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NEW APPLICATION



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BEFORE THE ARIZONA CORPORATION COMMISSION

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ARIZONA CORPORATION COMMISSION  
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IN THE MATTER OF THE APPLICATION OF ) DOCKET NO. E-04204A-16-0237  
UNS ELECTRIC, INC. )  
FOR APPROVAL OF ITS )  
2017 RENEWABLE ENERGY STANDARD ) APPLICATION  
IMPLEMENTATION PLAN. )

UNS Electric, Inc. ("UNS Electric" or the "Company"), through undersigned-counsel, hereby submits its 2017 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.*<sup>1</sup>

UNS Electric remains committed to compliance with the 2017 REST requirement of seven (7) percent of retail sales (or 109,704 megawatt hours ("MWh")) as cost-effectively as possible. Key components of the Plan include: (i) utility-scale generation; and (2) distributed generation. UNS Electric intends to continue to expand its utility-scale generation portfolio and to complete procurement and construction of the 5 MW solicitation in connection with its Bright Arizona Solar Buildout Plan.

The estimated cost to implement the 2017 Plan is approximately \$9.0 million, which is an increase over the 2016 Plan budget of \$6.7 million. To fund the Plan, UNS Electric proposes to recover approximately \$6.3 million through the REST tariff apply \$2.7 million of carryover funds from the 2015 REST budget. In order to implement this Plan, UNS Electric requests that the Commission

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

1 increase the current REST surcharge of \$0.0070 per kWh to \$0.0100 per kWh. UNS Electric is also  
2 requesting an increase in the monthly surcharge caps.

3 UNS Electric is not proposing any incentives for non-residential projects, consistent with  
4 previous Commission decisions. At this time, current retail sales and renewable energy production  
5 forecasts show that UNS Electric will be able to achieve compliance for 2017 for the residential portion  
6 of the Distributed Renewable Energy Requirement in A.A.C. R14-2-1805(D) through the retirement  
7 of RECs in 2017. However, UNS Electric will not meet the non-residential portion of the Distributed  
8 Renewable Energy Requirement in A.A.C. R14-2-1805(D) and will require a waiver of that provision.  
9

10 UNS Electric believes it is in the public interest to implement cost-effective, customer-based  
11 solutions to meet the Company's REST requirements while providing safe, reliable and affordable  
12 energy to its customers. Accordingly, UNS Electric requests that the Commission to issue an order  
13 prior to December 31, 2016 to be effective January 1, 2017 that:

- 14 1. Approves the UNS Electric 2017 Renewable Energy Implementation Plan;
- 15 2. Approves an increase of the REST surcharge from \$0.0070 per kWh to \$0.0100 per kWh  
16 for 2017;
- 17 3. Approves an increase in the monthly caps for all customer classes as set forth in the Plan;
- 18 4. Grants a waiver from compliance with the non-residential portion of the Distributed  
19 Renewable Energy Requirement set forth in A.A.C. R14-2-1805(D).  
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1 RESPECTFULLY SUBMITTED this 1<sup>st</sup> day of July 2016.

2 UNS ELECTRIC, INC.

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1 Original and 13 copies of the foregoing  
filed this 1<sup>st</sup> day of July, 2016, with:

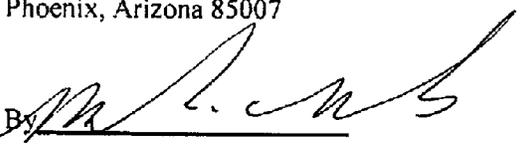
2 Docket Control  
3 Arizona Corporation Commission  
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**UNS Electric, Inc.**  
**2017 Renewable Energy Standard**  
**Implementation Plan**

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## **I. EXECUTIVE SUMMARY**

UNS Electric, Inc. (“UNS Electric” or “Company”) has prepared its 2016 Implementation Plan (“Plan”) in compliance with the Arizona Corporation Commission’s (“Commission”) Renewable Energy Standard and Tariff (“REST”) Rules pursuant to Arizona Administrative Code (“A.A.C.”) R14-2-1813. The cost-effective strategy set forth in the Plan demonstrates UNS Electric’s commitment to fulfilling the REST requirements for 2017 and beyond. Key components of the Plan include: new renewable energy resources to be added through 2021; proposed and existing Company programs and budgets; and the related REST tariff.

Pursuant to A.A.C. R14-2-1804 and R14-2-1805, UNS Electric must obtain seven (7) percent of its 2017 annual retail sales from eligible renewable resources; thirty (30) percent of that renewable energy must come from eligible distributed generation (“DG”) resources (as set forth in A.A.C. R14-2-1805(B)). Further, UNS Electric must meet one-half of its annual DG requirement from residential applications and the remaining one-half from non-residential, non-utility applications (as set forth in A.A.C. R14-2-1805(D)). UNS Electric plans to satisfy these REST requirements using existing utility-scale renewable generation and credits, including utility-owned assets and power purchase agreements (“PPA”); and applicable DG resources.

To fund these efforts, UNS Electric is proposing to recover approximately \$6.3 million through the REST tariff. The estimated cost to implement the Plan is approximately \$9.0 million, which will be partially offset by applying approximately \$2.7 million of carryover funds from the 2015 REST budget. This funding is necessary to cover the cost of utility-scale renewable generation; legacy performance-based incentive payments; and program, outreach and administrative expenses.

The cost of renewable energy is included in two components of UNS Electric’s rates – the REST surcharge and the Purchased Power and Fuel Adjustment Clause (“PPFAC”). Due to the continued decline of natural gas and wholesale market power, the 2017 market price for conventional generation is below the levelized price for conventional generation that was included in the UNS Electric’s 2016 Plan. As a result, the cost of renewable energy in excess of conventional generation included in UNS Electric’s Plan is approximately \$1.8 million more than 2016’s and the corresponding reduction in the cost of conventional generation that will be reflected in the Company’s PPFAC. UNS Electric expects its annual REST budgets for 2017-2021 to average approximately \$8.5 million per year (see Exhibit 1).

UNS Electric's Plan demonstrates the Company's commitment to meeting the renewable energy requirements in the most cost effective manner and in the public's interest. UNS Electric's Plan provides for renewable generation to meet the 2017 annual compliance requirement, including the non-residential DG requirement; however, the Company will require a waiver for the residential portion. UNS Electric respectfully requests that the Commission approve the Plan, as well as its associated budget and tariff prior to December 31, 2016, to be effective January 1, 2017.

## **II. IMPLEMENTATION PLAN COMPONENTS**

UNS Electric's Annual Renewable Energy Requirement as set forth in A.A.C. R14-2-1804 is seven (7) percent of retail kWh sales, a level projected to equal 109,704 megawatt hours ("MWh"). The REST requirements target two resource categories: utility-scale generation; and DG. UNS Electric intends to expand its utility-scale generation portfolio and enhance its Bright Arizona Solar Buildout Plan.

