscriber or Subscription shall be treated as an unsubscribed portion, and the Monthly Subscription Information automatically changed accordingly, unless and until such SRC Allocation is changed by SRC Producer in a manner that satisfies all such conditions.

(a) No SRC Subscriber may own more than a 40 percent interest in the beneficial use of the Photovoltaic Energy or associated RECs generated by the PV System.

(b) Effective upon the first day of the Production Month immediately following eighteen (18) months after the Date of Commercial Operation, the SRC Producer shall not own more than a 40 percent interest in the beneficial use of the Photovoltaic Energy or associated RECs generated by the PV System.

(c) Unless the SRC Subscriber is an eligible low-income customer, as defined in Rule 3652(m) of the Commission's Rules Regulating Electric Utilities, 4 *Code of Colorado Regulations* 72333652, each Subscription shall be sized to represent at least one kW of the PV System's nameplate rating and to supply no more than 120 percent of the SRC Subscriber's average annual electricity consumption at the premises to which the Subscription is attributed (based on the annual estimated generation of the PV System as determined via PVWATTS), reduced by the amount of any existing retail renewable distributed generation at such premises. The minimum one kW sizing requirement herein shall not apply to Subscriptions owned by an eligible low-income customer, as defined in Rule 3652(m) of the Commission's Rules Regulating Electric Utilities, 4 *Code of Colorado Regulations* 72333652.

(d) The premises to which a Subscription is attributed by a SRC Subscriber shall be a premises served by Public Service and shall be within the same county as the Solar Garden Site, except that, if the SRC Subscriber's designated premise is located in a county with a population of less than 20,000 residents according to the most recent available census figures, the designated premise may be in another county adjacent to the county where the Solar Garden Site is located, so long as the adjacent county also has a population of less than 20,000 residents and the designated premises is within Public Service's retail electric service territory. If any SRC Subscriber's premises to which a Subscription hereunder pertains, as the result of the official and valid action of any governmental body, is no longer provided retail electric service from Public Service, then, effective upon the date such premises is no longer served by Public Service, SRC Producer shall remove such Subscription from the SRC Application System and, if SRC Producer fails to do so, Public Service shall have the right to remove such Subscription on the SRC Producer's behalf.

(e) At least five percent (5%) of the Subscriptions reflected in the SRC Allocation must be attributable to one or more SRC Subscribers who qualify as eligible low-income customers pursuant to Rule 3652(m) of the Commission's Rules Regulating Electric Utilities, 4 *Code of Colorado Regulations* 72333652.

(f) The primary business of any SRC Subscriber at the retail customer premises to which the Subscription is attributed shall not be the generation of electricity for retail or wholesale sale.

**3.4 Requirements and Restrictions Applicable to the PV System.** The conditions set forth in the following subparagraphs (a) through (c) of this Section 3.4 must be satisfied at all times during the Term of this Agreement. Public Service shall have the right hereunder to refuse to purchase any and all Photovoltaic Energy and associated RECs produced from the PV System during the period it is not in compliance with any of such conditions.

(a) The PV System shall have at least ten SRC Subscribers.

(b) The PV System shall have a capacity nameplate rating of two megawatts (2 MW) or less.

(c) The PV System shall be located within Public Service's existing service territory, as defined pursuant to a final Commission order issuing to Public Service a certificate of public convenience and necessity authorizing Public Service to provide retail electric service within a specific geographic area, as may be amended from time to time pursuant to subsequent Commission orders. If, as the result of the official and valid action of any governmental body, the PV System is no longer located within Public Service's existing service territory, then Public Service shall also have the right to terminate this Agreement effective on or after the date the PV System is no longer located within Public Service's existing service territory, by providing ten (10) days advance written notice to SRC Producer.

(d) If the PV System has a nameplate capacity of one (1) MW or greater, the PV System shall be registered with the Western Renewable Energy Generation Information System ("WREGIS") and its production data regularly reported to the WREGIS.

**3.5 Responsibility for Verification.** The SRC Producer and Public Service shall jointly verify that each SRC Subscriber is eligible to be an SRC Subscriber in the PV System pursuant to Section 3.3 above.

**3.6 Code Compliance.** SRC Producer shall be responsible for ensuring that the PV System equipment installed at the Solar Garden Site is new equipment and meets all applicable codes, standards, and regulatory requirements at the time of installation.

**3.7 False Representation.** Any representation or warranty made by SRC Producer in this Agreement that shall prove to have been false or misleading in any material respect when made, or ceases to remain true during the Term if such cessation would reasonably be expected to result in a material adverse impact on Company, shall constitute an event of default subject to Section 7.1 hereof.

**3.8 Public Service Disclaimer.** Nothing in this Agreement shall be construed as a representation or warranty by Public Service of the design, installation or operation of the PV System or any component thereof, and Public Service expressly disclaims any and all warranties of the equipment as to workmanship, quality, or performance, including the fitness of the equipment for the purpose intended.

#### ARTICLE IV

#### TERM, COMMERCIAL OPERATION AND PERFORMANCE

**4.1 Term.** This Agreement shall become effective upon its execution by the Parties and shall continue in effect for a Term of twenty (20) years from and after the Date of Commercial Operation, subject to early termination as set forth herein. Applicable provisions of this Agreement shall continue in effect after termination, including early termination, to the extent necessary to enforce or complete the duties, obligations or responsibilities of the Parties arising prior to termination and, as applicable, to provide for final billings and adjustments related to the period prior to termination, repayment of any money due and owing to either Party pursuant to this Agreement, and the indemnifications specified in this Agreement.

**4.2 Commercial Operation.** Commercial Operation is achieved when: (a) 100% of the nameplate capacity of the PV System is installed; (b) the PV System has operated without experiencing any abnormal or unsafe operating conditions, as witnessed by Public Service personnel at the Solar Garden Site; (c) all permits necessary to authorize the production and, if applicable, delivery to Public Service of Photovoltaic Energy generated by the PV System have been obtained; (d) the Production Meter has been installed; and (e) the Interconnection Agreement has been entered into between Public Service and SRC Producer and the PV System has been interconnected with Public Service's electric distribution system pursuant to the Interconnection Agreement.

