

NEW APPLICATION



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IN THE MATTER OF THE APPLICATION OF) DOCKET NO. E-01933A-15-0239
TUCSON ELECTRIC POWER COMPANY FOR)
APPROVAL OF ITS 2016 RENEWABLE)
ENERGY STANDARD IMPLEMENTATION) APPLICATION
PLAN.)

Tucson Electric Power Company ("TEP" or the "Company"), through undersigned-counsel, hereby submits its 2016 Renewable Energy Standard and Tariff ("REST") Implementation Plan ("Plan") for Arizona Corporation Commission ("Commission") approval, in compliance with A.A.C. R14-2-1801 *et seq.*

TEP's Plan is designed to achieve 2016 REST requirement of providing six (6) percent of retail sales (or 543,825 megawatt hours ("MWh")) from renewable generating resources as cost-effectively as possible. Key components of the Plan include: i) new renewable energy resources intended to be added through 2019; ii) new and existing programs and budgets; and iii) proposed rates and REST tariffs.¹ To fund these efforts, TEP is proposing to recover approximately \$48 million through the REST tariff. The estimated cost to implement the Plan is approximately \$57 million, which will be partially offset by applying approximately \$9 million of carryover funds from the 2014 budget. In order to implement the Plan, TEP requests that the Commission approve an increase in the REST surcharge from \$0.00800 per kWh for 2015 to \$0.01300 per kWh for 2016, as

¹ For its Plan, Exhibit 3 (AMCCCG) and Exhibit 5 (New Implementation Plan New Resource Costs) are confidential and will be provided to Commission Staff upon execution of a protective agreement.

1 well as an increase in the surcharge caps across rate classes. The increase in the budget and the
2 surcharge result primarily from: (i) an increase in difference between the cost of renewable
3 generation compared with conventional generation, and (ii) higher volumes of purchased renewable
4 energy from third party PPAs.

5 The Company's Plan also includes a request to expand TEP Residential Solar Program and a
6 new Residential Community Solar Program. TEP is not proposing any new incentives for residential
7 or non-residential solar distributed generation or solar water heating. TEP's Plan provides for
8 renewable generation to meet the 2016 annual compliance requirement, with the exception of the
9 residential portion of the annual Distributed Renewable Energy Requirement set forth in A.A.C. R14-
10 2-1805(D). Therefore, TEP will require a waiver for the residential portion of the Distributed
11 Renewable Energy Requirement set forth in A.A.C. R14-2-1805(D).
12

13 TEP believes it is in the public interest to implement cost-effective, customer-based solutions
14 to meet the Company's REST requirements while providing safe, reliable and affordable energy to all
15 its customers. Accordingly, TEP requests the Commission to issue an order prior to December 31,
16 2015, to be effective January 1, 2016 that:
17

- 18 1. Approves of its 2016 Renewable Energy Implementation Plan; and
- 19 2. Provides a waiver from compliance with the residential portion of the annual Distributed
20 Renewable Energy Requirement set forth in A.A.C. R14-2-1805(D).
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1 RESPECTFULLY SUBMITTED this 1st day of July 2015.

2 TUCSON ELECTRIC POWER COMPANY

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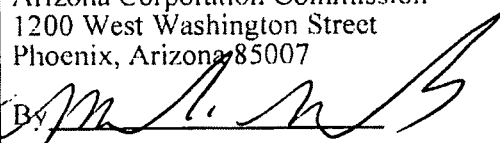
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By 



Tucson Electric Power

**2016 Renewable Energy Standard
Implementation Plan**

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ATTACHED EXHIBITS

- Exhibit 1: Line Item Budget
- Exhibit 2: Definition of Market Cost of Comparable Conventional Generation (“MCCCG”)
- Exhibit 3: Above-Market Cost of Comparable Conventional Generation by Technology (“AMCCCG”)*
- Exhibit 4: Implementation Plan New Resources
- Exhibit 5: Implementation Plan New Resource Costs *
- Exhibit 6: Rider-6 Renewable Energy Standard Tariff and Statement of Charges
- Exhibit 7: Customer Load Percentage Analysis
- Exhibit 8: Residential Community Solar Tariff
- Exhibit 9: Renewable Energy Credit Purchase Program

* Confidential

I. EXECUTIVE SUMMARY

Tucson Electric Power Company ("TEP" or "Company") hereby submits its 2016 Implementation Plan ("Plan") in compliance with the Arizona Corporation Commission's ("Commission") Renewable Energy Standard and Tariff ("REST") Rules pursuant to A.A.C R14-2-1813. The cost-effective strategy set forth in the Plan demonstrates TEP's commitment to fulfilling the REST requirements for 2016 and beyond. Key components of the Plan include: new renewable energy resources to be added through 2020; proposed and existing Company programs and budgets; and related REST tariff.

Pursuant to A.A.C. R14-2-1804 and R14-2-1805, TEP must obtain six percent (6%) of its 2016 annual retail sales from renewable resources; and thirty (30) percent of that renewable energy must come from distributed generation ("DG") resources. Further, TEP must meet one-half of its annual DG requirement from residential applications and the remaining one-half from non-residential, non-utility applications. TEP plans to satisfy these REST requirement using existing utility-scale renewable generation and credits; power purchase agreements ("PPA") with renewable developers; new utility-owned renewable generation; and DG resources.

To fund these efforts, TEP is proposing to recover approximately \$48 million through the REST tariff. The estimated cost to implement the Plan is approximately \$57 million, which will be partially offset by applying approximately \$9 million of carryover funds from the 2014 budget. This funding is necessary to cover the cost of renewable energy purchases in excess of the cost of conventional generation; legacy performance-based incentive payments; and program, outreach and administrative costs.

The cost of renewable energy is included in two components of TEP's rates – the REST surcharge and the Purchased Power and Fuel Adjustment Clause ("PPFAC"). The market price for conventional generation in TEP's Plan is approximately thirty percent (30%) below the price for conventional generation that was included in its 2015 REST Plan. As a result of these lower conventional prices and an increased amount of purchased energy from existing PPAs, the cost of renewable energy in excess of

conventional generation included in TEP's Plan is approximately \$16 million higher last year and the offsetting decrease in the cost of conventional generation will be reflected in TEP's PPFAC. TEP expects its annual REST budgets for 2017 through 2020 to average approximately \$45 million. (See Exhibit 1).

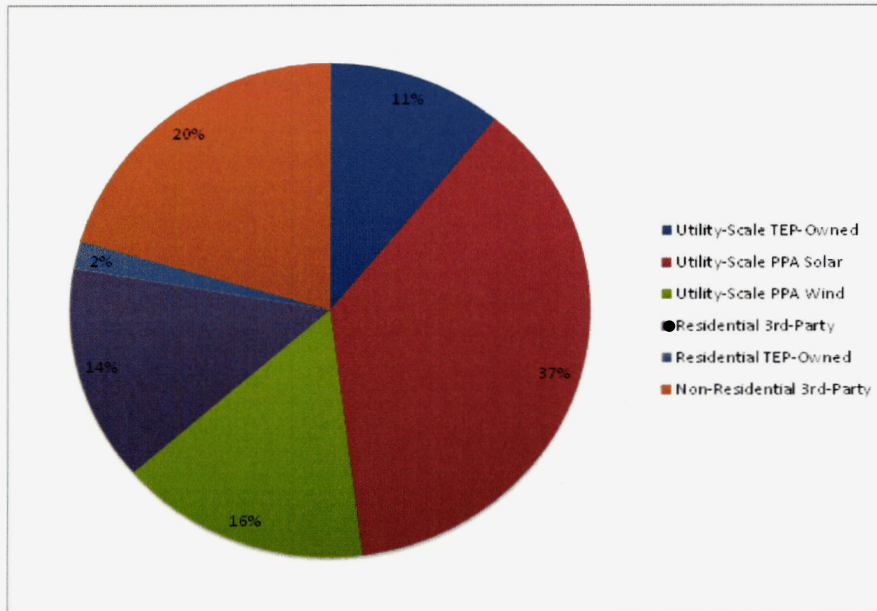
TEP's Plan demonstrates the Company's commitment to meeting the renewable energy requirements in the most cost effective manner and is in the public interest. TEP's Plan provides for renewable generation to meet the 2016 annual compliance requirement. However, as the Company no longer receives Renewable Energy Credits ("REC") from customer-based installations, TEP will require a waiver for the residential portion of the DG requirement set forth in A.A.C. R14-2-1805(D). TEP respectfully requests that the Commission approve the Plan, as well as its associated budget and tariff, prior to December 31, 2015 to be effective January 1, 2016.

II. TEP 2016 IMPLEMENTATION PLAN COMPONENTS

For 2016, TEP's total renewable generation requirement is six percent (6%) of retail kWh sales, a level projected to equal 543,825 megawatt hours ("MWh"). The REST targets two resource categories: utility-scale generation and DG.

TEP's Plan will allow the Company to provide 6% of its retail energy requirements from renewable resources in 2016 and continue its efforts to maintain a diversified and cost-effective renewable resource portfolio as set forth in Graph 1.

Graph 1. TEP's 2016 Renewable Resource Portfolio



A. Utility-Scale Renewable Generation

TEP will satisfy the 2016 utility-scale requirement through the total output of renewable resources of 326 megawatts (“MW”) (see [Table 1](#)) – this total is comprised of solar photovoltaic (“PV”) systems with a combined rated capacity of approximately 236 MW as well as wind and other renewable resources with a combined rated capacity of approximately 90 MW. Of this total, 266 MW will come from renewable PPAs currently in effect or with anticipated completion dates in 2016. The remaining 60 MW will come from TEP-owned facilities.

The combination of TEP-owned generation facilities and PPAs should allow the Company to continue to meet and exceed its renewable energy requirements for the next five years. [Graph 2](#) shows how TEP’s current and planned resources will allow the Company to satisfy its utility-scale requirement through approximately 2020. [Table 1](#) details TEP’s utility-scale projects, including existing systems and planned resources.