### **A. Utility-Scale Renewable Generation**

UNS Electric will satisfy the 2017 utility-scale requirement through renewable resources capable of producing approximately 172,076 MWh (see Table 1). These resources include Company-owned systems and utility-scale projects developed through PPAs. Company-owned resources include both a 1.2 megawatt ("MW") measured in direct current ("DC" or "dc") and a 5 MWdc solar array (to be completed in the 4<sup>th</sup> quarter of 2016) in Kingman and a 7.2 MWdc solar array near Rio Rico. Resources secured through PPAs include a 9.9 MWdc solar array near the Company's Black Mountain Generating Station in Mohave County, a 10.3 MW (measured in alternating current ("AC" or "ac")) combined wind and solar resource in the Kingman area, and a 37.5-MWdc solar facility to serve Santa Cruz County. Additionally, a PURPA<sup>1</sup>/renewable energy credit ("REC")-only contract in the Kingman Area, Greyhawk, is a 57.5-MWdc solar array which is estimated to be completed in the

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<sup>1</sup> This project is considered a qualifying facility as defined by the Public Utilities Regulatory Act ("PURPA"). As such the cost of energy will be recovered through the PPFAC. The Company has the option to buy RECs from the facility, which would be recovered through the REST.

3<sup>rd</sup> quarter of 2017. In addition to assisting non-residential DG Requirements (through the wholesale allotment), these projects will provide UNS Electric with enough renewable power to meet or exceed its utility-scale REST requirements in 2017. Graph 1 below shows how UNS Electric’s current and planned resources will allow the Company to satisfy its utility scale REST requirements through 2025.

**Graph 1. Renewable Energy Standard Targets**

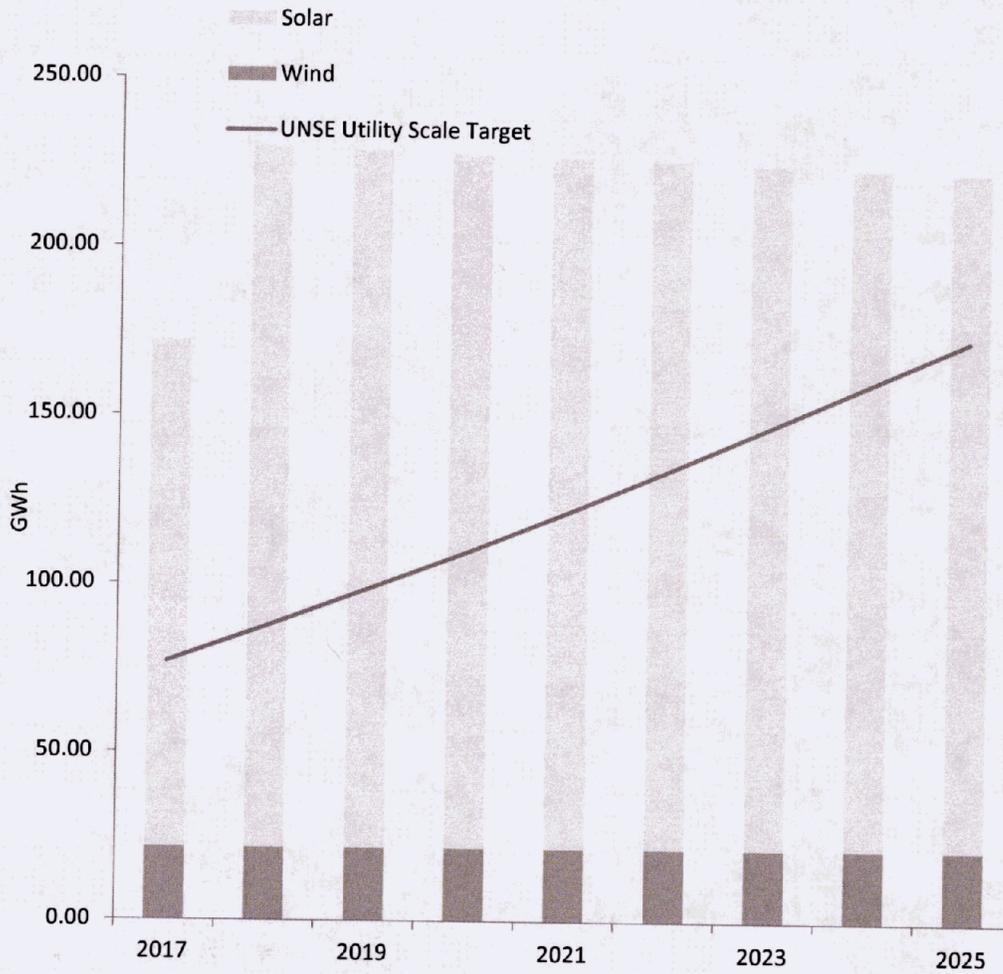


Table 1 details UNS Electric's utility-scale projects, including existing systems and planned resources.

Project	Capacity MWac	Capacity MWdc	2017 Expected Annual MWh	Technology	Expected In-Service Date	UNSE Owned
<b>Existing Renewable Generation</b>						
Kingman Wind Farm	10.00		21,900	Wind	Operational	No
Black Mountain Solar	8.90	9.87	21,290	Single-Axis PV	Operational	No
La Senita	0.98	1.22	2,177	Single-Axis PV	Operational	Yes
Rio Rico	5.76	7.20	7,456	Fixed PV	Operational	Yes
Kingman Wind Farm (Solar)	0.24	0.30	510	Single-Axis PV	Operational	No
Red Horse II (Expansion)	30.00	37.50	86,290	Single-Axis PV	Operational	No
<b>Total Existing</b>	<b>55.88</b>	<b>56.09</b>	<b>139,622</b>			
<b>Bright Arizona Solar Buildout Plan</b>						
Jacobson	4.00	5.00	9,065	Fixed PV	Dec-16	Yes
<b>Total Future - BASBP</b>	<b>4.00</b>	<b>5.00</b>	<b>9,065</b>			
<b>Future Renewable Generation</b>						
** Greyhawk Solar	46.00	57.50	47,012	Single-Axis PV	Aug-17	No
<b>Total Future - Pending (Contracts)</b>	<b>46.00</b>	<b>57.50</b>	<b>47,012</b>			
<b>Total Planned Generation thru 2017</b>	<b>105.88</b>	<b>118.59</b>	<b>195,699</b>			

\*\*Partial year generation. Annual value would be 100,470 MWh

**Table 1. Utility Scale Renewable Projects: Existing and Planned**

**B. Bright Arizona Solar Buildout Plan**

In Decision 74877 (December 23, 2014), the Commission approved \$5 million each for 2015 and 2016 for the UNS Electric ownership plan ("Bright Arizona Buildout Plan" or "Buildout Plan"). Under the Buildout Plan, the Company will complete a procurement solicitation to build a new solar PV facility in 2016. This process will reduce design, engineering, and procurement costs, allow the use of a single interconnection. The UNS Electric Buildout Plan has been an essential component of the Company's renewable energy strategy; however,

as shown in Table 2 below, the Company will no longer request recovery of new expenditures through the REST, other than those already approved. UNS Electric will continue to invest and expand its utility-scale portfolio, but will recover those costs through traditional recovery methods.