**4.3 Deposit.** Within sixty (60) days of the Date of Commercial Operation, Public Service shall return to SRC Producer the amount paid to Public Service as a required deposit in connection with its application for the PV System under Public Service's Solar Garden Program. If Commercial Operation is not achieved within one year of the date of the application and receipt of the deposit by Public Service, such deposit shall become non-refundable and forfeited by SRC Producer.

**4.4 Escrow Fund.** Within ninety (90) days of the Date of Commercial Operation, Public Service shall provide to SRC Producer a written certification in accordance with Rule 3665(d)(IV)(A) of the Commission's Rules Regulating Electric Utilities, 4 *Code of Colorado Regulations* 72333665, or, if such escrowed funds were deposited directly with Public Service, Public Service shall return the amount of any such escrowed funds in accordance with the terms of any escrow agreement. If Commercial Operation is not achieved and SRC Producer provides written notice to Public Service of its intention not to pursue completion of the PV System, and such escrowed funds were deposited directly with Public Service, Public Service shall return the amount of any such escrowed funds in accordance with the terms of any escrow agreement.

**4.5 Maintenance and Repair of PV System.** The SRC Producer shall maintain the PV System and the individual components of the PV System in good working order at all times during the Term of this Agreement. If, during the Term of this Agreement the PV System or any of the individual components of the system should be damaged or destroyed, the SRC Producer shall provide Public Service written notice and promptly repair or replace the equipment to its original specifications, tilt and orientation at the SRC Producer's sole expense. All of Public Service's obligations hereunder during the period of such repair or replacement shall be suspended, except for making payment for any Photovoltaic Energy or RECs generated and delivered prior to such damage or destruction; provided, however, that if the time period for repair or replacement is reasonably anticipated to exceed one hundred and eighty (180) days, Public Service shall have the right, exercisable at its sole option, to terminate this Agreement upon not less than thirty (30) days written notice, with no further obligation of the Parties to perform hereunder following the effective date of such termination. In all other situations, if the PV System is out of operation for more than ninety (90) consecutive days during the Term of this Agreement, Public Service shall have the right to terminate this Agreement by providing written notice to SRC Producer anytime during the period following the expiration of such ninety (90) days and before the PV System has been made fully operational again. If this Agreement is terminated pursuant to this Section 4.5, then SRC Producer shall pay Public Service liquidated damages in an amount equal to the estimated annual generation of the PV System, as determined via PVWATTS, multiplied by the number of years remaining in the Term as of the effective date of such termination, and further multiplied by the positive difference resulting, if any, by subtracting the price of RECs as set forth in Section 2.2 above from the weighted-average price for RECs based on the winning bids under Public Service's most recent bid offering under its Solar\*Rewards program in Colorado.

**4.6 Updating of Monthly Subscription Information.** On or before five business days immediately preceding the first day of each Production Month, SRC Producer shall provide to Public Service any and all changes to the Monthly Subscription Information, by entering new or updating previously-entered data through the use of the SRC Application System, in order to ensure that the SRC Subscribers and SRC Allocation applicable to each such SRC Subscriber's Subscription in the PV System are complete and accurate with respect to the Photovoltaic Energy and associated RECs produced by the PV System during such Production Month. As of the 5th business day preceding each Production Month, the Monthly Subscription Information so entered and updated shall be used by Public Service with respect to the Photovoltaic Energy produced and delivered during such Production Month to calculate the SRC Credits applicable to SRC Subscribers and to determine the amount of remaining unsubscribed Photovoltaic Energy and RECs to be purchased and sold in accordance with Article II hereof. Such data to be entered or changed by SRC Producer shall include additions and deletions to the SRC Subscribers holding Subscriptions in the PV System, the SRC Subscriber's identifying information (e.g., account number and service address attributable to each Subscription) and the SRC Allocation for each SRC Subscriber's Subscription for the Production Month, stated in kW (up to two decimal places, or in hundredths) as a portion of the total nameplate capacity of the PV System.

**4.7 Subscription Limitations.** SRC Producer shall issue Subscriptions in the PV System only to eligible retail electric service customers of Public Service subject to the requirements of Section 3.3 above. To the extent a Subscription is issued to or held by an SRC Subscriber who is not an eligible retail electric customer of Public Service, such Subscription shall be deemed invalid and eliminated from the SRC Application System. The proportional share of Photovoltaic Energy output and associated RECs attributable to such invalid Subscription shall be treated as unsubscribed for purposes of the SRC Allocation and applicable pricing. In the event Public Service discovers through a credible source that the SRC Subscriber to which such SRC Allocation is attributable no longer holds a valid Subscription in the PV System, Public Service reserves the right to suspend the application of SRC Credits for purposes of this Agreement, either in whole or in part, until the situation is remedied by the SRC Producer.

**4.8 Subscription Transfers.** Subscriptions may be transferred between eligible SRC Subscribers by reflecting such transfer in the Monthly Subscription Information through changes or entries by SRC Producer via the SRC Application System. The SRC Subscriber may from time to time change the premises to which the Subscription is attributed, so long as the requirements of Section 3.3(d) are met.

4.9 **Disclosure of Production Information.** SRC Producer acknowledges and agrees that, in order for Public Service to carry out its responsibilities in applying SRC Credits to SRC Subscribers' bills for electric service, Public Service may be required and shall be permitted to provide access or otherwise disclose and release to any SRC Subscriber any and all production data related to the PV System in its possession and information regarding the total SRC Credits applied by Public Service with respect to the PV System and the amounts paid to SRC Producer for unsubscribed Photovoltaic Energy and Renewable Energy Credits generated by the PV System. Any additional detailed information requested by SRC Subscriber shall be provided only upon SRC Producer's consent in writing to Public Service.

4.10 **No Relocation.** The PV System shall be located at the Solar Garden Site at all times during the Term of this Agreement.

4.11 **Registration and Reporting.** If the PV System has a nameplate rating of one MW or greater, SRC Producer shall register the PV System and report the PV System's production data to the Western Electricity Coordinating Council (WECC) in accordance with 4 CCR 72333659(j).

4.12 **Annual Reports.** Within ten (10) days of its issuance, SRC Producer shall provide to Public Service a copy of its public annual report, including a copy of the annual report provided to each SRC Subscriber, all as required by 4 CCR 72333665(e)(II).