Graph 2. Renewable Energy Standard Targets

Note: Graph 2 does not include carryover credits

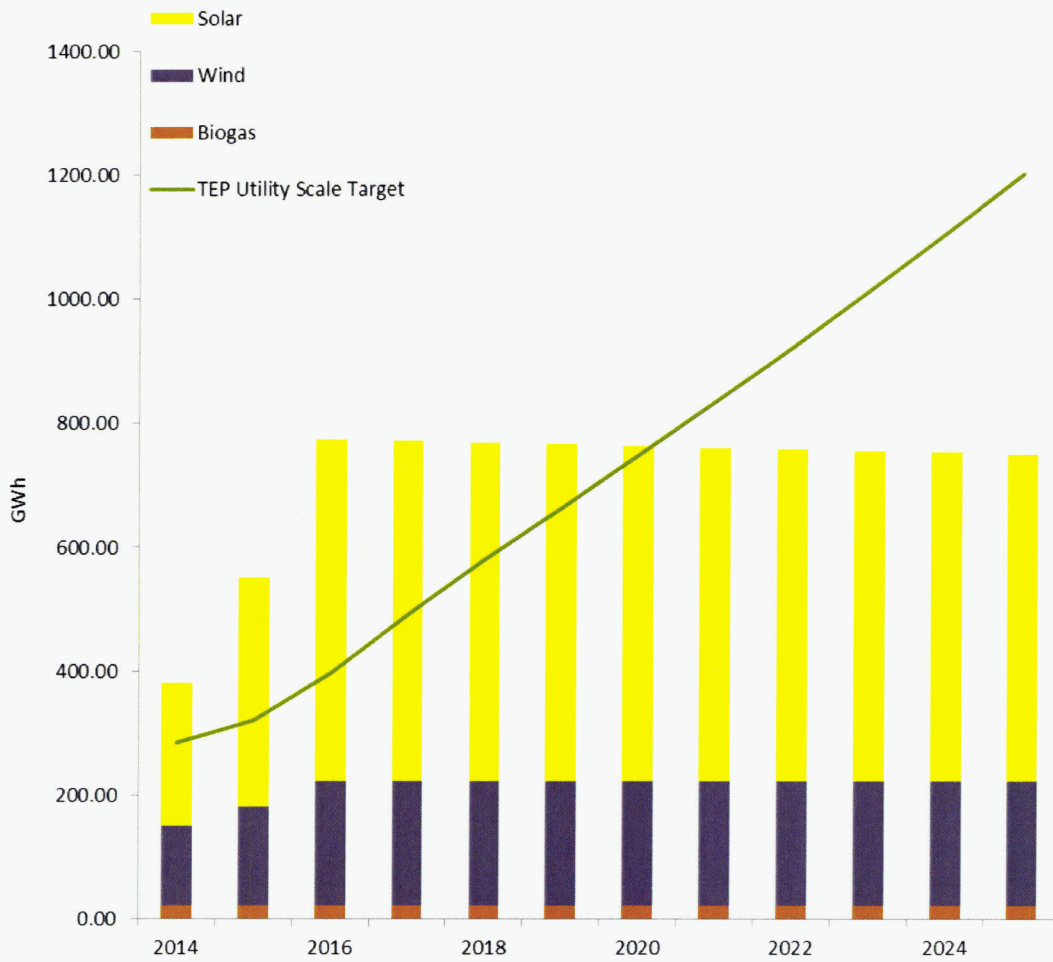


Table 1. Utility Scale Generation

Project	Capacity MW	Annual MWh	Technology	Expected In-Service Date	TEP Owned
Existing Renewable Generation					
SGS (4.6 + 1.81)	6.40	7,265	Fixed PV	Operational	Yes
UASTP I	1.60	2,981	SAT PV	Operational	Yes
* Macho Springs	50.40	130,244	Wind	Operational	No
Picture Rocks	25.00	57,372	SAT PV	Operational	No
Avra Valley	34.41	75,930	Fixed PV	Operational	No
Avalon Solar	35.00	82,563	Fixed PV	Operational	No
UASTP III	5.00	7,835	Fixed PV	Operational	Yes
Solon Prairie Fire	5.00	7,835	Fixed PV	Operational	Yes
Gatos Montes	6.00	10,303	Fixed PV	Operational	No
Cogenra	1.38	2,650	LCPV	Operational	No
Amonix UASTP	2.00	4,049	CPV	Operational	No
E.On Tech Park	6.60	15,300	SAT PV	Operational	No
Valencia Solar	13.20	26,768	SAT PV	Operational	No
White Mountain Solar	10.00	19,947	Fixed/LCPV	Operational	Yes
* Sundt Augmentation	5.00	14,310	Steam Aug	Operational	Yes
Fort Huachuca PHI	17.20	38,635	Fixed PV	Operational	Yes
SunPower (OH & HQ)	0.62	2,076	Fixed PV	Operational	Yes
* Sundt Landfill Gas	4.00	21,100	Biogas	Operational	Yes
Total Existing	228.81	527,164			
Bright Tucson Solar Buildout Plan					
Project	Capacity MW	Annual MWh	Technology	Expected In-Service Date	TEP Owned
Fort Huachuca PHII	5.00	11,231	Fixed PV	15-Nov	Yes
Total Future - BTSBP	5	11,231			
Future Renewable Generation					
Avalon Solar II	21.00	49,787	SAT PV	15-Dec	No
* Red Horse (Wind)	30.00	70,956	Wind	15-Aug	No
* Red Horse (Solar)	41.00	120,610	Solar	15-Aug	No
Total Future – Pending (Contracts)	92.00	241,353			
Total Planned Generation (Contracts)	326	779,748			
Total Planned Generation thru 2016	326	779,748			

* Notes AC Capacity

B. Bright Tucson Solar Buildout Plan

TEP's solar ownership plan ("Bright Tucson Solar Buildout Plan" or "Buildout Plan") has accounted for a portion of the Company's compliance with the REST utility-scale requirement. TEP's 2011 proposed investment of \$28 million in the Buildout plan was approved by the Commission in Decision No. 72033 and subsequently affirmed in Decision No. 72736. TEP subsequently received Commission approval in Decision No. 74165 to invest an additional \$28 million in the Bright Tucson Solar Buildout Plan in 2014 and another \$12 million in 2015. The combined \$40 million was designated for the development of a solar array at the U.S. Army's Fort Huachuca. Phase I of Ft. Huachuca was completed at the end of 2014. Phase II is currently under construction, and is expected to be commercially operational by the first quarter of 2016.

The Bright Tucson Solar Buildout Plan continues to be an essential component of the Company's renewable energy strategy, however, going forward the Company will no longer request recovery of costs related to new investments through the REST. TEP will continue to invest in renewable technologies in the future as the Company transitions to a more sustainable resource portfolio but will recover those costs through traditional methods. Through the Bright Tucson Solar Buildout Plan and other projects, TEP expects to own approximately eighteen (18) percent of its renewable energy portfolio by the end of 2016.

Table 2 and Table 3 show forecasted revenue requirements associated with the Company's Buildout program by category and project.

Table 2. Revenue Requirement for the Bright Tucson Solar Buildout Plan

Revenue Requirement	2016	2017	2018	2019	2020
Carrying Costs	\$4,085,866	\$531,329	\$475,422	\$310,061	\$ -
Book Depreciation	4,388,532	600,000	600,000	600,000	-
Property Tax Expense	392,960	-	-	65,013	-
O&M	498,667	69,525	71,611	73,759	-
Lease Expense	-	-	-	-	-
Total Revenue Requirement	\$ 9,366,025	\$ 1,200,854	\$ 1,147,033	\$ 1,048,833	\$ -

Table 3. Estimated Annual REST Budget for the Bright Tucson Solar Buildout Plan

Utility Owned Solar Projects by Year	2016	2017	2018	2019	2020
2012 - HQ Rooftop 0.05 MW	\$ 25,584	\$ -	\$ -	\$ -	\$ -
2014 - Springerville Expansion 10 MW	4,202,501	-	-	-	-
2014 - Ft Huachuca 17.5 MW	3,105,501	-	-	-	-
2015 - AREVA 5 MW	840,169	-	-	-	-
2016 - Ft Huachuca 4.5 MW	1,192,271	1,200,854	1,147,033	1,048,833	-
Annual Revenue Requirement	\$9,366,025	\$1,200,854	\$1,147,033	\$1,048,833	\$ -

C. Energy Storage Solicitation

As part of TEP’s 2015 REST Implementation Plan, the Company included its intent to issue a solicitation for energy storage capacity. The Commission ordered TEP to include information on the energy storage solicitation in the Company’s 2016 REST Implementation Plan, including customer rate impacts and other information relevant to the Commission’s consideration of the results in TEP’s Plan.

In June 2015, TEP issued a solicitation to lease a utility-scale 10 MW capacity Energy Storage System (“ESS”). The goal of the solicitation is to review the cost effectiveness of available technologies and product offerings. The solicitation was administered through a third party independent monitor, Accion Group, LLC, who used various channels of media to reach out to as many companies representing as many technologies as possible. At the time of this filing, over 100 companies had registered on the independent monitor’s request for proposal (“RFP”) website with twenty-one (21) qualified vendors (those vendors who have a verifiable history of ESS management and possess the financial wherewithal to provide long term security) submitting bids. Those bids are currently under review.

The Company believes that as higher penetration levels of intermittent and variable renewable generation are integrated into the grid, utilities will need additional, more flexible resources to manage

these intermittent resources while providing ancillary services such as operating capacity, voltage control, VAR support, and frequency control.

In addition, these new storage technologies and resources create cost recovery issues that will have an impact on all customers. Although these new storage technologies will be used to mitigate the impacts of the variable generation, there is no clear guidance on how their costs should be recovered. As such, the Company requested guidance from the Commission in the 2015 REST Implementation Plan. Staff recommended, and the Commission ordered, that the “current preference for cost recovery of a project resulting from Tucson Electric Power’s energy storage solicitation is through the PPFAC”. TEP expects to provide the Commission with additional information regarding the outcome of its ESS solicitation and evaluation in August 2015, including potential customer rate impacts in the Company’s PPFAC.

D. TEP-Owned Residential Solar Program

In the Company’s 2015 REST Implementation Plan, the Commission approved the first year of a TEP-Owned Residential Solar Program. Per Commission order (Decision No. 74884) the overall program costs are capped at \$10 million and TEP has limited the size of the Program to a maximum of 600 residential customers. In the first half of 2015, the Company completed an RFP for local installers, solar PV panels, and inverters. Contracts were awarded to three local solar PV installers, a solar PV panel manufacturer, and a solar PV inverter company.

While the program was being designed, TEP created a list of interested customers. At the time of this filing, the Company had approximately 3,400 customers on the list who had heard about the program via press releases, website announcements and word-of-mouth.

Thirty (30) customers from the general interest list were invited via email to participate in a soft launch of the program beginning in late April 2015. This soft launch was done to ensure that processes and workflows for the programs worked as planned. Twenty-three (23) customers responded to the invitation and eighteen (18) met all the TEP-Owned Residential Solar Program requirements. Ten (10) of those customers have executed contracts, initiating the installation process, while eight (8) customers are still reviewing their contracts. As of this submittal, one (1) system has been installed, inspected and commissioned.

In pursuit of technical research and development goals, discussed in more depth in following paragraphs, the Company has also prioritized the participation of an additional fifty-seven (57) customers. These customers were identified from the interest list as being located on particular feeder circuits within the Company's distribution network that meet loading and communication criteria. Once installations have been completed on these circuits, TEP will begin to incorporate the systems into the energy management system in order to directly communicate with the PV systems.

The Company plans to complete the broader launch in July 2015 and notify interested customers that the TEP-Owned Residential Program has launched and that applications are available to be submitted to TEP. Due to time needed for installation of the arrays, the Company anticipates that customers who sign up towards the end of 2015, will not have their arrays installed until the beginning of 2016.

Decision No. 74884 requires the Company to provide an annual report that discusses several key aspects of utility DG ownership including: (1) information regarding specific feeder capacity limits impacted by program installations; (2) avoided system reinforcements or capital improvements due to the program installations; (3) operational impacts of the proposed distribution management system with

respect to voltage and frequency control; and (4) any potential opportunities to study energy storage and PV coordination management at the feeder level.