**Table 2. Bright Arizona Solar Buildout Plan Investment Timeline**

Bright Arizona Solar Buildout Plan				
Program Year	Year Installed	Annual Capital Investment	Recovered Through REST	Approx. MW
2015	2016	\$ 5,000,000	Yes	Combined w/ '16
2016	2016	5,000,000	Yes	5.5
2017	TBD	0	No	0
2018	TBD	10,000,000	No	6
2019	TBD	0	No	0
2020	TBD	10,000,000	No	6
2021	TBD	0	No	0
2022	TBD	10,000,000	No	6

The revenue requirement includes recurring costs related to the 2015-2016 UNSE 5MW capital investment, including return on investment, depreciation, property taxes, and operations and maintenance (“O&M”) expense. UNS Electric seeks continued recovery of these costs through the REST tariff as approved by the Commission until such investments and related costs can be included in base rates. Table 3 outlines the overall revenue requirement for projects included in the Buildout Plan that were approved for recovery through the REST. Table 4 breaks down the costs for the Buildout Plan for those same projects.

**Table 3. Overall Annual Revenue Requirement for the Buildout Plan**

Revenue Requirement	2017	2018	2019	2020	2021
Carrying Costs	\$ 508,100	\$ 447,090	\$ 448,039	\$ -	\$ -
Book Depreciation	\$ 500,000	\$ 500,000	\$ 500,000	\$ -	\$ -
Property Tax Expense	\$ -	\$ 43,085	\$ 42,639	\$ -	\$ -
O&M	\$ 75,000	\$ 76,500	\$ 78,030	\$ -	\$ -
Lease Expense	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Revenue Requirement</b>	<b>\$1,083,100</b>	<b>\$ 1,066,675</b>	<b>\$ 1,068,707.58</b>	<b>\$ -</b>	<b>\$ -</b>

**Table 4. Annual Revenue Requirement for the Buildout Plan by Project**

Utility Owned Solar Projects by Year	2017	2018	2019	2020	2021
2016 - Jacobson 5.0 MW	1,083,100	1,066,675	1,068,708	-	-
<b>Annual Revenue Requirement</b>	<b>\$ 1,083,100</b>	<b>\$ 1,066,675</b>	<b>\$ 1,068,708</b>	<b>\$ -</b>	<b>\$ -</b>

**C. Distributed Generation Incentive Program**

UNS Electric is not proposing DG incentives for 2017, consistent with previous Commission decisions. According to current retail sales and production forecasts, the Company will be able to meet the non-residential DG carve-out requirements through the retirement of RECs in 2017. However, because the Company is no longer able to retire RECs from DG systems installed without incentives, the Company believes that it will not be able to meet the residential requirement in 2017. UNS Electric is requesting a waiver of the residential DG Requirement for 2017.

**Table 5. Estimated DG Compliance**

2017	Est. DG Req't (kWh)	Capacity (kW)	Est. RECs Available
Residential	16,455,527	10,000	16,067,248
Non-Residential	16,455,527	15,600	24,395,911
<b>Non-Incentivized</b>			
Residential		5,930	10,674,000
Non-Residential		2,180	3,924,000

UNS Electric 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 \$892,297.

#### **D. Market Cost of Comparable Conventional Generation**

Consistent with the REST Rules, UNS Electric 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 costs per project that are recovered through the REST are referred to as the Above Market Cost of Comparable Generation (“AMCCCG”). These expenses are based on the PPA pricing after subtracting the corresponding MCCCG based on projected hourly energy profiles and are included in Exhibits 3<sup>2</sup> (AMCCCG) (confidential) and Exhibit 5 (IP Resource Costs) (confidential). Exhibit 4 (IP Resources) shows associated energy production. The profiles are determined by UNS Electric’s production cost model. The MCCCG will be included for wind, PV systems, concentrated solar with storage, and bio-fueled renewable resources.

### **III. THE PLAN BUDGET**

As stated previously, UNS Electric is proposing to recover approximately \$6.3 million through the REST tariff to fund the Plan. The estimated cost to implement the Plan is \$9.0 million, which will be partially offset by applying approximately \$2.7 million of carryover funds from the 2015 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.

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<sup>2</sup> Exhibits 3 and 5 will be provided to Commission Staff upon execution of a Protective Agreement.

**Table 6. Plan Budget by Category**

<b>Category</b>	<b>Budget</b>
Utility Scale	\$ 7,828,549
Existing Large Non-Residential PBI	892,297
Operating Costs (Education and Outreach, Technical Training, I.T., Metering, Labor, R&D)	315,838
<b>2017 Program Cost</b>	<b>\$ 9,036,684</b>
Carryover	2,675,147
<b>Total 2017 Plan</b>	<b>\$ 6,361,537</b>

#### **IV. REST TARIFF**

The Plan's tariff is contained in the attached Exhibit 6<sup>3</sup>. UNS Electric's Plan calls for raising the tariff charge from \$0.007/kWh to \$0.0100/kWh and also increasing the current monthly caps for all customer classes. Proposed caps correspond to the rate categories that have been proposed in UNSE's pending rate case (Docket No. E-04204A-15-0142). The caps were developed using the proportional cap allocation method previously approved by the Commission. Table 7 details the Company's actual REST revenue for 2015 and proposed budget for 2017 delineated by rate class. Table 8 sets forth the currently approved customer class caps and the caps proposed for the Plan.

**Table 7. 2017 Budget by Rate Class**

<b>Rate Class</b>	<b>2015 Actuals</b>	<b>2017 Proposed Budget</b>
Residential	\$ 2,976,667	\$ 3,130,353
Commercial	2,552,189	0
Small General Service	0	1,261,454
Medium General Service	0	1,360,288
Large General Service	0	23,100
Interruptible Power Service	0	27,352
Lighting	7,470	7,580
Industrial & Mining	534,108	555,729
<b>Total</b>	<b>\$ 6,070,434</b>	<b>\$ 6,365,855</b>

<sup>3</sup> Customer Load Percentage Analysis is set forth in the attached Exhibit 7.