4.13 **Audits.** Public Service reserves the right, upon thirty (30) days written notice, to audit SRC Producer's subscriber and Subscription records and to inspect the PV System at any time during the Term of this Agreement, and for an additional period of one year thereafter.

## ARTICLE V

### PRODUCTION METER AND INTERCONNECTION

5.1 **Production Meter.** Upon the initial satisfaction of all of the conditions set forth in Sections 3.3 and 3.4 above, Public Service shall install, and thereafter own, operate, maintain and read the Production Meter, which shall be sufficiently sized to measure all Photovoltaic Energy generated by the PV System, and SRC Producer shall reimburse Public Service for the cost of installing the Production Meter. Such reimbursement shall be due within thirty (30) days from the date a bill is presented to SRC Producer by Public Service after the Production Meter is installed. If SRC Producer does not make payment in full within that time, the unpaid balance shall bear interest at the rate of one and one half percent (1.5%) per month. Public Service reserves the right to replace the Production Meter, at its sole cost, at any time and for any reason.

5.2 **Telecommunications Equipment.** SRC Producer shall cause to be provided, and shall own, operate and maintain at the SRC Producer's sole cost any necessary electronic communications equipment or devices that are required to provide Public Service real-time access to 15-minute interval data regarding the Photovoltaic Energy produced by the PV System. Unless otherwise notified in writing by Public Service that an alternative telecommunication device is acceptable, such equipment shall include an active, wired telephone or data line capable of transmitting the monthly 15-minute interval data to Public Service. Public Service reserves the right to replace the telecommunication equipment at its sole cost.

5.3 **Failure to Maintain Telecommunication Line.** If the telecommunication line required to be maintained by SRC Producer pursuant to Section 5.2 is inactive or non-operational during any Production Month when Public Service attempts to access measurement data from the telemetry equipment on the Production Meter, SRC Producer shall be assessed a Trip Charge applicable to non-gratuitous labor service at the currently-effective rate set forth in the Schedule of Charges for Rendering Service section of Public Service's electric tariff. If the telecommunication line is inactive or non-operational for three consecutive Production Months, then, in addition to the applicable Trip Charges, all energy produced and delivered from the PV System shall be treated and priced as unsubscribed energy hereunder effective as of the first calendar day of such third Production Month and continuing until the subsequent Production Month during which the telecommunication line is made operational and active. SRC Producers payment of Trip Charges hereunder shall be due within thirty (30) days from the date a bill is presented to SRC Producer by Public Service. If SRC Producer does not make payment in full within that time, the unpaid balance shall bear interest at the rate of one and one half percent (1.5%) per month to be invoiced monthly.

5.4 **Interconnection Agreement.** The Parties recognize that SRC Producer and Public Service will enter into a separate Interconnection Agreement in accordance with the interconnection process provided for by Rule 3667 of the Commission's Rules Regulating Electric Utilities, 4Code of Colorado Regulations 72333667, and Public Service's "Safety, Interference and Interconnection Guidelines for Cogenerators, Small Power Producers, and Customer-Owned Generation," dated March 26, 2010, as may be updated from time to time and posted on Xcel Energy's website. The Parties acknowledge and agree that the performance of

their respective obligations with respect to the interconnection of the PV System pursuant to the Interconnection Agreement shall be subject to the prior satisfaction of all of the conditions set forth in Sections 3.3 and 3.4 above, but that in all other respects the Interconnection Agreement shall be a separate and free-standing contract and shall be interpreted independently of the Parties' respective obligations under this Agreement. Notwithstanding any other provision in this Agreement, nothing in the Interconnection Agreement shall alter or modify SRC Producer's or Public Service's rights, duties and obligations under this Agreement. This Agreement shall not be construed to create any rights between Seller and Public Service with respect to the Interconnection Agreement.

**5.5 House Power.** This Agreement does not provide for House Power. SRC Producer shall be solely responsible for arranging retail electric service exclusively from Public Service in accordance with Public Service's Electric Tariffs. SRC Producer shall obtain House Power solely through separately metered retail service and shall not obtain House Power through any other means, and waives any regulatory or other legal right to the contrary, except the right to self-generate as provided in this Section 5.5. SRC Producer's right to self-generate hereunder shall be limited to the electrical energy consumed at the Solar Garden Site that is directly related to the PV System's generation, including system operation, performance monitoring and associated communications, and shall not include energy necessary for domestic or other purposes, such as for perimeter lighting, a visitor's center or any other structures or facilities at the Solar Garden Site. The Parties acknowledge and agree that the performance of their respective obligations with respect to House Power shall be a separate from this Agreement and shall be interpreted independently of the Parties' respective obligations under this Agreement. Notwithstanding any other provision in this Agreement, nothing with respect to the arrangements for House Power shall alter or modify SRC Producer's or Public Service's rights, duties and obligations under this Agreement. This Agreement shall not be construed to create any rights between Seller and Public Service with respect to the arrangements for House Power.

## ARTICLE VI

### FORCE MAJEURE

**6.1 Definition of Force Majeure.** (a) The term "Force Majeure," as used in this Agreement, means causes or events beyond the reasonable control of, and without the fault or negligence of the Party claiming Force Majeure, including, without limitation, acts of God, sudden actions of the elements such as floods, earthquakes, hurricanes, or tornadoes; high winds of sufficient strength or duration to materially damage a PV System or significantly impair its operation such that it is no longer capable of generating Photovoltaic Energy and associated RECs in commercial quantities; long-term material changes in Photovoltaic Energy flows across the PV System caused by climatic change, lightning, fire, ice storms, sabotage, vandalism caused by others despite reasonable efforts of SRC Producer to secure and protect the PV system, terrorism, war, riots, fire; explosion, insurrection, strike, slow down or labor disruptions (even if such difficulties could be resolved by conceding to the demands of a labor group), and actions or inactions by any governmental authority taken after the date hereof (including the adoption or change in any rule or regulation or environmental constraints lawfully imposed by such governmental authority), but only if such requirements, actions, or failures to act prevent or delay performance, and inability, despite due diligence, to obtain any licenses, permits, or approvals required by any governmental authority having jurisdiction.