With regards to (1), (2) and (3) the Company's engineering and distribution planning groups have identified several feeders that would potentially benefit from additional generation capacity, in this case solar DG. This information is being used to prioritize, on a geographical basis, potential customers of the TEP-Owned Residential Solar Program. As systems are installed on identified feeders, the Company will monitor, assess and report on the operational effects on feeders, avoided system reinforcements, and voltage and frequency support. In addition to the current utility-scale energy storage project solicitation (with regards to (4) above), TEP will consider potential storage and PV coordination management study opportunities. This will be an ongoing process as additional arrays are deployed onto TEP's distribution grid.

TEP is proposing to expand the TEP-Owned Residential Solar Program in 2016, by investing up to an additional \$15 million and expanding participation by up to an additional 1,000 customers.

E. Residential Community Solar Program

As part of TEP's 2015 REST Implementation Plan (Decision No. 74884), the Commission ordered the Company to provide a report on the *"feasibility, costs, benefits, and other aspects of larger scale distributed generation options, either company-owned or through purchased power agreements and if Tucson Electric Power Company wishes, an implementation proposal, as part of their REST activities."* TEP's Plan includes a new Residential Community Solar tariff that will provide customers with more options for going solar, while enabling the Company to build more cost-effective utility-scale community

solar facilities.

In 1999, more than 16 years ago, the Commission initiated the development of a mandatory environmental portfolio standard. By 2000, Arizona had one of the nation's first renewable energy standards, known as the Environmental Friendly Portfolio Standard. The Commission found the standard to be in the public interest, in part by relying on a critical Finding of Fact that should apply to all decisions regarding renewable energy:

"The development of renewable resources should be designed to achieve maximum benefit for the money spent." (Decision No. 62506, Fact 38, page 25)

In 2006, the Commission approved the REST (Decision No. 69127).¹ Since its adoption, affected utilities have strived to not only achieve, but exceed, the standard. The Commission has supported the utilities' efforts to "achieve the maximum benefit for the money spent" by approving specific programs, clarifying vague provisions, or providing exceptions when in the public interest.

In the context of the requirement to provide information regarding the "feasibility, costs, benefits, and other aspects" of larger scale DG, the Company would like to focus on the definition of DG included in the REST, the rationale for having DG and the requirements pertaining to implementing DG. There are several definitions relating to DG in the REST, and while all are similar to standard industry definitions, they all contain a singular provision unique to Arizona requiring that the generation be sited on a

¹ This reference is provided as Appendix A and contains A.A.C. R14-2-1801 through 1815, which thoroughly describe the provisions and requirements set forth in the REST. The Decision itself contains nearly 57 pages of Findings of Fact providing a summary of discussions, filings, and comments from interested parties throughout the development of the current standard.

customer's premises. This requirement prevents affected utilities from (i) using all DG resources in meeting the REST standard and, more importantly, (ii) maximizing the benefits of investing in DG that can be placed anywhere on the Company's distribution system and not just limiting DG to that which is on the customer's premises.

There does not appear to be any specific rationale in the record pertaining to the requirement that DG must be sited solely on a customer's premises. It is noted in the Commission's own analysis following approval of the REST rules² that the use of distributed resources will ensure that a percentage of the Annual Renewable Energy Requirement will come from Arizona resources. However, there is no need for the resource to be located on a customer's premises to achieve that objective.

In Decision No. 69127 (November 14, 2006), the Commission Staff's Economic, Small Business, and Consumer Impact Statement³ emphasized the reliability benefits of using renewable resources in Arizona, such as fewer supply disruptions and less volatile price fluctuations. While acknowledging a "major emphasis in the proposed Renewable Energy Standard and Tariff Rules on Distributed Resources", it only stipulates an increase in reliability of service to areas with distributed resources and an avoidance of negative impacts of cost run ups due to natural disasters such as hurricanes. Again, the above are all benefits that can be achieved through DG located anywhere on an affected utility's distribution system.

² Decision No. 69127, Appendix B, page 22.

³ Filed as part of the decision (Decision 69127, Appendix C).

Even if the basis for limiting DG to a customer's premises was to force the deployment of customer sited generation, it is a moot point in today's world of renewable energy. Customer based solutions are no longer tied to cash incentives whereby the utility would take title to REC's, and the customer has multiple options including outright ownership, leasing structures, utility rooftop programs, and community solar.

The definitions associated with DG included in the REST are provided below, with the specific customer premises provision emphasized.⁴

"Distributed Generation" means electric generation sited at a customer premises, providing electric energy to the customer load on that site or providing wholesale capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas. The generator size and transmission needs shall be such that the plant or associated transmission lines do not require a Certificate of Environmental Compatibility (CEC) from the Corporation Commission.

"Distributed Solar Electric Generator" means electric generation sited at a customer premises, providing electric energy from solar electric resources to the customer load on that site or providing wholesale capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas. The generator size and transmission needs shall be such that the plant or associated transmission lines do not require a Certificate of Environmental Compatibility

⁴ These definitions are contained in R14-2-1801 and R14-2-1802 of the renewable Energy Standard and Tariff.

from the Corporation Commission.

“Distributed Renewable Energy Resources” are applications of the following defined technologies that are *located at a customer’s premises* and that displace Conventional Energy Resources that would otherwise be used to provide electricity to Arizona customers:

As a reference, the Solar Electric Industry Association (SEIA) defines DG as “electricity that is produced at or near the point where it is used. Distributed solar energy can be located on rooftops or ground-mounted, and is typically connected to the local utility distribution grid.”⁵

There was considerable discussion throughout the development of the REST regarding the benefits of DG. Nearly 10 years later these discussions continue, and while there still remains some disagreement to the extent of these benefits, they all revolve around the notion that the generation resides near the load. Numerous comments included in the REST decision’s Findings of Fact state that the benefits of DG within major load pockets enhances system reliability, relieves stress on the grid and reduces the need for unsightly or unpopular transmission lines. Additionally, it is noted that DG – as with ALL generation resources located within the load pocket – are available during transmission and substation outages. While this particular benefit is not unique to renewable resources, it does highlight a benefit of DG.

Regardless of the extent of the benefits that are actually realized from DG, the overriding concept – and benefit – is that the generator is located at or near the source of load irrespective of the generator’s

⁵ <http://www.seia.org/policy/distributed-solar>.

exact location or to which side of the meter it is attached . The idea that it must be located on a customer's premise diminishes the ability of an affected utility from (i) complying with the REST mandate in the most cost effective manner, and (ii) realizing widespread deployment and benefits associated with DG. DG should not be confused with, or associated with, the idea that it must be customer owned, behind the meter, limited in size, or even tied to a specific load. In fact, as the Commission acknowledged in previous decisions, the current standard allows for DG systems to be located on the utility side of the meter, owned by the utility for residential customers and is not limited in size (as long as a CEC is not required).

Most recently, TEP, Arizona Public Service, and UNS Electric all requested that the Commission address the issue of meeting the DG requirements when the companies were no longer taking title to customers' RECs. This issue was addressed by the Commission in Decision No. 74753, more commonly referred to as the "Track and Record" decision. Although the original intent of this docket was to develop a new methodology for utilities to comply with the REST requirements that was not based solely on the use of RECs, the Commission ultimately concluded that the affected utilities should request annual waivers based on overall development within their respective regions.

Since the REST requirements only pertain to affected utilities, it is incumbent upon the utilities to propose the most cost-effective solutions and alternatives to meet the REST requirements. Simple modifications to the interpretation of DG would enable the continuation of customer sited DG as it exists today, and would also enable the affected utilities and their customers to realize greater benefits through the widespread use of larger scale, considerably more cost effective, DG facilities to meet the current DG

requirements included in the REST.

These simple changes are as follows:

“Distributed Generation” means electric generation sited at a customer premises *or directly connected to the Company’s distribution system*, providing electric energy to the customer load on that site or providing wholesale capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas. The generator size and transmission needs shall be such that the plant or associated transmission lines do not require a Certificate of Environmental Compatibility from the Corporation Commission.

“Distributed Solar Electric Generator” means electric generation sited at a customer premises *or directly connected to the Company’s distribution system*, providing electric energy from solar electric resources to the customer load on that site or providing wholesale capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas. The generator size and transmission needs shall be such that the plant or associated transmission lines do not require a Certificate of Environmental Compatibility from the Corporation Commission.

“Distributed Renewable Energy Resources” are applications of the following defined technologies that are located at a customer’s premises *or directly connected to the Company’s distribution system*, and that displace Conventional Energy Resources that would otherwise be used to provide electricity to Arizona customers:

While the Company is not requesting that the Commission consider changes to the definition of

DG⁶ as part of TEP's REST implementation plan, it is important to highlight how this narrowly defined concept of DG limits the affected utilities ability to maximize benefits for the money spent.

This definition of DG is significantly flawed and contradicts the Commission's own finding of fact that "*The development of renewable resources should be designed to achieve maximum benefit for the money spent.*" This limitation is the exact concept that the Company would like to Commission to consider when determining the Company's request for approval of its new Residential Community Solar Tariff and allowing the Company to utilize RECs associated with the capacity subscribed under the program for compliance.

There is not, however, anything in the current definition of DG that would prevent a utility from building a larger scale solar facility, as long as it is sited on a customer's premises (which could be achieved through a land lease) and provides energy to multiple customers in contiguous distribution substation service areas.

TEP believes it can achieve greater DG benefits from deploying more cost effective, larger scale solar installations and is requesting the Commission approve the Company's proposed Residential Community Solar tariff in TEP's 2016 Implementation Plan. The REST Rules do not preclude affected utilities from satisfying a portion of the residential DG requirement from utility-owned generators. The only limitations included in the REST Rules apply to satisfying the non-residential portion of the DG requirement.

If approved, the Company would build a utility-owned solar facility connected to the distribution

⁶ Changing the definitions contained with the Arizona Administrative Code R14-2-1801 and R14-2-1802 would encompass a broader hearing process.

system which would then serve multiple customers through TEP's contiguous service area. Residential customers could apply to be served from the solar facility and be billed using the Company's new Residential Community Solar tariff. The REST's distributed renewable energy provision does not include any locational restrictions, and only requires the Company meet one-half of its distributed renewable energy from "residential applications". By providing TEP's customers with an option to participate in the newly created Residential Community Solar program, it will also allow the Company to assign the associated capacity and renewable energy credits associated with the program towards meeting the REST's residential DG energy requirement.

(i) **Program Details**

The Company's proposed Residential Community Solar program is a hybrid of the Company's existing Bright Tucson Community Solar program and the more recently approved TEP Residential Solar program. Customers choosing to participate would pay a fixed energy rate, similar the TEP-Owned Residential Solar Program. The Company proposes to spend up to \$10 million to develop a solar facility of approximately 5 MW in size and interconnect this facility to the Company's distribution system. Depending on the level of customer interest and participation, the Company could expand the program to meet customer demand. As with all renewable energy contracts or capital expenditures, the Commission determines the prudence through the Company's annual REST Implementation Plans and general rate cases.

The proposed Residential Community Solar program would operate much like the TEP-Owned Residential Solar Program. The customer's equivalent net-zero value ("Solar Rate Capacity") would be

calculated in the same manner (previous annual consumption / average solar production per kW); the customer would enjoy a fixed monthly solar payment based upon their Solar Rate Capacity; the rate would be evaluated annually and raised or lowered if consumption increased or decreased by fifteen percent (15%); and there will be similar regulatory out and termination clauses. (See Exhibit 8 Residential Community Solar Tariff).