**Table 8. 2017 Surcharge Caps by Rate Class**

<b>Rate Class</b>	<b>2016 Approved Caps</b>	<b>2017 Proposed Caps</b>
Residential	\$ 3.30	\$ 3.60
Commercial	90.00	
Small General Service	90.00	100.00
Medium General Service	90.00	100.00
Large General Service	90.00	100.00
Interruptible Power Service	90.00	100.00
Lighting	90.00	100.00
Industrial & Mining	10,000.00	10,500.00
<b>Per kWh to All Classes</b>	<b>\$ 0.007</b>	<b>\$ 0.010</b>

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

UNS Electric typically commits a portion of its REST budget to provide technical research and support for the adoption of renewable energy. Table 9 outlines UNS Electric’s proposed budget for this work in 2017. UNS Electric plans to continue its commitment to furthering the integration of renewable energy on its system by participating in the following projects.

**Table 9. UNS Electric’s Research and Development Initiatives by Project**

<b>Renewable Integration Initiatives</b>	<b>Budget</b>
Solar and Wind Forecast Integration Portal	\$ 15,000
UVIG, SEPA, AWEA Membership Dues	7,500
<b>Total</b>	<b>\$ 22,500</b>

**A. Solar and Wind Forecast Integration**

Due to the highly variable nature of renewable energy, both solar and wind, UNS Electric is requesting a reinstatement of its budget for operational forecasting from the University of Arizona. These forecasts are currently actively used in UNS Electric’s sister company, Tucson Electric Power’s (“TEP”) Wholesale Marketing and Operations departments. The forecasting portal has been key in helping TEP make purchasing decisions in

Wholesale Marketing, as well as provides grid operators insight as to what is occurring with renewable energy generators throughout the service territory. This budget will allow the University of Arizona (“UA”), who furnishes the forecasts, to tailor their forecasts to the Company’s service territory. The proposed budget for this program is \$15,000.

**B. UVIG, SEPA, AWEA**

To facilitate its compliance with the REST, UNS Electric actively participates in three renewable industry associations: the Utility Variable (Energy) Integration Group (“UVIG”); the Smart Electric Power Alliance (“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 \$7,500.

**VI. OTHER BUDGET ITEM DISCUSSIONS**

**A. Education and Outreach**

UNS Electric is requesting a budget of \$30,000 for education and outreach. The Company is regularly asked to provide opportunities for customers to learn more about solar and how it impacts the grid. Under UNS Electric’s in-process rate case, it will be critical that customers understand how solar will impact their bills.

**B. Labor**

The 2017 budget for internal labor is \$10,000. All internal employees that were part of the Program during 2014, the Test Year for UNS Electric’s pending rate case have been included in the Company’s O&M; and, if approved, would be recovered through base rates and not the REST program.

There is an increase to the External Labor budget to more accurately reflect the costs associated with legal support, and other temporary support staff. The budget amount for this line item is \$50,000.

## **VII. CONCLUSION**

The proposed 2017 REST Implementation Plan filed by UNS Electric was developed to cost-effectively comply with the REST requirements. The Company submits that the proposed plan is prudent and in the public interest. UNS Electric respectfully requests that the Commission approve the UNS Electric 2017 REST Implementation Plan as submitted, including a waiver of the residential portion of the DG Requirement.

**EXHIBITS**

**EXHIBIT 1: LINE ITEM BUDGET**

## Exhibit 1

### UNS Electric Renewable Energy Standard Tariff

Line Item Budget	Approved 2016	2017	2018	2019	2020	2021
<b>Total REST Budget &amp; Tariff Collection:</b>	<b>\$ 5,130,208</b>	<b>\$ 6,361,537</b>	<b>\$ 9,125,967</b>	<b>\$ 9,048,521</b>	<b>\$ 7,920,449</b>	<b>\$ 7,688,289</b>
<b>Utility Scale Energy</b>						
Above Market Cost of Conventional Generation	\$ 4,622,946	\$ 6,745,449	\$ 6,837,229	\$ 6,742,725	\$ 6,676,100	\$ 6,445,275
UNSE Owned	877,365	1,083,100	1,066,675	1,068,708	-	-
<b>Subtotal</b>	<b>5,500,311</b>	<b>7,828,549</b>	<b>7,903,904</b>	<b>7,811,432</b>	<b>6,676,100</b>	<b>6,445,275</b>
<b>Customer Sited Distributed Renewable Energy</b>						
Annual Performance Based Incentive (PBI)	892,297	892,297	892,297	892,297	892,297	874,019
Meter Reading	6,250	6,250	6,250	6,250	6,250	6,250
Consumer Education and Outreach	-	30,000	30,000	30,000	30,000	30,000
School Vocational Program	60,000	-	-	-	-	-
<b>Subtotal</b>	<b>958,547</b>	<b>928,547</b>	<b>928,547</b>	<b>928,547</b>	<b>928,547</b>	<b>910,269</b>
<b>Technical Training: Internal and Contractor Training</b>	<b>37,500</b>	<b>37,500</b>	<b>37,500</b>	<b>37,500</b>	<b>37,500</b>	<b>37,500</b>
<b>Information Systems</b>	<b>20,000</b>	<b>20,000</b>	<b>20,000</b>	<b>20,000</b>	<b>20,000</b>	<b>20,000</b>
<b>Metering</b>	<b>107,453</b>	<b>118,586</b>	<b>124,516</b>	<b>130,741</b>	<b>130,741</b>	<b>137,278</b>
<b>Program Labor and Administration:</b>						
Internal Labor	63,000	10,000	11,000	12,100	13,310	14,641
External Labor	20,000	50,000	55,000	60,500	66,550	73,205
Labor, Materials, Supplies	20,000	20,000	22,000	24,200	24,200	26,620
AZ Solar Website	1,000	1,000	1,000	1,000	1,000	1,000
<b>Subtotal</b>	<b>104,000</b>	<b>81,000</b>	<b>89,000</b>	<b>97,800</b>	<b>105,060</b>	<b>115,466</b>
<b>Renewable Energy Research and Development:</b>						
University of Arizona research projects	-	15,000	15,000	15,000	15,000	15,000
Dues and Fees	-	7,500	7,500	7,500	7,500	7,500
<b>Subtotal</b>	<b>-</b>	<b>22,500</b>	<b>22,500</b>	<b>22,500</b>	<b>22,500</b>	<b>22,500</b>
<b>Total Spending</b>	<b>6,727,811</b>	<b>9,036,684</b>	<b>9,125,967</b>	<b>9,048,521</b>	<b>7,920,449</b>	<b>7,688,289</b>
<b>Carryover of REST Funds</b>	<b>1,597,603</b>	<b>2,675,147</b>				
<b>Total Amount for Recovery</b>	<b>\$ 5,130,208</b>	<b>\$ 6,361,537</b>	<b>\$ 9,125,967</b>	<b>\$ 9,048,521</b>	<b>\$ 7,920,449</b>	<b>\$ 7,688,289</b>