(b) The term Force Majeure does not include (i) any acts or omissions of any third party, including, without limitation, any vendor, materialman, customer, or supplier of SRC Producer, unless such acts or omissions are themselves excused by reason of Force Majeure; (ii) any full or partial curtailment in the electric output of the PV System that is caused by or arises from a mechanical or equipment breakdown or other mishap or events or conditions attributable to normal wear and tear or flaws, unless such mishap is caused by one of the following: catastrophic equipment failure; acts of God; sudden actions of the elements, including, but not limited to: floods; hurricanes, tornadoes; sabotage; terrorism; war; riots; and emergency orders issued by a governmental authority or (iii) changes in market conditions that affect the cost of Public Service's or SRC Producer's supplies, or that affect demand or price for any of Public Service's or SRC Producer's products.

**6.2 Applicability of Force Majeure.** (a) Neither Party shall be responsible or liable for any delay or failure in its performance under this Agreement, nor shall any delay, failure, or other occurrence or event become an event of default, to the extent such delay, failure, occurrence or event is substantially caused by conditions or events of Force Majeure, provided that:

- i. the non-performing Party gives the other Party prompt written notice describing the particulars of the occurrence of the Force Majeure;
- ii. the suspension of performance is of no greater scope and of no longer duration than is required by the Force Majeure;

- iii. the non-performing Party proceeds with reasonable diligence to remedy its inability to perform and provides weekly progress reports to the other Party describing actions taken to end the Force Majeure; and
- iv. when the non-performing Party is able to resume performance of its obligations under this Agreement, that Party shall give the other Party written notice to that effect.

(b) Except as otherwise expressly provided in this Agreement, the existence of a condition or event of Force Majeure shall not relieve the Parties of their obligations under this Agreement (including, but not limited to, payment obligations) to the extent that performance of such obligations is not precluded by the condition or event of Force Majeure. Notwithstanding this provision, Public Service shall have no obligation to make any payment for Photovoltaic Energy or RECs under this Agreement except for actual production as measured by the metering provisions of this Agreement.

**6.3 Limitations on Effect of Force Majeure.** In no event will any delay or failure of performance caused by any conditions or events of Force Majeure extend this Agreement beyond its stated Term. In the event that any delay or failure of performance caused by conditions or events of Force Majeure continues for an uninterrupted period of three hundred sixty-five (365) days from its occurrence or inception, as noticed pursuant to Section 6.2(a)(i) above, the Party not claiming Force Majeure may, at any time following the end of such three hundred sixty-five (365) day period, terminate this Agreement upon written notice to the affected Party, without further obligation by either Party except as to costs and balances incurred prior to the effective date of such termination. The Party not claiming Force Majeure may, but shall not be obligated to, extend such three hundred sixty-five (365) day period, for such additional time as it, at its sole discretion, deems appropriate, if the affected Party is exercising due diligence in its efforts to cure the conditions or events of Force Majeure. This provision shall not operate to relieve the Customer of any obligation to return to Public Service a prorated amount of any rebate paid under any related Rebate Agreement pursuant to the Terms and Conditions thereof.

## ARTICLE VII

### DEFAULT

**7.1 Default.** Any breach of a material term or provision of this Agreement shall be considered an event of default hereunder. If any disputes arise concerning this Agreement, including but not limited to enforcement of any term or condition of the Agreement, the prevailing Party in any action brought for the purpose of enforcing such provisions shall be entitled to recover its reasonable attorney fees, expenses and costs of such action from the non-prevailing Party. Prior to commencing any action to enforce this Agreement, the non-defaulting Party shall provide written notice of default to the Party asserted to be in default and the Party asserted to be in default shall have a period of thirty (30) days following receipt of such written notice within which to cure the asserted default (or if the asserted default is of a nature which cannot reasonably be cured within such 30-day period, to commence and thereafter diligently pursue a cure thereof.) Failure of either Party to assert a default or to enforce any term or condition of this Agreement shall not constitute a waiver of any other similar or other default, or waiver of such term or condition or of any other term or condition of this Agreement. Each Party hereby irrevocably and unconditionally waives any right to a trial by jury for the resolution of any dispute arising under this Agreement.

## ARTICLE VIII

### LIABILITY AND INDEMNIFICATION

**8.1 Limitation of Liability.** Public Service shall not be responsible or liable for any personal injury or property damage caused by the PV System or any individual component equipment of the system. Public Service shall not be liable to the SRC Producer for any punitive, special, exemplary or consequential damages, including but not limited to, lost profits, loss of use, and costs of replacement, whether based in contract, tort, upon any theory of indemnity, or otherwise. Public Service makes no warranty or representation concerning the taxable consequences, if any, to SRC Producer with respect to the production and sale of Photovoltaic Energy or RECs, and SRC Producer is urged to seek professional advice regarding this issue.

**8.2 Indemnification by SRC Producer.** SRC Producer shall indemnify, defend, and hold Public Service, its employees, agents, successors, assigns, subsidiaries and affiliates harmless against any and all claims, demands, liens, lawsuits, judgments or actions of

whatsoever nature that may be brought on account of the installation, maintenance, operation, repair, or replacement of the PV System or any component equipment of the system, or SRC Producer's administration of Subscriptions or the performance of its responsibilities as a subscriber organization.

## ARTICLE IX

### LAWS AND REGULATORY BODIES

9.1 Agreement Subject to Laws and Regulations. This Agreement and the rights and obligations of the Parties hereunder shall be subject to all valid applicable state, local and federal laws, rules, regulations, ordinances, orders and decisions issued or promulgated for or by any court or regulatory agency having or asserting jurisdiction over this Agreement, the services to be performed hereunder or either of the Parties hereto.