Although similar, a number of differences exist between the TEP-Owned Residential Solar Program and the Residential Community Solar Program, including:

- The capacity associated with a customer's equivalent Solar Rate Capacity calculation would be deducted from the larger facility's overall capacity, rather than a stand-alone system on the customer's property.
- The fixed contract term would be 10 years, rather than 25 years.
- The Residential Community Solar tariff would use a price of \$17.50 per kW to calculate the fixed rate, as opposed to \$16.50 for the TEP-Owned Residential Solar Program. The slight premium in the rate reflects that customers can go solar without placing a solar facility on their property and being exposed to: potential insurance implications, roof maintenance or repair costs, construction disruptions, possible tax consequences, or the general long term commitment to their physical property that a PV system installation requires. In addition, TEP's proposed Residential Community Solar tariff will reduce the amount of unrecovered fixed costs shifted to other, non-solar customer classes.
- The customer would not have the option to purchase the system (or any portion thereof).

- The customer would pay an early termination fee based on the number of months remaining on contract. Capacity made available by a customer terminating their participation would be available for other customers who wanted to participate in the program.

By building larger distributed community facilities of approximately 5 MW the Company can achieve several benefits, including:

- Greater cost-effectiveness of construction due to economies of scale. The typical residential rooftop solar installation costs between \$2.50 - \$2.85 per watt. TEP calculates a grid-tied community DG facility to cost approximately \$1.60 - \$1.70 per watt— a savings of approximately forty percent (40%) over smaller scale rooftop installations. This price differential would result in significant savings for the same number of participating customers, or a significant increase in the number of participating customers for the same level of investment.
- Greater cost-effectiveness of operations and maintenance expenses, due to economies of scale of the larger facilities
- Advanced inverter functionality can be incorporated into the utility's grid Operations Management System through pre-existing sub-station and feeder circuit communications network and enhance system reliability.
- Single, larger facilities would be able to utilize existing communications infrastructure at a much lower cost.

The popularity of the Company's existing TEP-Owned Residential Solar Program demonstrates

the desire of TEP's customer's to have more solar energy options. Roughly twenty-five percent (25%) of the customers who indicated strong interest in the TEP-Owned Residential Solar Program and initiated the application process were unable to participate for a variety of technical reasons, such as expensive upgrades to either their roof or point of interconnection, or simply a lack of sufficient roof space. A program such as the proposed Residential Community Solar program would enable these and other customers to enjoy the benefits of going solar with a fixed rate while supporting the Company's overall expansion of its renewable resource portfolio.

F. Distributed Generation Incentive Program

TEP is not proposing any new incentives for residential or non-residential solar DG or solar water heating. DG installations are occurring at a rapid pace despite the lack of utility incentives. While many issues may affect future adoption rates for solar DG – including changes to tax incentives, net metering rates or other Commission policies – the Company does not believe new incentives will be required to maintain an adequate pace for solar DG installations in 2016.

TEP anticipates that sufficient renewable DG resources will be generated in its service territory to meet the 2016 residential and non-residential DG targets. However, since the Company no longer pays incentives necessary to acquire RECs from qualifying DG projects, it will not have an adequate number of RECs necessary to meet the REST requirements for 2016 related to the residential DG carve-out provision of A.A.C. R14-2-1805(D). TEP does have enough projects associated with RECs to meet the non-residential DG carve-out provision. As a result, TEP is requesting a waiver of the residential DG requirement. Table 4 shows the Company's projections for 2016 DG compliance (as a percentage of

retail sales), as well as the capacity and expected production from DG facilities that the Company holds title to the REC's.

Table 4. DG Compliance

2016	Est. DG Req't (kWh)	Capacity (kW)	Est. REC's Available
Residential	81,573,750	32,030	62,947,228
Non-Residential	81,573,750	47,030	90,862,229

In the Company's request for a waiver of the residential DG requirement, TEP requests that the Commission consider the additional 35,520 kW of residential DG capacity that is currently operational or under construction.

TEP is including in the Plan funds for performance-based incentives ("PBI") awarded in prior years, before those incentive programs were discontinued. To fund these programs, the budget for the proposed incentive program is \$7,192,720.

G. Market Cost of Comparable Conventional Generation

Consistent with the REST Rules, TEP calculates program expenses using the Market Cost of Comparable Conventional Generation ("MCCCG"). Details on the methodology for the MCCCG calculation are included in Exhibit 2 attached hereto. The annual MCCCG rates are calculated in advance and stated as a single dollar per MWh value by technology type. The expenses are based on the PPA pricing after subtracting the corresponding MCCCG based on projected hourly energy profiles and are included in Exhibits 3 (AMCCG)(confidential) and Exhibit 5 (Implementation Plan New Resource Costs)

(confidential).⁷ Exhibit 4 (Implementation Plan New Resources) shows associated energy production. The profiles are determined by TEP's production cost model. The MCCCCG will be included for wind, PV systems, concentrated solar with storage, and bio-fueled renewable resources.

H. Metering Costs

The Company continues to receive greater than anticipated demand for residential DG— over 3,500 applications are anticipated for 2015, even with the continued elimination of incentives. The Company plans to continue providing DG production meters for residential and commercial installations, as well as the associated metering sockets and safety equipment for each residential installation. The costs of these necessary components are shown in Table 5. The Company anticipates 2,750 DG installations in 2016 (1,700 third party residential installations, 1,000 TEP-owned residential installations, and 50 commercial installations), therefore the Plan budgets \$697,975 for these metering costs in 2016.

Table 5. Metering Costs

Components for 3rd party residential solar install	Cost	Components for TEP-owned residential solar install	Cost	Components for 3rd party non-residential solar install	Cost
Net Meter	\$ 129.77	Net Meter	\$ -	Net Meter	\$ -
Production Meter	39.45	Production Meter	39.45	Production Meter	206.05
AC Disconnect	86.91	AC Disconnect	84.79	AC Disconnect	-
Labels	9.66	Labels	11.39	Labels	-
Meter Sockets	37.57	Meter Sockets	36.33	Meter Sockets	-
Total Material Per Install	\$ 303.36	Total Material Per Install	\$ 171.96	Total Material Per Install	\$ 206.05
Total Estimated Residential DG Installs	1,700	Total Estimated TEP-Owned Installs	1,000	Total Estimated Non-Residential DG Installs	50
Total Estimated Meter Budget	\$ 515,712	Total Estimated Meter Budget	\$ 171,960	Total Estimated Meter Budget	\$ 10,303
Total Meter Material Budget				\$	697,975

⁷ Exhibits 3 and Exhibit 5 will be provided to Commission Staff upon execution of a Protective Agreement.

III. THE PLAN BUDGET

As stated previously, TEP is proposing to recover approximately \$48 million through the REST tariff to fund the Plan. The estimated cost to implement the Plan is approximately \$57 million, which will be partially offset by applying approximately \$9 million of carryover funds from the 2014 budget. The Plan's detailed budget is attached as Exhibit 1, which includes a breakdown of the costs for utility-scale energy, residential and non-residential DG programs, research and development, outside services support and reporting, technology, and education and outreach. Table 6 includes a high level Plan budget.

Table 6. Plan Budget by Category

Category	Budget
Utility Scale	\$ 47,368,944
Existing Large Commercial PBIs	7,192,720
Associated Costs (Education & Outreach, Technical Training, I.T., Metering, Labor, and R&D)	2,084,185
2016 Program Cost	\$ 56,645,849
Carryover Funds	8,809,321
Total 2016 Plan	\$ 47,836,528

IV. THE 2016 REST TARIFF

The Company's REST tariff (Rider-6) and proposed Statement of Charges (both clean and redline versions setting forth revisions to the REST surcharge and customer caps are attached as Exhibit 6⁸. TEP's Plan includes an increase in the REST surcharge to \$0.01300 per kWh— from its 2015 level of \$0.0080 per kWh – with customer caps by class. The caps were developed using the proportional cap allocation method previously approved by the Commission. Under this methodology, the caps for all customer classes should increase in 2016. Table 7 details the Company's proposed budget for 2016, delineated by rate class. Table 8 shows the currently approved surcharge caps by rate class and the caps proposed for the Plan.

² Customer Load Percentage Analysis is set forth in the attached Exhibit 7.

Table 7. 2016 Budget by Rate Class

Rate Class	2015 Approved Budget	2016 Proposed Budget
Residential	\$ 14,632,164	\$ 18,677,315
Small General Service	10,244,784	16,265,080
Large General Service	5,727,369	8,646,389
Industrial & Mining	2,496,000	3,813,236
Lighting (PSHL)	256,281	423,386
Total	\$ 33,356,598	\$ 47,825,407

Table 8. 2015/2016 Surcharge Caps by Rate Class

Rate Class	2015 Approved Caps	2016 Proposed Caps
Residential	\$ 3.76	\$ 4.56
Small General Service	\$ 100.00	\$ 150.00
Large General Service	\$ 1,015.00	\$ 1,500.00
Industrial & Mining	\$ 8,000.00	\$ 12,000.00
Lighting (PSHL)	\$ 100.00	\$ 150.00
Per kWh to All Classes	\$ 0.0080	\$ 0.0130

V. **RENEWABLE ENERGY BALANCING, INTEGRATION, AND FIELD TESTING**

TEP typically commits a portion of its REST budget to provide technical research and support for the adoption of renewable energy. Table 9 outlines TEP’s proposed budget for this work in 2016. TEP plans to continue its commitment to furthering the integration of renewable energy on its system by participating in the following projects.

Table 9. TEP’s Integration Initiatives by Project

Renewable Integration Initiatives	
Energy Storage and Grid Operations Study	\$ 38,000
Solar Test Yard Maintenance and Equipment	50,000
Field and Lab PV Component Degradation Analysis	50,000
Solar and Wind Forecast Integration Portal	100,000
UWIG, SEPA, AWEA Membership Dues	15,000
Total	\$ 253,000

A. PV Panel Lab Degradation Testing

In order for TEP to adequately maintain its existing and future portfolio of PV generation, degradation problems that are specific to the Tucson environment need to be identified early in order to prepare for failures in the field. TEP plans to continue to use the University of Arizona’s (“UA”) state-of-the-art PV panel degradation laboratory to test panels either currently in use or proposed for use in TEP facilities, including panels used in the TEP-Owned Program. This testing is designed to reduce the long-term operations and maintenance cost of these facilities. The proposed budget for such research and testing is \$50,000.

B. Solar Test Yard Maintenance

TEP regularly performs technical analysis on existing and developing PV technologies in its widely regarded test yard facility. Data collected from the test yard helps the Company solicit partners to

provide funding for research projects. This collaboration and grant funding allows TEP to optimize investments in appropriate technology for the long-term benefit of customers. The proposed budget for maintaining this existing technology and managing the many interconnections in the yard, including labor, is \$50,000.

C. Solar and Wind Forecast Integration Portal

Since 2013, TEP has partnered with the UA's Departments of Physics and Atmospheric Sciences to create and implement a Solar and Wind Integration Forecasting portal. The tool is now functional and is being actively used in TEP's Wholesale Marketing and Operations departments. The forecasting portal has been key in helping TEP understand and integrate the amount of renewables on its grid. TEP has a dedicated weather forecaster working with the UA, to ensure that the forecasts would be effectively utilized for operational decisions. The proposed budget for this program is \$100,000.