**EXHIBIT 2: DEFINITION OF MARKET COST OF  
COMPARABLE CONVENTIONAL GENERATION**

## **Market Cost of Comparable Conventional Generation**

### **2017 Renewable Energy Standard and Tariff**

#### **OVERVIEW**

Consistent with the Renewable Energy Standard Tariff ("REST") Rules passed by the Arizona Corporation Commission ("Commission"), Unisource Electric ("UNS Electric") 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 AuroraXMP by EPIS, Inc. and will be done in coordination with the company's annual Purchase Power and Fuel Adjustment Clause ("PPFAC") filing. 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 an AuroraXMP 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 MCCCG rates will be recovered through the REST Adjustor Mechanism and REST Tariff.

**Table 1 - MCCCCG Hourly Rate Determination Matrix**

<b>Types of Renewable Generation Resources</b>					
		<b>Dispatchable Renewable Generation</b>	<b>Firm Renewable Generation</b>	<b>Non-Firm Renewable Generation</b>	<b>Curtable Non-Firm Renewable Generation</b>
<b>Resource Dispatch Type</b>	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 AuroraXMP dispatch cost (\$/MWh) for hour  $i=1, 2, \dots, 8760$ .

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

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

**Table 2 – UNS Electric’s 2017 MCCCCG Annual Rates**

Renewable Technology	MCCCCG Annual Rates	\$/MWh
	Solar PV	
AZ Wind		\$23.97
Biomass		\$24.35
NM Wind		\$23.70
Solar CSP		\$26.98

**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: IP RESOURCES**

**IMPLEMENTATION PLAN - UNSE**

**Table 1 - Targeted Resources**

Line No.	Ownership <sup>1</sup>	Targeted Completion	2008-2017 Total MW (AC)	2008-2017 Total MW (DC)	Targeted Energy Production (MWh or Equivalent)						
					2017	2018	2019	2020	2021	Total	
<b>Targeted Generation Resources:</b>											
1	<b>Solar:</b>										
2	Black Mountain Solar	PPA	COMPLETE	8.90	9.87	21,290	21,183	21,077	20,972	20,867	105,389
3	Red Horse II (Expansion)	PPA	5/18/2016	30.00	37.50 <sup>2</sup>	86,290	85,859	85,430	85,002	84,577	427,159
4	Kingman Wind Farm (Solar)	PPA	COMPLETE	0.24	0.30	510	507	505	502	500	2,525
5	Greyhawk Solar	PURPA/PPA	8/31/2017	46.00	57.50	47,012	112,265	111,703	111,145	110,589	492,714
6	Rio Rico	UNSE	COMPLETE	5.76	7.20	7,456	7,418	7,381	7,344	7,308	36,907
7	La Senta	UNSE	COMPLETE	0.98	1.22	2,177	2,166	2,155	2,144	2,134	10,776
9	Jacobson	UNSE	12/30/2016	4.00	5.00	9,065	9,020	8,974	8,930	8,885	44,873
10	<b>Wind:</b>										
11	Kingman Wind Farm	PPA	COMPLETE	10.00		21,900	21,900	21,900	21,900	21,900	109,500
13	<b>Total Targeted Generation</b>			<b>105.88</b>	<b>118.59</b>	<b>195,699</b>	<b>260,318</b>	<b>259,126</b>	<b>257,940</b>	<b>256,760</b>	<b>1,229,843</b>
<b>Targeted Distributed Energy Resources:</b>											
17	<b>Residential:</b>										
18	Solar PV	UFI		9.3							-
20	<b>Subtotal Residential</b>			9.3		-	-	-	-	-	-
22	<b>Non-Residential:</b>										
23	Solar PV	UFI		0.1							-
24	Solar PV	PBI		4.8							-
25	<b>Subtotal Non-Residential</b>			4.9		-	-	-	-	-	-
27	<b>Residential or Non-Residential:</b>										
28	Solar Heating			N/A							-
29	<b>Subtotal Residential or Non-Residential</b>			N/A		-	-	-	-	-	-
31	<b>Total Targeted DE</b>			14.1		-	-	-	-	-	-
32	<b>Total Targeted Resources</b>			<b>132.7</b>		<b>195,699</b>	<b>260,318</b>	<b>259,126</b>	<b>257,940</b>	<b>256,760</b>	<b>1,229,843</b>

**Notes:**

<sup>1</sup>All 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.

<sup>2</sup>Redhorse and associated expansion is a combined solar and wind 91MWac production limited plant comprised of 102.9 MWdc Solar and 30MWac wind. Total solar ac output subject to wind production will be from 61MWac to 75MWac.

**EXHIBIT 5: IP RESOURCE COSTS**

**\*\*Confidential\*\***

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

**EXHIBIT 6: REST – TS1 RENEWABLE ENERGY  
STANDARD TARIFF**



UNS Electric, Inc.

Original Sheet No: \_\_\_\_\_

Superseding \_\_\_\_\_

**Rider-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 UNS Electric Statement of Charges.

Customers will be billed a per kWh charge up to the cap applicable to their approved rate class as shown in the Company Statement of Charges, unless otherwise specified.

Note: An industrial Customer is one with monthly demand equal to or greater than 3,000 kW.

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 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. 73638, effective March 21, 2013, any Customer who has received incentives under the REST Rules, shall pay the average of the REST surcharge paid by members of their Customer class. This requirement shall apply to renewable systems reserved on and after January 1, 2012. Any Customer who has a renewable installation without incentives that is interconnected with UNS Electric's system shall pay the average of the REST surcharge paid by members of their Customer class. This requirement shall apply to renewable systems reserved on and after February 1, 2013. The average price is shown in the UNS Electric Statement of Charges.

**UNS ELECTRIC STATEMENT OF CHARGES**

For all additional charges and assessments approved by the Arizona Corporation Commission (ACC) see the UNS Electric Statement of Charges which is available on UNS Electric's website at [www.uesaz.com](http://www.uesaz.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 pricing plan.

**TAX CLAUSE**

To the charges computed under this rider above rates, 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  
District: Entire Electric Service Area

Rate: R-6  
Effective: \_\_\_\_\_  
Decision No.: \_\_\_\_\_



UNS Electric, Inc.

Original Sheet No.: 707  
Superseding:

**Rider-7**  
**Customer Self-Directed Renewable Energy Option**  
**REST-TS2 Renewable Energy Standard Tariff**

AVAILABILITY

Open to all Eligible Customers as defined at A.A.C. R14-02-1801.H.