9.2 Rights Upon Regulatory Agency or Court Action. Except as may be otherwise provided herein, in the event that any court or regulatory agency having or asserting jurisdiction over these premises takes any action or issues any determination that directly or indirectly prohibits performance to a material extent under this Agreement by either or both parties or otherwise makes such performance illegal or impossible, such action or determination will be considered to be an event of Force Majeure. In the event that any such court or regulatory agency takes any action or issues any determination that directly or indirectly effects a material adverse change to any substantive provision of this Agreement, in the terms of performance or with respect to the rights or obligations of either party hereto (in that party's reasonable good faith opinion), then the party materially adversely affected may: (i) continue to perform its obligations under the Agreement as changed, (ii) seek to renegotiate the terms of this Agreement by providing written notice to the other party of its desire to renegotiate, or (iii) at any time during a period of ninety (90) days next following receipt by the other party of written notice of any such action by any such court or regulatory agency, terminate this Agreement by providing written notice to the other party hereto on or before the end of such ninety (90) day period, such termination to be effective on the first day of the month next following ninety (90) days after the receipt of such notice of termination; provided however that, if such action or determination is rescinded prior to the effectiveness of such notice, such notice will be deemed invalid. In the event the Agreement terminates under this provision, all further rights and obligations of Public Service and SRC producer under this Agreement will be null and void. Each party hereto shall provide reasonable and prompt notice to the other party hereto as to any regulatory proceedings or actions described herein that could affect the rights and obligations of the Parties hereto.

9.3 Performance Pending Renegotiation or Termination. Irrespective of any action by any court or regulatory agency as contemplated by Sections 9.1 or 9.2, above, each of the Parties hereto shall continue to honor and perform all of their respective warranties, representations and obligations under this Agreement including, but not limited to, the obligations of SRC Producer to sell and deliver the Photovoltaic Energy output of the PV System and associated RECs to Public Service and the obligations of Public Service to accept and pay SRC Producer as provided herein, until the Parties either mutually renegotiate the terms of this Agreement or until this Agreement terminates pursuant to the provisions of Section 9.2 above.

9.4 Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Colorado.

## ARTICLE X

### MISCELLANEOUS PROVISIONS

10.1 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all constitute one and the same instrument. The Parties agree that a facsimile copy of a counterpart signed by the other Party will be deemed original and binding.

10.2 Successors and Assigns. This agreement shall be binding upon and inure to the benefit of the successors and assigns of the respective Parties hereto, and shall not be assigned by either Party without the written consent of the non-assigning Party, which consent shall not be unreasonably withheld. In no event shall any assignment by SRC Producer become effective before a new SRC Subscriber Agency Agreement has been entered into between SRC Producer's assignee and each and every SRC Subscriber.

10.3 Sharing of REC Information. By executing this Agreement, SRC Producer grants to Public Service permission to share information concerning the location of the generation of the RECs sold to Public Service by SRC Producer under this Agreement with

other Colorado public utilities, municipal utilities, electric cooperatives and other entities that may be involved with REC transactions for the purpose of ensuring that the RECs associated with the SRC Producer's PV System have not been sold to another entity and for any other legitimate business purpose, in Public Service's sole discretion.

**10.4 Relationship of the Parties.** Nothing herein is intended nor shall ever be construed to create a joint venture, partnership or any other type of association between the Parties, nor shall either Party have the right to act in behalf of or bind the other for any liability, cost, expense or undertaking except as set forth in this Agreement.

**10.5 Amendments or Modifications.** No amendment, modification, or change of this Agreement shall be binding upon the Parties unless such amendment, modification, or change is in writing and executed by the Parties.

**10.6 Construction.** No understandings or agreements not expressly stated herein shall be binding on the Parties in the construction or fulfillment hereof unless such understandings or agreements are reduced to writing and signed by the respective parties. The rule of construction that ambiguous provisions shall be interpreted against the drafter shall not apply to this Agreement.

**10.7 No Third-Party Beneficiaries.** Except as otherwise specifically provided herein, this Agreement is not intended to, and shall not, create rights, remedies, or any benefits of any character whatsoever, in favor of any person, corporation or other entity other than the Parties hereto, and the obligations herein assumed are for the use and benefit of the Parties, their successors in interest, and permitted assigns.

**10.8 Remedies Cumulative.** Except as otherwise specifically provided herein, each remedy provided for under this Agreement shall be taken and construed as cumulative and in addition to every other remedy provided for herein or available at law or in equity.

**10.9 Notices.** All notices, reports or other communications provided for in this Agreement shall be in writing and shall be deemed to have been sent when delivered by hand, sent by facsimile with verification, or when deposited in the United States mail, postage prepaid and properly addressed or when sent via overnight courier.

If to Public Service:

Xcel Energy  
Attn: Solar\*Rewards  
1800 Larimer St. Suite 1500  
Denver, CO 80212

If to SRC Producer:

or at such other address as either party may hereafter designate to the other in writing.

**10.10 Entire Agreement.** This Agreement, together with all Exhibits attached hereto, constitutes the entire understanding and agreement between the Parties with respect to the purchase of RECs from SRC Producer, and all prior agreements, understandings, or representations with respect to its subject matter are hereby canceled in their entirety and are of no further force and effect. Any amendment to this Agreement shall be in writing and signed by both parties hereto.

IN WITNESS WHEREOF, the undersigned Parties have executed this Agreement as of the date and year first above written.

SRC Producer:

SRC Producer Name (printed): Jeffco Community Solar Gardens LLC

SRC Producer Representative: David Amster-Olszewski

Title: CEO

SRC Producer Signature: [Signature] Date: 1/26/16

Public Service Company of Colorado d/b/a Xcel Energy:

By: [Signature]

Date: 6/2/16

Title: LOB Graham

As authorized agent for Public Service Company of Colorado

PV System Owner (if different from SRC Producer):

PV System Owner Name (printed):

PV System Owner Representative: \_\_\_\_\_

Title: \_\_\_\_\_

PV System Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Exhibit A**

to Solar\*Rewards Community Agreement

***DESCRIPTION OF SOLAR GARDEN SITE:***

**Exhibit B**

to Solar\*Rewards Community Agreement

**Sample of: SRC SUBSCRIBER AGENCY AGREEMENT  
FOR XCEL ENERGY SOLAR\*REWARDS COMMUNITY SERVICE (colorado)**

SRC Subscriber Name: \_\_\_\_\_  
SRC Subscriber Retail Customer Account No.: \_\_\_\_\_  
SRC Subscriber Service Address: \_\_\_\_\_  
SRC Subscriber E-mail Address: \_\_\_\_\_  
SRC Subscriber Mailing Address: \_\_\_\_\_  
SRC Subscriber Telephone No: \_\_\_\_\_(Primary) \_\_\_\_\_(Alt.)