D. Energy Storage and Grid Operations Study

As part of the Plan, the Company is requesting funding to conduct an Energy Storage and Grid Operations Study. TEP continues to experience a very high penetration of DG, and the long-term effects of these systems on the grid are not fully understood. This proposed study will help the Company identify how energy storage, combined with updates to grid operations, might mitigate any negative impacts of DG. The proposed budget for this study is \$38,000.

E. UVIG, SEPA, AWEA Dues

To facilitate its compliance with the REST, TEP actively participates in three renewable industry associations: the Utility Variable (Energy) Integration Group ("UVIG"), the Solar Electric Power Association ("SEPA"), and the American Wind Energy Association (AWEA). High penetrations of solar

and wind make UVIG (a variable generation group) relevant, while SEPA and AWEA provide resources and expertise that help the Company manage renewable programs and stay informed on issues facing the industry. The proposed budget for these groups' fees is \$15,000.

VI. CONCLUSION

TEP's 2016 REST Implementation Plan was developed to allow the Company to cost-effectively comply with the REST requirements. The Company believes that the proposed Plan is prudent and is in the public interest. The Company respectfully requests that the Commission adopt TEP's 2016 REST Implementation Plan as submitted, including a waiver of the residential portion of the Distributed Renewable Energy requirement.

Exhibits

Exhibit 1
Line Item Budget

Exhibit 1

TEP Renewable Energy Standard Tariff

Line Item Budget

	Approved 2015	2016	2017	2018	2019	2020
Total REST Budget & Tariff Collection:	\$ 33,291,969	\$ 47,836,529	\$ 47,790,347	\$ 45,638,929	\$ 43,868,828	\$ 41,224,021
Utility Scale Energy						
Above Market Cost of Conventional Generation (See Exhibit 2 for method)	\$ 22,971,774	\$ 38,002,919	\$ 37,254,475	\$ 35,096,322	\$ 33,361,316	\$ 31,699,574
Net TEP owned*	\$ 8,022,530	\$ 9,366,025	\$ 1,200,854	\$ 1,147,033	\$ 1,048,833	\$ -
Total	\$ 30,994,304	\$ 47,368,944	\$ 38,455,329	\$ 36,243,355	\$ 34,410,149	\$ 31,699,574
Customer Sited Distributed Renewable Energy:						
Residential PV Up-Front Incentive (UFI)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-Residential UFI	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Performance-Based Incentive (PBI)	\$ 7,214,196	\$ 7,192,720	\$ 7,192,720	\$ 7,192,720	\$ 7,192,720	\$ 7,192,720
Residential/Non-Residential Solar Water Heating UFI	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual meter reading cost	\$ 35,363	\$ 35,363	\$ 35,363	\$ 35,363	\$ 35,363	\$ 35,363
Consumer Education and Outreach	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Total	\$ 7,349,559	\$ 7,328,083	\$ 7,328,083	\$ 7,328,083	\$ 7,328,083	\$ 7,328,083
TEP internal and contractor training costs	\$ 85,000	\$ 85,000	\$ 85,000	\$ 85,000	\$ 85,000	\$ 85,000
Information Systems Integration Costs	\$ 100,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000
Metering: Direct material cost for DG production meters and associated items	\$ 501,680	\$ 697,975	\$ 732,873	\$ 769,517	\$ 807,993	\$ 848,392
Program Labor and Administration						
Internal Labor	\$ 468,442	\$ 556,944	\$ 573,652	\$ 590,861	\$ 608,587	\$ 626,845
External Labor	\$ 302,401	\$ 216,903	\$ 223,410	\$ 230,112	\$ 237,016	\$ 244,126
Materials, Fees and Supplies	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
AZ Solar website	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000
Total	\$ 834,843	\$ 837,847	\$ 861,062	\$ 884,974	\$ 909,603	\$ 934,971
Renewable Energy Balancing, Integration, and Field Testing						
Renewable Integration and Operations Study	\$ 38,000	\$ 38,000	\$ 38,000	\$ 38,000	\$ 38,000	\$ 38,000
Solar and Wind Forecast Integration Portal	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Solar Test Yard monitoring, production analysis, and equipment maintenance	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
Field and Lab Degradation Analysis	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
UWIG, SEPA, AWEA membership dues	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
Total	\$ 253,000	\$ 253,000	\$ 253,000	\$ 253,000	\$ 253,000	\$ 253,000
2015 Program Cost Subtotal	\$ 40,118,386	\$ 56,645,849	\$ 47,790,347	\$ 45,638,929	\$ 43,868,828	\$ 41,224,021
Carry forward of 2014 General REST Funds	\$ 6,826,417	\$ 8,809,321	\$ -	\$ -	\$ -	\$ -
Grand Total to be collected in tariff	\$ 33,291,969	\$ 47,836,529	\$ 47,790,347	\$ 45,638,929	\$ 43,868,828	\$ 41,224,021

Exhibit 2
**Definition of Market Cost of Comparable
Conventional Generation**

Exhibit 2

Market Cost of Comparable Conventional Generation

2016 Renewable Energy Standard and Tariff

OVERVIEW

Consistent with the Renewable Energy Standard Tariff (“REST”) Rules passed by the Arizona Corporation Commission (“Commission”), Tucson Electric Power Company’s (“TEP”) Renewable Energy Standard and Tariff Implementation Plan contemplates recovery of expenses in excess of the Market Cost of Comparable Conventional Generation (“MCCCG”).” The Commission provided guidance on defining MCCCG in the context of its REST Rules and identified the MCCCG as “the Affected Utility’s energy and capacity cost of producing or procuring the incremental electricity that would be avoided by the resources used to meet the Annual Renewable Energy Requirement, taking into account hourly supply and demand circumstances. Avoided costs should include any avoided transmission, distribution, and environmental compliance costs.” This exhibit defines the methodology for developing the MCCCG rate for the Company.

METHODOLOGY

Annual MCCCG rates shall be calculated in advance and stated as a single \$/MWh value by renewable technology type. The renewable technology types will be based on projected hourly energy profiles for each type of renewable resource. Annual MCCCG rates will include renewable resources such as wind resources, fixed photovoltaic systems, concentrated solar with storage, single-axis tracking photovoltaic systems, and bio-fueled resources. Specific MCCCG rates would be developed as needed when new renewable technologies or new purchase power agreements are added to the Company’s renewable portfolio. Annual MCCCG rates will capture the value of the seasonality and time of day delivery by deriving an average of on and off peak dispatch costs weighted by on and off peak renewable generation. MCCCG rates shall be calculated each year using the companies production cost simulation software ‘Planning & Risk’. The hourly MCCCG rate determination criteria are shown in Table 1 below by comparing the types of renewable generation with the resource dispatch type. All projected MCCCG

hourly rates are based on a 'Planning & Risk' production cost simulation that forecasts adequate generation and transmission capacity to meet all firm load obligations including system reserve requirements. Finally, the cost of renewable generation above the annual MCCCCG rates will be recovered through the REST Adjustor Mechanism and REST Tariff.

Table 1 - MCCCCG Hourly Rate Determination Matrix

		Types of Renewable Generation Resources			
		Dispatchable Renewable Generation	Firm Renewable Generation	Non-Firm Renewable Generation	Curtable Non Firm Renewable Generation
Resource Dispatch Type	Wholesale sales transaction served from existing resource portfolio	The MCCCCG rate will be based on projected incremental production costs to serve firm load and wholesale sales opportunities for that hour. Costs will include any projected transmission, distribution and environmental compliance costs.			
	No market transactions. Generation available from thermal resource portfolio.				
	Day, week or month ahead purchase transaction to serve firm load requirements.	The MCCCCG rate will be based on the projected day, week or month-ahead firm purchase power transactions committed for that hour. Costs will include any projected transmission, distribution and environmental compliance costs.			
	Spot market transaction to serve firm load requirements.	The MCCCCG rate will be based on the projected Palo Verde spot market price for that hour. Costs will include any projected transmission, distribution and environmental compliance costs.			

CALCULATION

$$MCCCG_{on} = \text{Annual Average On Peak MCCCCG Rate} = \frac{\sum_{i=1}^{8760} PR_i * G_i * X_i}{\sum_{i=1}^{8760} G_i * X_i}$$

$$MCCCG_{off} = \text{Annual Average Off Peak MCCCCG Rate} = \frac{\sum_{i=1}^{8760} PR_i * G_i * (1 - X_i)}{\sum_{i=1}^{8760} G_i * (1 - X_i)}$$

$MCCCG_{Annual Rate}$ = Average of on and off peak MCCCCG rate weighted by projected on and off peak renewable generation.

It is assumed that there is a specific MCCCCG rate for each renewable technology type.

Where

PR_i = Projected Planning & Risk dispatch cost (\$/MWh) for hour $i=1,2,\dots,8760$.

G_i = Projected energy generation in renewable technology resource profile for hour $i=1,2,\dots,8760$.

$X_i = \begin{cases} 1 & \text{if hour } i \text{ is an on peak market hour} \\ 0 & \text{Otherwise} \end{cases}$ for $i = 1, 2, \dots, 8760$

Table 2 – TEP’s 2016 MCCCCG Annual Rates

Renewable Technology	MCCCCG Annual Rates	\$/MWh
	Solar PV	
AZ Wind		\$36.20
Biomass		\$36.60
NM Wind		\$35.64
Solar CSP		\$39.43

Exhibit 3
**Above-Market Cost of Comparable
Conventional Generation by Technology ***