APPLICABILITY

Any Eligible Customer that applies to the Company under this program and receives approval shall participate at its option.

PARTICIPATION PROCESS

An Eligible Customer seeking to participate shall submit to the Company a written application that describes the Distributed Renewable Energy (DRE) resources or facilities that it proposes to install and the estimated costs of the project. The Company shall have sixty (60) calendar days to evaluate and respond in writing to the Eligible Customer, either accepting or declining the project. If accepted, the Customer shall be reimbursed up to the actual dollar amounts of customer surcharge paid under the REST-TS1 Tariff in any calendar year in which DRE facilities are installed as part of the accepted project. To qualify for such funds, the Customer shall provide at least half of the funding necessary to complete the project described in the accepted application, and shall provide the Company with sufficient and reasonable written documentation of the project's costs. Customer shall submit their application prior to May 1 of a given year to apply for funding in the following calendar year.

FACILITIES INSTALLED

The maintenance and repair of the facilities installed by a Customer under this program shall be the responsibility of the Customer following completion of the project. In order to be accepted by the Company for reimbursement purposes, the project shall, at a minimum, conform to the Company's System Qualification standards on file with the Commission. (REST Implementation Plan, Renewable Energy Credit Purchase Program - RECPP, Distributed Generation Interconnection Requirements, Net Metering Tariff, Company's Interconnection Manual)

PAYMENTS AND CREDITS

All funds reimbursed by the Company to the Customer for installation of approved DRE facilities shall be paid on an annual basis no later than March 30<sup>th</sup> of each calendar year. All Renewable Energy Credits derived from a project, including generation and Extra Credit Multipliers, shall become the property of the Company and shall be applied towards the Company's Annual Renewable Energy Requirement as defined in A.A.C. R14-2-1801.B.

RULES AND REGULATIONS

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

RELATED SCHEDULES/RIDER

- REST-TS1 - Renewable Energy Program Expense Recovery

Filed By: Kenton C. Grant  
Title: Vice President  
District: Entire Electric Service Area

Rate: R-7  
Effective: 12/1/2010  
Decision No.: 11-0070



UNS Electric, Inc.

Ninth-Alternate Tenth Revised Sheet No.:

801-1

Superseding Eighth-Ninth Revised Sheet No.:

801-1

UNS ELECTRIC STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-1 – Purchased Power and Fuel Adjustment Clause (PPFAC)	Varies–See Rider-1	January 1, 2014	74235
Rider R-2 – Demand Side Management Surcharge (DSMS)	\$0.0015 per kWh	August 1, 2014	74599
Rider R-3 – Market Cost of Comparable Conventional Generation (MCCCG) Calculation as Applicable to Rider-4 NM-PRS	\$0.03003 per kWh	June 1, 2015	75090
Rider R-5 – Electric Service Solar Rider (Bright Arizona Community Solar™) Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for General Service, Rate SGS-10 Solar Block Energy Rate for Large General Service, Rate LGS	\$0.087445 per kWh \$0.085495 per kWh \$0.077991 per kWh	January 1, 2011 through December 31, 2013	72034
Rider R-5 – Electric Service Solar Rider (Bright Arizona Community Solar™) Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for General Service, Rate SGS-10 Solar Block Energy Rate for Large General Service, Rate LGS	\$0.084510 per kWh \$0.078241 per kWh \$0.076603 per kWh	January 1, 2014	74235
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: For Medium General Service: For Large General Service: For Interruptible Power Service: For Commercial Customers: For Industrial Customers: For Lighting (PSHL):	\$0.019700 per kWh  <u>Monthly Cap</u> ____ \$3.30-60 per month ____ \$90.00 per month ____ \$100.00 per month ____ \$100.00 per month ____ \$100.00 per month ____ \$100.00 per month ____ \$10,000-10,500 per month ____ \$100.00 per month ____ 90.00 per month	January 1, 2016 Pending	75347 Pending
Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery  Per Decision No. 73638, customers receiving incentives on or after January 1, 2012 shall pay the average of the REST surcharge paid by members of their customer class. Customer with renewable installations without incentives that is interconnected with UNSE's system on or after February 1, 2013 shall pay the average of the REST surcharge paid by members of their customer class. The average price by class shall be the following:	<u>Monthly Cap</u> \$2.68 per month \$15.63 per month \$7,925.30 per month \$0.88 per month	January 1, 2016	75347

Filed By: Kentton C. Grant  
Title: Vice President  
District: Entire Electric Service Area

Rate: Statement of Charges  
Effective: January 1, 2014  
Decision No.: 74235

<u>Monthly Cap</u> For Residential Customers: For Commercial Customers: For Industrial Customers: For Lighting (PSHL):			
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Filed By: Kentton C. Grant  
Title: Vice President  
District: Entire Electric Service Area

Rate: Statement of Charges  
Effective: January 1, 2014  
Decision No.: 74235



UNS Electric, Inc.

Seventh ~~Eighth~~ Revised Sheet No.: 801-2

Superseding Sixth ~~Seventh~~ Revised Sheet No.: 801-2

UNS ELECTRIC STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
<p><u>Rider R-6 – Renewable Energy Standard and Tariff Surcharge</u>  <u>REST-TS1 Renewable Energy Program Expense Recovery</u></p> <p><u>Per Decision No. 73638, customers receiving incentives on or after January 1, 2012 shall pay the average of the REST surcharge paid by members of their customer class. Customer with renewable installations without incentives that is interconnected with UNSE's system on or after February 1, 2013 shall pay the average of the REST surcharge paid by members of their customer class. The average price by class shall be the following:</u></p> <p><u>Monthly Cap</u>  <u>For Residential Customers:</u>  <u>For Small General Service:</u>  <u>For Medium General Service:</u>  <u>For Large General Service:</u>  <u>For Interruptible Power Service:</u>  <u>For Industrial Customers:</u>  <u>For Lighting (PSHL):</u></p>	<p><u>Monthly Cap</u>  <u>\$3.09 per month</u>  <u>\$11.01 per month</u>  <u>\$85.65 per month</u>  <u>\$100.00 per month</u>  <u>\$86.56 per month</u>  <u>\$8,963.36 per month</u>  <u>\$1.17 per month</u></p>	Pending	Pending
<p>Rider R-8</p> <p>Lost Fixed Cost Recovery (LFCR) Mechanism – Energy Efficiency</p> <p>Lost Fixed Cost Recovery (LFCR) Mechanism – Distributed Generation</p>	<p>0.6985%</p> <p>0.1693%</p>	August 1, 2015	75164
<p>Rider R-9</p> <p>Transmission Cost Adjustor (TCA) – \$/kWh charge (Non-Demand)</p> <p>Transmission Cost Adjustor (TCA) – \$/kW charge (Demand)</p>	<p>\$0.00288 per kWh</p> <p>\$1.3075 per kW</p>	June 1, 2016	74235

Filed By: Kentton C. Grant  
 Title: Vice President  
 District: Entire Electric Service Area

Rate: Statement of Charges  
 Effective: January 1, 2014  
 Decision No.: 74235



UNS Electric, Inc.