SRC Producer (Subscriber Organization) Name: \_\_\_\_\_

Solar Garden ID No: **SRC023375**

Name and Location of Solar Garden: \_\_\_\_\_

SRC Subscriber's Initial Subscription Share (in kilowatts, or "kW"): \_\_\_\_\_kW

The undersigned SRC Subscriber hereby authorizes ("SRC Producer"), and SRC Producer hereby accepts the responsibility, to act as SRC Subscriber's agent for purposes of selling to Public Service Company of Colorado ("Public Service") all of SRC Subscriber's beneficial interest in and to the Photovoltaic Energy and associated Renewable Energy Credits generated by, and delivered to Public Service from, the Photovoltaic Energy System ("PV System") identified above, including full authority for SRC Producer to enter into a long-term contract on behalf of SRC Subscriber for such sale and to administer such contract, all pursuant to Public Service's Solar\*Rewards Community Program and Rate Schedule SRC of Public Service's electric tariff on file with the Colorado Public Utilities Commission ("Commission") and in effect from time to time.

1. **Duties of SRC Producer Generally.** SRC Producer shall be responsible for issuing and managing the subscriptions of all SRC subscribers in the PV System and for selling to Public Service the subscribed and unsubscribed portions of the Photovoltaic Energy and associated Renewable Energy Credits generated by the PV System and delivered to Public Service at the production meter located at the PV System site. In performing such functions, SRC Producer shall be solely responsible for communicating directly to Public Service SRC Subscriber's information concerning its subscription in the PV System, including its beneficial interest in the Photovoltaic Energy and associated Renewable Energy Credits generated and produced by the PV System. SRC Subscriber acknowledges and agrees that Public Service shall exclusively rely on such information as regularly and timely communicated from

the SRC Producer for the purpose of calculating the SRC Credit that will be applied by Public Service and reflected on SRC Subscriber's subsequent electric service bills as compensation for Public Service's receipt of SRC Subscriber's share of the Photovoltaic Energy and associated Renewable Energy Credits generated and produced by the PV System, in accordance with Rate Schedule SRC of Public Service's Colorado Public Utilities Commission electric tariff.

2. **Adjustments of Prior Period SRC Bill Credits.** To the extent the subscription information communicated by SRC Producer to Public Service and used by Public Service for purposes of calculating the SRC Credit applied on SRC Subscriber's electric service bill was incorrect, SRC Producer shall be responsible for processing all corrections or other adjustments of SRC Credits previously applied by Public Service to SRC Subscriber's electric service bills and to collect any overpayments and remit any underpayments for all such SRC Credits, as necessary, among SRC Subscriber and other SRC subscribers owning subscriptions in the PV System. SRC Subscriber acknowledges and agrees that any such corrections in amounts previously applied by Public Service as an SRC Credit on any of SRC Subscriber's electric service bills for prior periods shall be administered exclusively by SRC Producer, and that Public Service shall not be required to increase or reduce any SRC Credit previously applied to SRC Subscriber's electric service bill in any prior period to the extent such corrections are the result of incorrect subscription information for the PV System communicated to Public Service by SRC Producer. In connection with SRC Producer's execution of its responsibilities to process any such adjustments to SRC Credits previously applied by Public Service with respect to the PV System, SRC Subscriber hereby authorizes Public Service to disclose and release to SRC Producer any and all information reflected on SRC Subscriber's bills for retail electric service for all relevant periods, as may be necessary for SRC Producer to fully and properly administer such prior period adjustments among all SRC subscribers in the PV System.
3. **Limitation of Agency.** This Agency Agreement shall only serve to authorize SRC Producer to act as SRC Subscriber's agent with respect to SRC Subscriber's beneficial interest in and to the Photovoltaic Energy and associated Renewable Energy Credits generated by the PV System and delivered to Public Service to the extent that SRC Subscriber's subscription continues from time-to-time to qualify as a valid subscription in the PV System in accordance with Section 40-20-127, C.R.S., the effective rules and regulations promulgated thereunder by the Colorado Public Utilities Commission, and Rate Schedule SRC of Public Service's Colorado Public Utilities Commission electric tariff.
4. **Term of Agency and Termination.** (a) This Agency Agreement shall become effective upon its execution by both SRC Subscriber and SRC Producer and shall continue in effect for so long as a valid and existing contract between Public Service and SRC Producer for the purchase and sale of such Photovoltaic Energy and associated Renewable Energy Credits shall continue in effect.  
  
(b) This Agency Agreement may be terminated by either SRC Producer or SRC Subscriber upon Public Service's receipt of notice that SRC Subscriber's subscription in the PV System has been terminated or transferred in its entirety, or that SRC Subscriber no longer holds an interest in the beneficial use of the Photovoltaic Energy and associated Renewable Energy Credits generated by the PV System.  
  
(c) This Agency Agreement shall automatically terminate upon: (i) the effective date of the termination of the contract between SRC Producer and Public Service for the purchase and sale of Photovoltaic Energy and associated Renewable Energy Credits generated by the PV System; or (b) in the event of an effective assignment by SRC Producer of such contract, where Public Service has consented to such assignment in writing, the effective date of a replacement agency agreement between SRC Subscriber and the new owner or subscriber organization of the PV System that has taken assignment of such contract from SRC Producer.
6. **Representation and Acknowledgement.** By executing this SRC Subscriber Agency Agreement, SRC Subscriber represents and warrants that the information stated herein is true and correct to the best of SRC Subscriber's knowledge and belief and that SRC Subscriber has signed up for the stated subscription share size in the PV System through SRC Producer.
7. **Consent to Disclose Account Information.** SRC Subscriber shall provide to Public Service a completed and signed "Consent to Disclose Utility Customer Data" form granting consent for Public Service to share information regarding SRC Subscriber's past and present electric usage at the Service Address(es) identified above in order for SRC Producer independently to verify the extent of SRC Subscriber's eligibility to hold a subscription in the PV System pursuant to Section 40-20-127, C.R.S., the effective rules and regulations promulgated thereunder by the Colorado Public Utilities Commission, and Rate Schedule SRC of Public Service's Colorado Public Utilities Commission electric tariff. The Consent to Disclose Utility Customer Data form shall be that form posted from time to time on the Xcel Energy website or the website of the Colorado Public Utilities Commission.