**** Confidential ****

***To be provided pursuant to the terms of the protective
agreement in this docket***

Exhibit 4
Implementation Plan New Resources

Exhibit 4 Implementation Plan New Resources

IMPLEMENTATION PLAN

Table 1 - Targeted Resources

No.	Targeted Generation Resources:	Ownership ¹	Targeted Completion	2008-2016 Total MW (AC)	2008-2016 Total MW (DC)	Targeted Energy Production (MWh or Equivalent)					Total	No.
						2016	2017	2018	2019	2020		
1	Picture Rocks	PPA	COMPLETE	20.00	25.00	57,372	57,086	56,800	56,516	56,234	284,008	1
2	Avra Valley	PPA	COMPLETE	25.00	34.41	75,930	75,550	75,173	74,797	74,423	375,873	2
3	Avalon Solar	PPA	COMPLETE	28.34	35.00	82,563	82,151	81,740	81,331	80,924	408,709	3
4	Gatos Montes	PPA	COMPLETE	4.92	6.00	10,303	10,252	10,201	10,150	10,099	51,004	4
5	Cogenra	PPA	COMPLETE	1.10	1.38	2,650	2,636	2,623	2,610	2,597	13,116	5
6	Amonix UASTP	PPA	COMPLETE	1.20	2.00	4,049	4,029	4,009	3,989	3,969	20,046	6
7	E.On Tech Park	PPA	COMPLETE	4.80	6.60	15,300	15,224	15,148	15,072	14,997	75,741	7
8	Valencia Solar	PPA	COMPLETE	10.00	13.20	26,768	26,634	26,501	26,368	26,237	132,508	8
9	Red Horse (Solar)	PPA	8/30/2015	41.00	51.25	120,610	120,007	119,407	118,810	118,216	597,052	9
10	Avalon Solar II	PPA	COMPLETE	16.80	21.00	49,787	49,538	49,290	49,044	48,799	246,458	10
11	Springerville 4.6	TEP	COMPLETE	3.68	4.60	5,179	5,153	5,128	5,102	5,076	25,639	11
12	Springerville 1.0 Expansion	TEP	COMPLETE	1.28	1.80	2,086	2,075	2,065	2,054	2,044	10,324	12
13	UASTP I	TEP	COMPLETE	1.28	1.60	2,981	2,966	2,951	2,937	2,922	14,757	13
14	Solon Prairie Fire	TEP	COMPLETE	4.00	5.00	7,835	7,796	7,757	7,718	7,679	38,784	14
15	UASTP III	TEP	COMPLETE	4.00	5.00	7,835	7,796	7,757	7,718	7,679	38,784	15
16	Sundt Augmentation	TEP	COMPLETE	5.00		14,310	14,238	14,167	14,096	14,026	70,837	16
17	White Mountain Solar	TEP	COMPLETE	8.25	10.00	19,947	19,847	19,748	19,649	19,551	98,743	17
18	Fort Huachuca PHI	TEP	COMPLETE	13.60	17.20	38,635	38,442	38,249	38,058	37,868	191,252	18
19	SunPower (OH & HQ)	TEP	COMPLETE	0.44	0.62	2,076	2,066	2,055	2,045	2,035	10,277	19
22	Fort Huachuca PHII	TEP	1/31/2016	4.00	5.00	11,231	11,175	11,119	11,063	11,008	55,596	22
23												23
24	Wind:											24
25	Macho Springs	PPA	COMPLETE	50.40		130,244	130,244	130,244	130,244	130,244	651,218	25
26	Red Horse (Wind)	PPA	8/30/2015	30.00		70,956	70,956	70,956	70,956	70,956	354,780	26
27												27
28	Biomass/Biogas:											28
29												29
30	Sundt Landfill Gas	PPA	COMPLETE	4.00		21,100	21,100	21,100	21,100	21,100	105,500	30
31												31
32	Total Targeted Generation			283.09	246.7	779,748	776,961	774,188	771,428	768,683	3,871,007	32
33												33

Notes:

¹All utility-owned and Third Party generation projects are developed through a competitive RFP process, and all DE systems are built independently by Third Party developers and installers.

Exhibit 5
Implementation Plan
New Resource Costs *

** Confidential **

*To be provided pursuant to the terms of the protective
agreement in this docket*

Exhibit 6
Rider-6 Renewable Energy Standard Tariff
and
Statement of Charges



Tucson Electric Power

Tucson Electric Power Company

Original Sheet No.: 706

Superseding: _____

Rider R-6
Renewable Energy Standard and Tariff (REST) Surcharge
REST-TS1 Renewable Energy Program Expense Recovery

APPLICABILITY

Mandatory, non-bypassable surcharge applied to all energy consumed by all Customers throughout Company's entire electric service area.

RATES

For all energy billed which is supplied by the Company to the Customer. The REST surcharge shall be applied to all monthly bills. The REST rates are shown in the TEP Statement of Charges.

Notes:

1. A Large Commercial Customer is one with monthly demand greater or equal to 200 kW but less than 3,000 kW.
2. An Industrial Customer is one with monthly demand equal to or greater than 3,000 kW.
3. For non-metered services, the lesser of the load profile or otherwise estimated kWh required to provide the service in question, or the service's contract
4. kWh shall be used in the calculation of the surcharge.

This charge will be a line item on customer bills reading "Renewable Energy Standard Tariff."

Per Decision No. 73637 effective March 21, 2013, any Customer who has received incentives on and after January 1, 2012 under the REST Rules, shall pay the average of the REST surcharge paid by members of their Customer class. Any Customer who has a renewable installation without incentives that is interconnected with TEP's system on and after February 1, 2013 shall pay the average of the REST surcharge paid by members of their Customer class. The average price by class is shown in the TEP Statement of Charges

TEP STATEMENT OF CHARGES

For all additional charges and assessments approved by the Arizona Corporation Commission (ACC) see the TEP Statement of Charges which is available on TEP's website at www.tep.com.

RULES AND REGULATIONS

The standard Rules and Regulations of the Company as on file with the ACC shall apply where not inconsistent with this Rider.

TAX CLAUSE

To the charges computed under the above rate, including any adjustments, shall be added the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of gross revenues of the Company and/or the price or revenue from the electric energy or service sold and/or the volume of energy generated or purchased for sale and/or sold hereunder.

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Rate: R-6
Effective: July 1, 2013
Decision No.: 73912

REDLINE



Tucson Electric Power

Tucson Electric Power Company

~~Fifth~~^{Sixth} Revised Sheet No.: 801-1

Superseding ~~Fifth~~^{Third} ~~Substitute~~ ~~Fourth~~ Revised Sheet
No.: 801-1

TEP STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-1 – Purchased Power and Fuel Adjustment Clause (PPFAC)	\$0.006820 per kWh	April 1, 2015	74974
Rider R-2 – Demand Side Management Surcharge (DSMS) RESIDENTIAL: NON-RESIDENTIAL: FREEPORT-MCMORAN COPPER AND GOLD (25 MW and above):	\$0.002311 per kWh 2.466% Exempt	January 6, 2015	74885
Rider R-3 – Market Cost of Comparable Conventional Generation (MCCCG) Calculation as Applicable to Rider-4 NM-PRS	\$0.028653 per kWh	April 1, 2015	74973
Rider R-5 – Electric Service Solar Rider (Bright Tucson Community Solar™) Solar Block Energy Rate for Residential Lifeline Discount, Rate R-06-01 Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for General Service, Rate GS-10 Solar Block Energy Rate for Large General Service, Rate LGS-13 Solar Block Energy Rate for Municipal Service, Rate PS-40	\$0.050198 per kWh \$0.050324 per kWh \$0.048475 per kWh \$0.049371 per kWh \$0.049086 per kWh	February 1, 2011	71835 ¹
Rider R-5 – Electric Service Solar Rider (Bright Tucson Community Solar™) Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for Small General Service, Rate GS-10 Solar Block Energy Rate for Large General Service, Rate LGS-13	\$0.053463 per kWh \$0.053274 per kWh \$0.053227 per kWh	July 1, 2013	73912
Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery <u>Monthly Cap</u> For Residential Customers: For Small General Service Customers: For Large General Service Customers: For Large Light & Power Customers: For Lighting Customers:	\$0.0080000 13000 per kWh <u>Monthly Cap</u> \$ <u>3,764.70</u> per month \$ 400.00 150.00 per month \$1,015.00 1,600.00 per month \$3,000.00 12,000.00 per month \$ 400.00 150.00 per month	January 1, 2015 Pending	74884 Pending

¹The Rider R-5 approved by Decision No. 71835 is closed for new enrollment as of July 1, 2013

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Rate: Statement of Charges
Effective: July 1, 2013
Decision No.: 73912



Tucson Electric Power

Tucson Electric Power Company

Alternate ~~Sixth~~^{Fifth} Revised Sheet No.: 801-2

Superseding ~~Fifth~~^{Fourth} Revised Sheet No. : 801-2

TEP STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery Average price by class: <u>Monthly Cap</u> For Residential Customers: For Small General Service Customers: For Large General Service Customers: For Large Light & Power Customers: For Lighting Customers: 	<u>Monthly Cap</u> \$ <u>3,194.12</u> per month \$ <u>20,7732.06</u> per month \$ <u>779,661,249.12</u> per month \$8,000.00 <u>12,000.00</u> per month \$ <u>41,7419.05</u> per month	January 1, 2015 <u>Pending</u>	74884 <u>Pending</u>
Rider R-8 Lost Fixed Cost Recovery (LFCR) Mechanism – Energy Efficiency Lost Fixed Cost Recovery (LFCR) Mechanism – Distributed Generation	0.4149% 0.3126%	August 1, 2014	74593
Rider R-9 – Environmental Compliance Adjustor (ECA)	\$0.000191 per kWh	May 1, 2015	73912

Filed By: Kentton C. Grant
 Title: Vice President of Finance and Rates
 District: Entire Electric Service Area

Rate: Statement of Charges
 Effective: July 1, 2013
 Decision No.: 73912

CLEAN



Tucson Electric Power

Tucson Electric Power Company

Sixth Revised Sheet No.: _____ 801-1

Superseding Fifth Revised Sheet No.: _____ 801-1

TEP STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-1 – Purchased Power and Fuel Adjustment Clause (PPFAC)	\$0.006820 per kWh	April 1, 2015	74974
Rider R-2 – Demand Side Management Surcharge (DSMS) RESIDENTIAL: NON-RESIDENTIAL: FREEPORT-MCMORAN COPPER AND GOLD (25 MW and above):	\$0.002311 per kWh 2.466% Exempt	January 6, 2015	74885
Rider R-3 – Market Cost of Comparable Conventional Generation (MCCCG) Calculation as Applicable to Rider-4 NM-PRS	\$0.028653 per kWh	April 1, 2015	74973
Rider R-5 – Electric Service Solar Rider (Bright Tucson Community Solar™) Solar Block Energy Rate for Residential Lifeline Discount, Rate R-06-01 Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for General Service, Rate GS-10 Solar Block Energy Rate for Large General Service, Rate LGS-13 Solar Block Energy Rate for Municipal Service, Rate PS-40	\$0.050198 per kWh \$0.050324 per kWh \$0.048475 per kWh \$0.049371 per kWh \$0.049086 per kWh	February 1, 2011	71835 ¹
Rider R-5 – Electric Service Solar Rider (Bright Tucson Community Solar™) Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for Small General Service, Rate GS-10 Solar Block Energy Rate for Large General Service, Rate LGS-13	\$0.053463 per kWh \$0.053274 per kWh \$0.053227 per kWh	July 1, 2013	73912
Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery <u>Monthly Cap</u> For Residential Customers: For Small General Service Customers: For Large General Service Customers: For Large Light & Power Customers: For Lighting Customers:	\$0.013000 per kWh <u>Monthly Cap</u> \$ 4.70 per month \$ 150.00 per month \$ 1,600.00 per month \$12,000.00 per month \$ 150.00 per month	Pending	Pending

¹The Rider R-5 approved by Decision No. 71835 is closed for new enrollment as of July 1, 2013

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Rate: Statement of Charges
Effective: July 1, 2013
Decision No.: 73912



Tucson Electric Power

Tucson Electric Power Company

Alternate Sixth Revised Sheet No.: 801-2

Superseding Fifth Revised Sheet No.: 801-2

TEP STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery Average price by class: <u>Monthly Cap</u> For Residential Customers: For Small General Service Customers: For Large General Service Customers: For Large Light & Power Customers: For Lighting Customers:	<u>Monthly Cap</u> \$ 4.12 per month \$ 32.06 per month \$ 1,249.12 per month \$12,000.00 per month \$ 19.05 per month	Pending	Pending
Rider R-8 Lost Fixed Cost Recovery (LFCR) Mechanism – Energy Efficiency Lost Fixed Cost Recovery (LFCR) Mechanism – Distributed Generation	0.4149% 0.3126%	August 1, 2014	74593
Rider R-9 – Environmental Compliance Adjustor (ECA)	\$0.000191 per kWh	May 1, 2015	73912

Filed By: Kentton C. Grant
 Title: Vice President of Finance and Rates
 District: Entire Electric Service Area

Rate: Statement of Charges
 Effective: July 1, 2013
 Decision No.: 73912

Exhibit 7
Customer Load Percentage Analysis

TEP Exhibit 7 – Load Percentage Analysis

2016 Company Proposed Plan

Customer Class	Total Revenue	Percent of Revenue	Average Bill	Monthly Cap	Percent of Bills at Cap	Percentage to Total Load
Residential	\$18,677,315	39.1%	\$4.02	\$4.56	75.1%	40.7%
Small Commercial	\$16,265,080	34.0%	\$32.06	\$150.00	8.2%	23.7%
Large Commercial	\$8,646,389	18.1%	\$1,200.02	\$1,500.00	50.6%	13.0%
Industrial & Mining	\$3,813,236	8.0%	\$12,000.00	\$12,000.00	100.00%	22.3%
Lighting (PSHL)	\$423,386	0.9%	\$19.05	\$150.00	0.74%	0.4%
Total	\$47,825,407	100.0%				100.0%

Exhibit 8
Rider- 17 Residential Community Solar
Tariff



**Rider R-17
Residential Community Solar Program**

AVAILABILITY

Available throughout the Company's entire electric service area where the facilities of the Company are of adequate capacity and configuration and are adjacent to the premises.