Alternate Tenth Revised Sheet No.: 801-1

Superseding Ninth Revised Sheet No.: 801-1

**UNS ELECTRIC STATEMENT OF CHARGES**

Description	Rate	Effective Date	Decision No.
Rider R-1 – Purchased Power and Fuel Adjustment Clause (PPFAC)	Varies–See Rider-1	January 1, 2014	74235
Rider R-2 – Demand Side Management Surcharge (DSMS)	\$0.0015 per kWh	August 1, 2014	74599
Rider R-3 – Market Cost of Comparable Conventional Generation (MCCCG) Calculation as Applicable to Rider-4 NM-PRS	\$0.03003 per kWh	June 1, 2015	75090
Rider R-5 – Electric Service Solar Rider (Bright Arizona Community Solar™) Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for General Service, Rate SGS-10 Solar Block Energy Rate for Large General Service, Rate LGS	\$0.087445 per kWh \$0.085495 per kWh \$0.077991 per kWh	January 1, 2011 through December 31, 2013	72034
Rider R-5 – Electric Service Solar Rider (Bright Arizona Community Solar™) Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for General Service, Rate SGS-10 Solar Block Energy Rate for Large General Service, Rate LGS	\$0.084510 per kWh \$0.078241 per kWh \$0.076603 per kWh	January 1, 2014	74235
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: For Medium General Service: For Large General Service: For Interruptible Power Service: For Industrial Customers: For Lighting (PSHL):	\$0.0100 per kWh  <u>Monthly Cap</u>  \$3.60 per month \$100.00 per month \$100.00 per month \$100.00 per month \$100.00 per month \$10,500 per month \$100.00 per month	Pending	Pending

Filed By: Kentton C. Grant  
Title: Vice President  
District: Entire Electric Service Area

Rate: Statement of Charges  
Effective: January 1, 2014  
Decision No.: 74235



UNS Electric, Inc.

Eighth Revised Sheet No.: \_\_\_\_\_ 801-2

Superseding Seventh Revised Sheet No.: \_\_\_\_\_ 801-2

**UNS ELECTRIC STATEMENT OF CHARGES**

Description	Rate	Effective Date	Decision No.
<p>Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery</p> <p>Per Decision No. 73638, customers receiving incentives on or after January 1, 2012 shall pay the average of the REST surcharge paid by members of their customer class. Customer with renewable installations without incentives that is interconnected with UNSE's system on or after February 1, 2013 shall pay the average of the REST surcharge paid by members of their customer class. The average price by class shall be the following:</p> <p><u>Monthly Cap</u>            For Residential Customers:            For Small General Service:            For Medium General Service:            For Large General Service:            For Interruptible Power Service:            For Industrial Customers:            For Lighting (PSHL):</p>	<p><u>Monthly Cap</u>            \$3.09 per month            \$11.01 per month            \$85.65 per month            \$100.00 per month            \$86.56 per month            \$8,963.36 per month            \$1.17 per month</p>	<p>Pending</p>	<p>Pending</p>
<p>Rider R-8</p> <p>Lost Fixed Cost Recovery (LFCR) Mechanism – Energy Efficiency</p> <p>Lost Fixed Cost Recovery (LFCR) Mechanism – Distributed Generation</p>	<p>0.6985%</p> <p>0.1693%</p>	<p>August 1, 2015</p>	<p>75164</p>
<p>Rider R-9</p> <p>Transmission Cost Adjustor (TCA) – \$/kWh charge (Non-Demand)</p> <p>Transmission Cost Adjustor (TCA) – \$/kW charge (Demand)</p>	<p>\$0.00288 per kWh</p> <p>\$1.3075 per kW</p>	<p>June 1, 2016</p>	<p>74235</p>

Filed By: Kentton C. Grant  
 Title: Vice President  
 District: Entire Electric Service Area

Rate: Statement of Charges  
 Effective: January 1, 2014  
 Decision No.: 74235

**EXHIBIT 7: CUSTOMER LOAD PERCENTAGE**  
**ANALYSIS**

**2017 Company Proposal Plan**

<b>Customer Class</b>	<b>Total Revenue</b>	<b>Percent of Revenue</b>	<b>Average Bill</b>	<b>Monthly Cap</b>	<b>Percent of Bills at Cap</b>	<b>Percent of Load</b>
Residential	\$3,130,353	49.2%	\$3.09	\$3.60	73.4%	52.0%
Small General Service	\$1,261,454	19.8%	\$11.01	\$100.00	0.4%	7.9%
Medium General Service	\$1,360,288	21.4%	\$85.65	\$100.00	62.2%	25.5%
Large General Service	\$23,100	0.4%	\$100.00	\$100.00	100.0%	6.8%
Interruptible Power Service	\$27,352	0.4%	\$86.56	\$100.00	84.8%	1.3%
Lighting	\$7,580	0.1%	\$1.17	\$100.00	0.2%	0.1%
Industrial & Mining	\$555,729	8.7%	\$8,963.36	\$10,500.00	72.6%	6.4%
<b>Total</b>	<b>\$6,365,855</b>	<b>100.0%</b>				<b>100.0%</b>

**EXHIBIT 8: RENEWABLE ENERGY PROGRAM  
POLICIES AND PROCEDURES (“REPPP”)**

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## 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.

UNS Electric, Inc. (“UNSE” 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 UNSE. Customers deemed eligible for participation in UNSE’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 UNSE 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.uesaz.com/customer/rates/>.

### **Why is UNSE involved with DG?**

The ACC, which regulates UNSE and utilities like it in Arizona, enacted the Renewable Energy Standard and Tariff (“REST”) Rules in 2008. These rules require UNSE 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, UNSE also supports the interconnection of customer-sited DG systems to its electrical grid, even if RECs were not purchased.

### **What is a UNSE-qualified installer?**

A UNSE-qualified installer is an installer that has been evaluated by UNSE personnel and deemed to have met the prerequisites for qualification. In order to become UNSE-qualified, each installer must meet certain UNSE 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.

### **Where can I find more information?**

For more information about UNSE's renewable energy plans, please consult UNSE's approved 2016 REST Implementation Plan, which can be found online at [www.uesaz.com/Renewable/](http://www.uesaz.com/Renewable/). Questions may be directed to (877) 837-4968.