IN WITNESS WHEREOF, this Agency Agreement was duly executed by the undersigned authorized representatives of SRC  
Subscriber and SRC Producer.

**SRC SUBSCRIBER**

**SRC PRODUCER**

\_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

# Attachment I

Table 1: Production Breakdown - Subscribed and Unsubscribed by CSG as of December 31, 2016

CSG #	CSG Owner	Project Award Date	Commercial Operation Date	Total kWh Billed	kWh Subscribed	kWh Unsubscribed	Percentage Subscribed
SRC010496	GC Solar 2, LLC	8/15/2012	9/10/2014	867,614	857,427	10,187	98.83%
SRC010497	RH Solar 1, LLC	8/15/2012	9/28/2013	593,289	584,314	8,975	98.49%
SRC010498	CEC SOLAR #1026, LLC	8/15/2012	6/24/2014	173,112	173,112	-	100.00%
SRC010499	Mesa Solar 1, LLC	8/15/2012	4/26/2013	786,707	782,828	3,879	99.51%
SRC010500	Summit Solar 1, LLC	8/15/2012	9/27/2013	708,095	706,143	1,952	99.72%
SRC010502	Breck Solar 1, LLC	8/15/2012	9/27/2013	740,266	738,506	1,760	99.76%
SRC010506	Aurora Solar Garden 1, LLC	8/15/2012	11/12/2013	857,120	857,120	-	100.00%
SRC010507	Community Energy Solar, LLC	8/15/2012	12/10/2013	792,733	792,733	-	100.00%
SRC010509	CEC Solar #1037, LLC	8/15/2012	6/10/2015	779,179	662,443	116,736	85.02%
SRC010512	Lafayette Solar LLC	8/15/2012	12/12/2013	803,664	803,664	-	100.00%
SRC011229	Fresh Air Energy VII, LLC	10/29/2012	11/5/2014	3,830,461	3,830,461	-	100.00%
SRC011647	CEC SOLAR #1023, LLC	10/29/2012	6/19/2014	874,327	872,045	2,282	99.74%
SRC011744	Fresh Air Energy VIII, LLC	10/29/2012	10/8/2014	3,364,582	3,364,565	17	100.00%
SRC018661	Arapahoe Community Solar Garden I LLC	6/3/2013	7/31/2015	898,827	894,090	4,737	99.47%
SRC018663	Denver Community Solar Garden I LLC	6/3/2013	6/30/2015	957,320	956,022	1,298	99.86%
SRC018664	Denver Community Solar Garden II LLC	6/3/2013	6/30/2015	960,153	959,664	489	99.95%
SRC018665	Adams Community Solar Garden I LLC	6/3/2013	7/31/2015	968,338	967,062	1,276	99.87%
SRC018667	CEC SOLAR #1021, LLC	6/3/2013	9/6/2014	870,151	864,019	6,132	99.30%
SRC018668	CEC SOLAR #1025, LLC	6/3/2013	6/10/2015	785,883	773,193	12,690	98.39%
SRC018669	CEC SOLAR #1022, LLC	6/3/2013	4/30/2015	1,003,404	1,003,394	10	100.00%
SRC018672	Adams Community Solar Garden II LLC	6/3/2013	7/31/2015	965,600	965,407	193	99.98%
SRC018677	Antonito Solar LLC	6/3/2013	11/10/2014	954,453	953,164	1,289	99.86%
SRC023375	Jeffco Community Solar Gardens LLC	11/1/2013	5/31/2016	1,478,443	1,471,782	6,661	99.55%
SRC023376	Adams Community Solar Garden III LLC	11/1/2013	7/31/2015	1,696,797	1,696,300	497	99.97%
SRC023377	Adams Community Solar Gardens LLC	11/1/2013	7/31/2015	2,843,824	2,842,405	1,419	99.95%
Total				29,554,342	29,371,864	182,478	99.38%

Table 2: Production Breakdown - Subscribed by CSG and Rate Class as of December 31, 2016\*