APPLICABILITY

To all Standard Residential Customers, who would otherwise be eligible for Net Energy Metering under the company's Rider R-4 tariff, and has the legal authority to enter into a contractual agreement for the premise which will be assigned under this tariff. Participation under the TEP Residential Community Solar program is limited, and in the Company's sole discretion, to the amount of solar generation available and subscription will be made on a first come, first served basis.

Customers being served under self-generation riders or plans may not purchase power under the TEP Residential Community Solar tariff (including, but not limited to Net Metering for Certain Partial Requirements Service Rider-4 and Non-Firm Power Purchase from Renewable Energy).

CHARACTER OF SERVICE

The service shall be single-phase or three-phase, 60 Hertz, and at one standard nominal voltage as mutually agreed and subject to availability at point of delivery.

RATE

A Customer will enter into a contract with the Company for a fixed charge rate for their total net monthly bill before taxes, assessments and other governmental charges. The fixed rate will be \$17.50 per kW based on the equivalent capacity of solar equipment necessary to meet the customer's most recent 12 month historical usage, based on current average annual fixed solar photovoltaic production within TEP's service territory, as determined by TEP. This is a fixed rate per kW for the term of the contract but does not guarantee a monthly bill lower than would otherwise be realized if the customer were service under a standard offering tariff.

The Company shall either own and operate, or enter into a Power Purchase Agreement for the energy output of, a solar generating facility ("TEP Residential Community Solar Facility") within the Company's service territory and interconnected to the Company's distribution system. The equivalent capacity of solar equipment necessary, as calculated to determine the individual customer's fixed contract rate, shall be satisfied with the capacity provided by the TEP Residential Community Solar Facility. Subscription for each individual customer's solar capacity needs under this tariff shall be limited to the TEP Residential Community Solar Facility's overall capacity (cumulative customer solar capacity shall not exceed solar facility rating).

The Company shall provide all of the Customer's electricity requirements at the contractual fixed rate, up to 115% of the Customer's contractually established historical annual usage. If in any calendar year a Customer's usage exceeds 115% of the Customer's contractually established average historical annual usage, the customers' fixed energy rate shall be recalculated based on the new annual consumption data for the most recent year.

Additionally, if in any calendar year a Customer consumes less than 85% of the contractually established average historical annual usage, the Customer's fixed energy rate shall be recalculated based on the new annual consumption data for the most recent year.

TERMS AND CONDITIONS OF SERVICE

- 1) Must have been an active Customer of the Company in good standing for no less than twelve months.
- 2) Customer will enter into a contract for 10 years. Customer must remain on TEP Residential Community Solar tariff for term of contract. Customer may terminate service under this tariff through early termination provision, or as otherwise agreed upon by the parties, as set forth in the contract.

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Rate: R-17
Effective: Pending
Decision No.: Pending



Tucson Electric Power

Tucson Electric Power Company

Original Sheet No.: 717-1
Superseding: _____

- 3) Customer will continue to be charged for all other applicable Commission approved charges (except for the Lost Fixed Cost Recovery charge, the Environmental Compliance Adjustor charge and the Purchased Power and Fuel Adjustment Clause charge), Taxes and Assessments.
- 4) The terms and conditions discussed herein are not applicable to any other Company residential tariffs or riders.
- 5) Customer shall comply with all applicable federal, state, and local laws, regulations, ordinances and codes governing the production and/or sale of electricity.
- 6) A one-time taxable Processing Fee of \$250 will be applied.
- 7) Customer will be subject to terms and conditions as set forth in the contract.

TEP STATEMENT OF CHARGES

For all additional charges and assessments approved by the Arizona Corporation Commission (ACC) see the TEP Statement of Charges which is available on TEP's website at www.tep.com.

RULES AND REGULATIONS

The standard Rules and Regulations of the Company as on file with the ACC shall apply where not inconsistent with this rate.

TAX CLAUSE

To the charges computed under this rider, including any adjustments, shall be added the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of gross revenues of the Company and/or the price or revenue from the electric energy or service sold and/or the volume of energy generated or purchased for sale and/or sold hereunder.

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Rate: R-17
Effective: Pending
Decision No.: Pending

Exhibit 9
Renewable Energy Credit Purchase
Program

Renewable Energy Credit Purchase Program

TABLE OF CONTENTS

I.	Frequently Asked Question.....
II.	Installer Qualifications.....
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IV.	Prohibition on System Removal
V.	Other TEP Renewable Energy Programs.....
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VII.	General Interconnection Process.....
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	A. Technologies without Technology Specific Criteria
	B. Non-Conforming Projects.
	C. Guidelines for Projects Not Receiving Incentives

Appendix 1: Glossary

I. Frequently Asked Questions

What is Distributed Generation?

Distributed Generation (DG) is defined as electric generation sited at a customer premise, providing electric energy to the customer load on that site or providing wholesale capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas. The generator size and transmission needs shall be such that the plant or associated transmission lines do not require a Certificate of Environmental Compatibility from the Arizona Corporation Commission (ACC).

What are Distributed Renewable Energy Resources?

Distributed Renewable Energy Resources are applications of appropriate technologies that are located at a customer's premise that displace conventional energy resources that would otherwise be used to provide electricity to Arizona customers.

Tucson Electric Power Company (TEP or Company) provides programs consistent with these definitions and generally refers to these programs as DG programs. For more information on these and other definitions, please visit the ACC's Renewable Energy Standard and Tariff webpage at <http://www.azcc.gov/divisions/utilities/electric/environmental.asp>.

What is Net Metering?

Net Metering refers to the production of electricity from a qualifying renewable energy electric generator, such as photovoltaic (PV) panels, used to offset electricity provided by TEP. Customers deemed eligible for participation in TEP's Net Metering Tariff will be required to install a bi-directional meter capable of measuring the flow of electricity to and from the customer's premises. Net Metering customers may buy and sell electricity to and from TEP under the applicable terms and tariff rate.

No system may exceed 125% of connected load for that meter, where connected load is defined as the maximum demand divided by 0.6. For more information on Net Metering, please visit <https://www.tep.com/customer/rates/>.

Why is TEP involved with DG?

The ACC, which regulates TEP and utilities like it in Arizona, enacted the Renewable Energy Standard and Tariff (REST) Rules in 2008. These rules require TEP to replace a substantial portion of its retail sales with renewable energy by investing in a variety of projects, including both utility-scale and DG projects. In order to comply with a portion of the REST Rules governing DG projects, TEP also supports the interconnection of customer-sited DG systems to its electrical grid, even if RECs were not purchased.

What is a TEP-qualified installer?

A TEP-qualified installer is an installer that has been evaluated by TEP personnel and deemed to have met the prerequisites for qualification. In order to become TEP-qualified, each installer must meet certain TEP requirements, including but not limited to annual submittal of the necessary paperwork contained within the "Installer's Packet". Each submittal must include, but is not limited to the following: an Installer's Agreement, a current and valid Arizona Registrar of Contractor's (AZROC) license appropriate for the solar technology being installed, Arizona business license in good standing, and similar information regarding any sub-contractor(s), if applicable. TEP will not, under any circumstances, issue or assign incentive payment(s) to an installer who is not TEP-qualified.

Where can I find more information?

For more information about TEP's renewable energy plans, please consult TEP's approved 2016 REST Implementation Plan, which can be found online at www.tep.com/Renewable/. Questions may be directed to (520) 917-3673.

What else do I need to know?

Each of the programs described herein, including all terms and conditions, are subject to change as dictated by program need and any and all regulatory authorities.

TEP's RECPP does not accommodate non-customer sited projects for any reason. "Solar Farms" or other utility-scale generation projects do not qualify under TEP's RECPP. These projects may participate in TEP's next request for proposals (RFP) for renewable energy.

TEP's RECPP does not allow for any aggregated or virtual net metering of a customer's loads under any circumstance.

II. Installer Qualifications

All systems interconnecting to TEP's system must be installed by an installer properly licensed by the state of Arizona and qualified to install solar projects. TEP will verify that the installer meets the following minimum qualifications prior to confirming a reservation request:

1. The installer must possess a valid license on file with the Arizona Registrar of Contractors (AZROC) with a license classification appropriate for the solar technology being installed. Alternatively, the installer must identify use of any sub-contractor(s) and ensure the subcontractor(s) maintain an appropriate license(s) on file with the AZROC for the solar technology being installed. Installers may not sub contract outside their scope of work per the AZROC rules; and
2. The installer must possess an Arizona business license that is active and in good standing.

Installers must have completed the TEP Installer's Packet and have provided the above information to be retained on file with TEP. The installer must certify that the information on file remains current with the submission of each reservation request. Information on file must be renewed by the end of the calendar year and resubmitted for participation in the upcoming program year.

3. Self-Install. If a customer desires to install a PV system on their home, a licensed electrical contractor must perform all applicable connections as required by the customer's local jurisdiction. All project documentation is still required.

III. Net Metering

Customers interconnecting to TEP's system may have their solar PV net metered. All policies and procedures regarding interconnection must be followed prior to a net meter being set. All billing structures and rates are subject ACC approval.

IV. Prohibition of System Removal

Neither the Qualifying System nor any component thereof may be removed by any party, including but not limited to the applicant or future owners or occupants of the property until expiration of the Renewable Energy Credit Agreement or the last day of the final month of the final full calendar year of the applicable incentive payment term. If the Qualifying System or any component thereof is removed by any party in violation of this provision, the customer party to the Renewable Energy Credit Agreement shall immediately reimburse TEP a prorated amount of the incentive amount paid by TEP to customer or on behalf of customer to an authorized third party.