### **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.

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

UNSE's REPPP 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 UNSE's system must be installed by an installer properly licensed by the state of Arizona and qualified to install solar projects. UNSE 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 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.
3. Installers must have completed the UNSE Installer's Packet and have provided the above information to be retained on file with UNSE. 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.

4. 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.
5. All qualified installers will receive one (1) log-in credential and be granted access to UNSE's online DG application portal.

### **III. NET METERING**

Customers interconnecting to UNSE'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 UNSE a prorated amount of the incentive amount paid by UNSE to customer or on behalf of customer to an authorized third party.

In addition, if a Qualified System is removed, UNSE 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.

UNSE 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 UNSE as to whether the system will be relocated or deemed out of service. This is necessary for UNSE's operations to maintain accurate records.

### **V. COMMUNITY SOLAR**

For customers who do not wish to operate a DG system, UNSE offers the Bright Arizona Community Solar Program. The Bright Arizona Community Solar Program offers an easy and affordable way for UNSE 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 UNSE's Green Energy webpage at [www.uesaz.com/renewable/home/bright/](http://www.uesaz.com/renewable/home/bright/).

## VI. INCENTIVES

*UNSE 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 UNSE in prior years will continue to receive ongoing incentive payments.*

## VII. GENERAL INTERCONNECTION PROCESSES

### a. Application Process

UNSE's interconnection application process appears below. UNSE 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.

#### **1<sup>st</sup> Step: Submittal of the Properly Completed UNSE Application.**

\*Please visit [www.uesaz.com/renewable](http://www.uesaz.com/renewable) for online application submission. Applications for Residential and Non-Residential of all sizes are to be submitted online only.

#### **2<sup>nd</sup> 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 UNSE Service Requirements ("SR"), and DG Interconnection Requirements ("DGIR"). These can be found at <https://www.uesaz.com/customer/construction/esr/>.

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

#### **3<sup>rd</sup> Step: Submittal of executed UNSE Consumer Acknowledgements:**

- Customers buying, financing or leasing a solar distributed energy generation system ("System") must receive certain disclosures from the manufacturer and solar installers regarding warranties, payment obligations, performance data and major System components as set forth in A.R.S. § 44-1763. These acknowledgements must be signed by the customer and submitted as part of the online application.

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

**4<sup>th</sup> Step: Confirmation or Denial of Reservation.**

- Once received, UNSE 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 denied and a new application will need to be submitted.**
- UNSE will evaluate each application for completeness. UNSE will also verify, where an installer is used, that the installer is a UNSE-qualified installer. If UNSE has not received a completed installer packet, this will be required prior to application approval. Provided that the application meets UNSE's requirements, and that the installer, if any, is UNSE-qualified, UNSE will issue the customer and installer the Approval Letter and provisionally approve the application.

**5<sup>th</sup> Step: Submittal and Approval of Electrical Drawings and Site Plan.**

- **Electrical drawings and Site Plan must be reviewed and approved for compliance with UNSE requirements.**

**6<sup>th</sup> 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 UNSE that a correctly completed application for a jurisdictional final inspection was made within the timeline required, UNSE 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 UNSE 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.

**6<sup>th</sup> 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 complete COC. It is the responsibility of the installer to be sure that the COC contains the application Project Number. Any COC that does not include a project number will be considered incomplete and **will not be accepted.**

**7<sup>th</sup> Step: UNSE will confirm installation of your system.**

**8<sup>th</sup> Step: UNSE process of setting meters.**

Upon receipt of the jurisdictional final inspection; the COC; and confirmation that all SR requirements were adhered to, including, but not limited to, installation of Company-supplied placards, etc.; UNSE will set a solar energy production meter and change the customer's revenue meter to a net energy revenue meter.

### **Restrictions/Important Notes:**

1. UNSE reserves the right to modify the business process to better serve customers or to increase efficiency. Please refer to [www.uesaz.com/renewable](http://www.uesaz.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 in extenuating circumstances and proof must be submitted..
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 UNSE. Any application packets submitted incorrectly will be cancelled as will their corresponding online application.
5. UNSE must receive the required program documents; REPPP Reservation Packet and approve the application 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 REPPP and/or submit DG applications online, installers must have on file with UNSE a completed Installer's Packet, which may include a New Supplier Fact Sheet. This document is available in the Installer's Corner at [www.uesaz.com/renewable](http://www.uesaz.com/renewable).
7. Any residential project larger than 10.0 kWac (14.4 kWdc) will be subject to engineering review to determine if the proposed project is on a shared transformer. Following UNSE's SRs, customers may potentially be subject to a reduction in system size or upgrading of existing facilities at their own expense should it be determined necessary by UNSE Engineering.

## **VIII. OTHER PROJECTS**

### **A. Technologies without Technology Specific Criteria**

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

- Fuel Cells
- Battery Systems
- Other

For applicants requesting interconnection 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 REPPP requirements.

Battery storage systems must have the inverter as a separate component to the system. UNSE must be able to locate the DG production meter at the inverter's output. If configured otherwise, battery losses will adversely affect production monitoring by the Company. All components must meet the requirements outlined in Attachment A.

## **B. Non-Conforming Projects**

Non-conforming projects and their specific interconnection procedures will be identified as the Program evolves.

## **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 UNSE that a renewable energy generator is being connected to UNSE's grid and complete any associated interconnection processes as defined above, or online at [uesaz.com](http://uesaz.com). The process for non-incentive utility interconnection, for both residential and non-residential projects, is available at [www.uesaz.com/renewable](http://www.uesaz.com/renewable).

All projects must adhere to applicable SRs (including, but not limited to, Section 1.22) and DGIRs in order to be eligible for Net Metering. In addition to any applications required by the Renewable Resources department, all systems over 50 kW AC are required to submit Interconnection Applications to UNSE's Energy Services department. UNSE reserves the right to update application procedures and interconnection standards throughout the Program year as deemed necessary. Please visit [uesaz.com](http://uesaz.com) for the latest information.

For all residential interconnections, UNSE will furnish a DG production meter, DG meter socket, applicable placards, and AC disconnect in accordance with Company SRs. UNSE will install the meter. For all non-residential interconnections, UNSE will furnish and install the DG production meter only. Prior to meter installation on non-residential projects, the Company must be notified of wiring configuration so the appropriate 3-phase meter can be provided.

## XI. 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.

**Cancellation** – The termination of the Application.

**Commissioned** – Qualifying System certified to be in operation.

**Certificate of Completion** – Written verification signed by the installer and the customer confirming that the system has been installed in conformance with the approved application and that the system is ready for operation.

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

**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.

**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.

**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.

4. **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.