CSG #	CSG Owner	Count of Low Income Subscribers as of December 31 <sup>st</sup>	kWh - Low Income Subscribed	\$ - Low Income Subscribed	Total kWh - Subscribed	kWh - R Class Subscribed	\$ - R Class Subscribed	kWh - RD Class Subscribed	\$ - RD Class Subscribed	kWh - C Class Subscribed	\$ - C Class Subscribed	kWh - SG Class Subscribed	\$ - SG Class Subscribed	kWh - SGL Class Subscribed	\$ - SGL Class Subscribed	kWh - SPVTOU Class Subscribed	\$ - SPVTOU Class Subscribed	kWh - PG Class Subscribed	\$ - PG Class Subscribed
SRC010496	GC Solar 2, LLC	10	48,420.60	\$3,571.06	857,427	388,858.33	\$ 28,678.37	-	\$ -	-	\$ -	468,567.61	\$ 146,841.37	-	\$ -	-	\$ -	-	\$ -
SRC010497	RH Solar 1, LLC	7	33,457.48	\$2,467.47	584,314	311,406.67	\$ 22,966.21	61,912.68	\$ 4,384.03	113,675.36	\$ 72,732.37	94,726.49	\$ 8,212.18	-	\$ -	2,595.04	\$ 123.45	-	\$ -
SRC010498	CEC SOLAR #1026, LLC	4	10,598.60	\$781.64	173,112	103,867.51	\$ 7,660.16	-	\$ -	-	\$ 17,311.20	69,244.80	\$ 10,134.66	-	\$ -	-	\$ -	-	\$ -
SRC010499	Mesa Solar 1, LLC	11	50,117.96	\$3,696.19	782,828	356,228.27	\$ 26,271.75	-	\$ -	37,239.57	\$ 88,898.38	340,945.45	\$ 29,171.50	48,410.80	\$ 17,972.99	-	\$ -	-	\$ -
SRC010500	Summit Solar 1, LLC	9	47,625.03	\$3,512.31	706,143	173,486.12	\$ 12,794.53	-	\$ -	29,406.46	\$ 2,146.95	503,251.60	\$ 126,465.55	-	\$ -	-	\$ -	-	\$ -
SRC010502	Breck Solar 1, LLC	10	37,048.87	\$2,732.33	738,506	45,755.13	\$ 3,374.41	-	\$ -	78,173.58	\$ 86,974.20	525,659.20	\$ 49,731.88	-	\$ -	-	\$ -	88,918.52	\$ 4,559.75
SRC010506	Aurora Solar Garden 1, LLC	8	47,582.76	\$3,509.27	857,120	180,809.45	\$ 13,334.74	-	\$ -	-	\$ 85,712.00	676,312.28	\$ 136,006.37	-	\$ -	-	\$ -	-	\$ -
SRC010507	Community Energy Solar, LLC	24	39,623.84	\$2,922.33	792,733	39,623.84	\$ 2,922.33	-	\$ -	-	\$ -	753,111.43	\$ 144,704.34	-	\$ -	-	\$ -	-	\$ -
SRC010509	CEC Solar #1037, LLC	13	45,153.43	\$3,330.08	662,443	50,808.53	\$ 3,747.15	-	\$ -	53,959.15	\$ 72,244.23	557,674.92	\$ 76,544.37	-	\$ -	-	\$ -	-	\$ -
SRC010512	Lafayette Solar LLC	18	40,184.64	\$2,963.69	803,664	40,184.64	\$ 2,963.69	-	\$ -	-	\$ -	763,480.75	\$ 143,431.84	-	\$ -	-	\$ -	-	\$ -
SRC011229	Fresh Air Energy VII, LLC	14	191,530.66	\$13,929.37	3,830,461	44,927.45	\$ 3,313.39	-	\$ -	223,057.28	\$ 16,285.37	1,527,321.73	\$ 320,532.55	-	\$ -	-	\$ -	2,035,162.24	\$ 117,215.76
SRC011647	CEC SOLAR #1023, LLC	18	43,306.68	\$3,193.81	872,045	76,309.00	\$ 5,627.72	-	\$ -	62,589.63	\$ 39,492.92	733,143.94	\$ 163,035.32	-	\$ -	-	\$ -	-	\$ -
SRC011744	Fresh Air Energy VIII, LLC	16	168,222.40	\$12,325.45	3,364,565	58,789.34	\$ 4,335.74	-	\$ -	303,946.22	\$ 22,191.12	3,001,826.22	\$ 545,499.54	-	\$ -	-	\$ -	-	\$ -
SRC018661	Arapahoe Community Solar Garden I LLC	11	44,853.50	\$3,307.98	894,090	157,329.97	\$ 11,603.11	21,277.94	\$ 1,506.70	1,629.72	\$ 118.99	713,853.27	\$ 219,458.81	-	\$ -	-	\$ -	-	\$ -
SRC018663	Denver Community Solar Garden I LLC	16	53,152.95	\$3,919.98	956,022	562,409.11	\$ 41,477.74	-	\$ -	12,624.69	\$ 96,546.85	380,991.36	\$ 124,910.06	-	\$ -	-	\$ -	-	\$ -
SRC018664	Denver Community Solar Garden II LLC	13	46,265.48	\$3,412.06	959,664	268,617.69	\$ 19,810.63	1,311.90	\$ 92.90	-	\$ 95,975.04	689,738.34	\$ 155,109.09	-	\$ -	-	\$ -	-	\$ -
SRC018665	Adams Community Solar Garden I LLC	15	48,933.60	\$3,608.85	967,062	225,033.45	\$ 16,596.19	-	\$ -	-	\$ -	742,029.32	\$ 193,925.53	-	\$ -	-	\$ -	-	\$ -
SRC018667	CEC SOLAR #1021, LLC	10	43,618.06	\$3,216.82	864,019	43,618.06	\$ 3,216.82	-	\$ -	230,506.47	\$ 16,829.29	589,895.38	\$ 115,379.79	-	\$ -	-	\$ -	-	\$ -
SRC018668	CEC SOLAR #1025, LLC	9	61,724.81	\$4,552.20	773,193	397,915.08	\$ 29,346.16	-	\$ -	17,139.43	\$ 1,251.33	358,138.92	\$ 91,701.43	-	\$ -	-	\$ -	-	\$ -
SRC018669	CEC SOLAR #1022, LLC	8	50,199.38	\$3,702.19	1,003,394	101,012.74	\$ 7,449.69	-	\$ -	107,746.50	\$ 7,866.58	794,633.98	\$ 172,547.89	-	\$ -	-	\$ -	-	\$ -
SRC018672	Adams Community Solar Garden II LLC	18	48,360.40	\$3,566.59	965,407	69,529.23	\$ 5,127.84	-	\$ -	-	\$ -	895,880.83	\$ 229,197.65	-	\$ -	-	\$ -	-	\$ -
SRC018677	Antonito Solar LLC	16	48,774.19	\$3,597.20	953,164	96,305.98	\$ 7,102.70	-	\$ -	331,987.49	\$ 100,514.31	496,185.79	\$ 50,954.80	-	\$ -	-	\$ -	28,685.13	\$ 1,649.96
SRC023375	Jeffco Community Solar Gardens LLC	18	74,761.03	\$5,513.64	1,471,782	117,217.62	\$ 8,644.83	-	\$ -	-	\$ 117.56	1,354,566.31	\$ 263,221.42	-	\$ -	-	\$ -	-	\$ -
SRC023376	Adams Community Solar Garden III LLC	30	84,842.28	\$6,257.13	1,696,300	84,842.28	\$ 6,257.13	-	\$ -	8,430.13	\$ 615.47	1,603,028.29	\$ 197,606.26	-	\$ -	-	\$ -	-	\$ -
SRC023377	Adams Community Solar Gardens LLC	38	139,662.90	\$10,300.21	2,842,405	141,144.80	\$ 10,409.50	-	\$ -	-	\$ -	2,701,265.94	\$ 307,083.22	-	\$ -	-	\$ -	-	\$ -
Total		364	1,548,021.53	\$113,889.85	29,371,863.97	4,136,030.29	\$ 305,032.53	84,502.52	\$ 5,983.63	1,612,111.68	\$ 823,824.16	21,335,474.15	\$ 4,021,407.42	48,410.80	\$ 17,972.99	2,595.04	\$ 123.45	2,152,765.89	\$ 123,425.47

\* Due to billing cycle factors dollar values reported in the general ledger may differ from those reported in Table 2.

\*\* Due to rounding the sum of SRC production for the respective customer classes may be different from the garden level data