In addition, if a Qualified System is removed, TEP shall monitor that specific customer site to ensure that an additional incentive is not provided for any new distributed renewable energy resource system on that site until the original Renewable Energy Credit Agreement's contracted operational life of the original system has expired.

TEP shall attempt to monitor the number of missing or non-working distributed generation systems and shall summarize its observations in its annual Compliance Report.

For DG systems that did not receive incentives, the customer must still notify TEP as to whether the system will be relocated or deemed out of service. This is necessary for TEP's operations to maintain accurate records.

V. Other TEP Renewable Energy Programs

For customers who do not wish to operate a DG system, TEP offers several other renewable energy programs.

- **Bright Tucson Community Solar Program:** TEP offers an easy and affordable way for TEP customers to meet their electric needs with locally generated solar power by purchasing solar power in "blocks" of 150 kWh per month. A customer may buy some or all of their power through the program. For more information, please see TEP's Bright Tucson Community Solar webpage at www.tep.com/renewable/home/bright/.
- **TEP-Owned Residential Solar Program:** TEP will install, own, operate and maintain solar PV systems on eligible customer's homes. In exchange the customer would receive a fixed electric rate for up to 25 years. Please visit <https://www.tep.com/renewable/home/residential solar/> for more program and eligibility information.
- **Residential Community Solar Program:** Eligible customer participating in this program would pay a fixed energy rate, in exchange for their solar energy production to be a portion of a larger utility-owned solar facility. No equipment would be installed on the customer's premise. For information please refer to tep.com.

VI. Incentives

TEP currently does not offer any new Up-Front Incentive (UFI) or Performance-Based Incentive (PBI) programs. Only customers who entered into a PBI contract with TEP in prior years will continue to receive ongoing incentive payments.

VII. General Interconnection Processes

a. Application Process

TEP's interconnection application process appears below. TEP requires strict adherence to this process. Any deviation from the requirements below may result in your application being denied. If you are working with an installer or contractor, please ensure that they follow the required processes explained below.

1st Step: Submittal of the Properly Completed TEP Online Application.

*Please visit www.tep.com/renewable for online application submission. Residential applications are to be submitted online. Non-Residential customers must submit paper applications.

2nd Step: Submittal of executed Attachments A & B

Attachment A: Notifies customer that they are subject to future rate changes, as approved by the ACC.

Attachment B: Confirms that the solar PV system was installed according to TEP's Service Requirements (SR), and DG Interconnection Requirements (DGIRs). These can be found at <https://www.tep.com/customer/construction/esr/>.

*** All residential application paperwork must contain the associated project number that is provided upon successful completion of online application**

3rd Step: Required program documents & other associated paperwork can be forwarded as follows:

Mail may be forwarded to the following address regardless of program:

Tucson Electric Power
Mail Stop HQE502
P.O. Box 711
Tucson, AZ 85702-0711

Emails may be sent to the following based on program:

Residential PV: sunshare@tep.com
Non-Residential Projects: commrenewables@tep.com

*** Paperwork sent directly to any specific employee Company email address may not be processed.**

4th Step: Confirmation or Denial of Project Application.

- Once received, TEP will match the application with the submitted Attachment A & B. It is the customer's and/or installer's responsibility to ensure that all forms are filled out completely and correctly. **Forms with**

missing and/or incorrect information will be placed in a “Missing information” status and will not be approved until corrected. Outdated forms will be rejected.

- TEP will evaluate each application for completeness. TEP will also verify, where an installer is used, that the installer is a TEP-qualified installer. If TEP has not received a completed installer packet, this will be required prior to application approval. Provided that the application meets TEP’s requirements, and that the installer, if any, is TEP-qualified, TEP will issue the customer and installer a reservation confirmation letter and provisionally approve the application.

5th Step: Submittal of Jurisdictional Final Inspection.

1. Failure to obtain a jurisdictional final inspection within 180 days for residential projects, and 365 days for non-residential projects, of the date of the application confirmation letter will result in the revocation of a customer’s interconnection application. If this occurs, the customer or installer must reapply to participate in the program subject to all policies, procedures and rates in effect at time of reapplication.
2. In the event that a jurisdictional final inspection is not completed within the required timelines and the customer or installer provides proof to TEP that a correctly completed application for a jurisdictional final inspection was made within the timeline required, TEP will neither process nor revoke the customer’s reservation for 30 days to allow customer time to confirm with the inspecting jurisdiction when the inspection will occur. Provided that the customer provides TEP with an inspection date within those 30 days, the customer’s reservation will be honored. If 30 days elapses with no information from the customer, the application will be terminated and the customer must reapply to participate in the program subject to policies, procedures and rates in effect at time of reapplication.

6th Step: Submittal of Certificate of Completion (COC) Form.

For all program applications: once the jurisdictional final inspection has been approved, the installer or customer must submit the appropriate COC. It is the responsibility of the installer to be sure that the COC contains the application Project Number, any COC’s without a project number are considered incomplete and **will not be accepted.**

7th Step: TEP will confirm installation of system.

8th Step: TEP process of setting meters.

Upon receipt of the jurisdictional final inspection, as well as the COC, TEP will set a solar energy production meter and change the customer’s revenue meter to a net energy revenue meter.

b. Restrictions/Important Notes:

1. TEP reserves the right to modify the business process to better serve customers or to increase efficiency. Please refer to www.tep.com/renewable for the most up-to-date information.
2. With the exception of minor system modifications during the procurement process, any material changes to a system made after the application is processed will result in cancellation of the existing application and

will require a new online application to be submitted. The reservation request may be denied because the request is not in compliance with program requirements (see specific technical sections below).

3. Project extensions will not be granted except as outline herein.
4. Receipt of the application is not valid until a properly completed application, appropriate disclaimers and a completed Installer's Packet has been received by TEP. Any application packets submitted incorrectly will be cancelled as will their corresponding online application.
5. TEP must receive the required program documents; RECPP Reservation Packet and approve the application, and reserve the funds prior to receiving the meters. ("installed" is defined as the date of the final clearance from the appropriate jurisdiction).
6. In order to participate in the RECPP, installers must have on file with TEP a completed Installer's Packet, including a New Supplier Fact Sheet. This document is available in the Installer's Corner at www.tep.com/renewable.

VIII. Other Incentives

A. Technologies without Technology Specific Criteria

Technology specific criteria have not yet been developed for the following qualifying technologies:

- Fuel Cells
- Other

For applicants requesting incentives for these technologies or for applicants requesting installation of a technology with specific project technology criteria, but where some criteria cannot be met, the applicant will need to submit design and output documentation.

Applicants installing these systems will, at a minimum, need to provide an energy savings and designed output report for the system. The report must include either a testing certification for a substantially similar system prepared by a publicly funded laboratory or an engineering report stamped by a qualified registered professional engineer. The engineering report and/or testing certification shall provide a description of the system and major components, design criteria and performance expectations, applicable standards and/or codes, and a brief history of components in similar applications. Additional information may be required as part of the RECPP requirements.

B. Non-Conforming Projects

Non-conforming projects will be identified as the Program evolves. Incentive levels for such projects will be calculated based on TEP engineering analysis, independent laboratory analysis, and/or professional engineering (PE) stamps. Non-conforming projects that prove combined economic and renewable energy value will be allowed appropriately calculated incentives within the RECPP. All incentives must be approved by the ACC.

C. Guidelines for Photovoltaic Projects Interconnecting Without Incentives

Customers may install grid-tied photovoltaic electric systems behind their meter without incentives. If a customer chooses to do so, the customer shall still notify TEP that a renewable energy generator is being connected to TEP's grid and complete any associated interconnection processes as defined above, or online at tep.com. The process for non-incentive utility interconnection, for both residential and non-residential projects, is available at www.tep.com/renewable.

All projects must adhere to applicable SRs and DGIRs. In addition to any applications required by the Renewable Resources department, all systems over 50 kW AC are required to submit Interconnection Applications to TEP's Energy Services department.

Appendix 1: Glossary of Terms

ACC – Arizona Corporation Commission.

AZROC – Arizona Registrar of Contractors.

Applicant – Utility customer of record for the Utility Revenue Meter located at the installation site; a builder of the structure (residential or non-residential) who will reserve and install the Qualifying system; or for an off-grid Qualifying System, the property owner for the installation site located within a Utility's service territory.

Arizona Business License – A business license issued by the ACC.

Cancelled – Reservation Status indicating that a Reservation has been terminated, funding is no longer allocated, and the utility has removed the reservation from the funding queue.

Cancellation – The termination of the Reservation.

Commissioned – Qualifying System certified to be in operation.

Commissioning Package – Written verification signed by the installer and the customer confirming that the system has been installed in conformance with the approved reservation and that the system is ready for operation.

Conforming Project – Any project utilizing a renewable technology listed in Attachment D.

Conformance Inspection – Inspection performed by the utility to verify that the system has been installed and operates in conformance with the Reservation application.

Customer – Utility customer of record for the Utility Revenue Meter located at the installation site or a builder of the structure (residential or non-residential) who will reserve and install the Qualifying System.

Extension – The extension of the Reservation Timeframe.

Installer – The entity or individual responsible for the installation of a qualifying system.

Installed – The date of the final clearance from the appropriate jurisdiction

Interconnection Inspection – Inspection performed by the utility to confirm that the system can be safely interconnected to the power grid.

Non-Conforming Project – Non-conforming projects include, but are not limited to, projects with staged completion dates, multi-customer or multi-system projects, projects involving more than one technology, projects requiring new or unique agreement terms, projects with technologies for which qualification standards have not been developed or projects requiring non-standard timeframes.

Performance Based Incentive (“PBI”) – Incentive based on a rate per actual kWh output or on equivalent kWh of energy savings.

Project Costs – System Costs plus financing costs.

Proof of Project Advancement – Documentation demonstrating that a project is progressing on schedule and is staged for Commissioning on or before the end of the Reservation Timeframe.

Qualifying System – Distributed renewable energy systems meeting the qualifications for production of qualified Renewable Energy Credits in Arizona acceptable to the Arizona Corporation Commission as they may be defined for affected utilities to meet any renewable energy standards.

Renewable Energy Credit (“REC”) – One Renewable Energy Credit is created for each kWh, or kWh equivalent for non-generating resources, derived from an eligible renewable energy resource. RECs shall include all environmental attributes associated with the production of the eligible renewable energy resource.

Reservation – A dollar amount committed by the utility to fund a project if all program requirements are met.

Reservation Status – Indicator relating to approval or denial of a Reservation request. If a Reservation is approved, the Reservation Status is Reserved. If a Reservation request is denied, the Reservation Status is either Cancelled or Wait Listed.

Reserved – Status indicating the acceptance of a Reservation request.

Reservation Timeframe – The duration of the utility’s funding commitment for a Reservation.

Retroactive System – A Renewable solar system installed before an application for incentive was received and approved by TEP.

System Costs – Costs associated with the Qualifying System components, direct energy distribution, system control/metering, and standard installation costs directly related to the installation of the Qualifying System.

Up Front Incentive (“UFI”) – One time incentive payment based on system capacity or estimated energy kWh production rather than on measured system output.

Wait List – Status indicating Applicant has met program requirements, but the Utility has insufficient funding to commit to funding the project.