



## 2013 Builder Up-Front Incentive Renewable Energy Credit Purchase Agreement

This Builder Up Front Incentive Renewable Energy Credit Purchase Agreement (the "Agreement") is hereby made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, (the "Effective Date") by and between Tucson Electric Power Company, an Arizona corporation ("Company"), and \_\_\_\_\_, ("Builder"). Company and Builder may be referred to individually herein as a "Party" or collectively as the "Parties."

### RECITALS

A. Company desires to increase the number of solar thermal and renewable electricity generation facilities and the consumption of solar energy within its service territory, while concurrently reducing the cost of such renewable systems for its customers;

B. Company is subject to certain state regulatory requirements governing its use of renewable resources to supply energy to its customers, including those provided under the Renewable Energy Standard and Tariff (as defined below);

C. To further Company's continuing commitment to develop and encourage the use of renewable energy resources and to better ensure compliance with regulatory requirements, Company has implemented the Tucson Electric Power Renewable Energy Credit Purchase Program to provide financial incentives to install renewable systems (the "Program"); and

D. The Builder intends to participate in the Program in conjunction with the Company's Guarantee Home Program, the Energy Star Program or the Energy Smart Program (under a separate agreement) whereunder Builder will construct homes to high energy efficiency standards.

### AGREEMENT

#### 1. DEFINITIONS

1.1 "Customer System" means an individual Hot Water System or PV System.

1.2 "Customer System Term" shall have the meaning set forth in Section 14.1 below.

1.3 "Home" means an individual single-family residence located in the Subdivision.

1.4 "Home Purchaser" means the purchaser of any Home from Builder that contains a Customer System for which a UFI was received by Builder hereunder.

1.5 “Hot Water System” means a solar water heating system which meets the Hot Water System Qualifications and that is located at the one of the Homes.

1.6 “Hot Water System Qualifications” means the Solar Water Heating-Space Heating Systems Qualifications attached hereto as Exhibit A.

1.7 “Installation Deadline” means no more than 120 days after the Reservation Confirmation Date by which date all Program requirements must be met to avoid the cancellation of a reservation request.

1.8 “Proof of Project Advancement” means documentation submitted to Company demonstrating that the installation of a Customer System is progressing on schedule including, without limitation, building and/or construction permits, and any other documentation evidencing project advancement reasonably required by Company.

1.9 “PV System” means a photovoltaic generation system that meets the PV System Qualifications including, without limitation, a proper interconnection with Company’s existing power grid, and that is located at one of the Homes.

1.10 “PV System Qualifications” means the Grid-Tied Residential Solar System Qualifications attached hereto as Exhibit B and including Schedule 1 attached thereto.

1.11 “REC” means any and all environmental credits, attributes and benefits, including greenhouse gas or emissions reductions and any associated credits, environmental air quality credits, offsets, allowances and benefits howsoever entitled, actual SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, CO, Carbon, VOC, mercury, and other emissions avoided, credits towards achieving local, national or international renewable portfolio standards, green tags, and any and all other green energy or other environmental benefits associated with the generation of renewable energy (regardless of how any present or future law or regulation attributes or allocates such characteristics), including those created under the REST.

1.12 “Renewable Energy Standard and Tariff” or “REST” means the Arizona Renewable Energy Standard and Tariff codified at A.A.C. R14-2-1801 *et seq.*, as may be amended.

1.13 “Reservation Confirmation Date” means the date a Program reservation request for a particular Customer System at a particular Home is approved by Company under the Program.

1.14 “SRCC” means Solar Rating and Certification Corporation.

1.15 “Subdivision” means the \_\_\_\_\_ subdivision located at \_\_\_\_\_.

1.16 “System Qualifications” means the Hot Water System Qualifications or the PV System Qualifications.

1.17 “Term” shall have the meaning set forth in Section 14.1 below.

1.18 “Up-Front Incentive” or “UFI” means a one-time incentive payment based on the Customer System capacity or estimated energy kWh production, as applicable, rather than on measured system output.

## **2. PROGRAM TIMELINE**

Builder agrees to perform its obligations with respect to each Customer System hereunder in an expeditious manner, including, but not limited to, submitting Proof of Project Advancement to Company within sixty (60) days of the Reservation Confirmation Date, ensuring Company is provided with copies of a city/county permit after installation of a Customer System is complete, and meeting all Program requirements on or before the Installation Deadline. Failure to perform such obligations may result in cancellation of a reservation with respect to that particular Customer System.

## **3. CUSTOMER RENEWABLE ENERGY SYSTEM**

Builder agrees to purchase each Customer System from a third party of Builder’s choice. The Parties acknowledge and agree that to qualify for participation in the Program, each Customer System must comply with the applicable System Qualifications and Program requirements.

## **4. SYSTEM INSTALLATION**

Each Customer System must have been installed at a Home by a qualified installer in accordance with the applicable installation requirements set forth in the System Qualifications and the Program. Builder or its designee shall be solely responsible for the installation of each Customer System, including selecting a qualified installer, and paying all associated installation costs and expenses.

## **5. CONFORMANCE AND ANNUAL INSPECTION**

Builder will notify Company when the installation of each Customer System is complete. Following its receipt of such notice and copies of the city/county inspection permits, Company shall inspect each Customer System to verify the installation and system performance are in compliance with the applicable System Qualifications (“Conformance Inspection”). If the Company determines that any Customer System is not in compliance with the System Qualifications for any reason, Company will notify Builder of such noncompliance. Company will have no further obligation under this Agreement or otherwise with respect to that particular Customer System until all such deficiencies are remedied by Builder to Company’s reasonable satisfaction and the Customer System is in compliance with the applicable System Qualifications, provided such compliance occurs before the Installation Deadline.

Upon notice to Builder, during the Customer System Term, Company shall have the right to conduct annual inspections of any Customer System then owned by Builder and for which a UFI payment was received. Such inspections may include, but are not limited to, reading the PV System’s solar production meter as reasonably necessary during the Customer System Term to verify compliance with the System Qualifications. Builder shall provide Company with reasonable access to any such Customer System to conduct any such inspection. Builder shall also ensure that any Home Purchaser shall grant Company the right to conduct such inspections as more specifically set forth in Section 15.9 below.

## **6. UP-FRONT INCENTIVE PAYMENT**

**6.1 Conditions Precedent.** Subject to Builder’s execution and delivery of this Agreement and compliance with its terms and conditions, and a Customer System passing the

Conformance Inspection and being operational by the Installation Deadline, Company shall pay Builder the applicable UFI as described in this Section 6.

6.2 PV System UFI. Company shall pay Builder a UFI for each conforming PV System in an amount calculated by Company based on the DC Watt of installed on-grid residential solar generating capacity, as determined by Company during the Conformance Inspection of the PV System, as prorated by any de-rating for off-angle and shading using the chart in Schedule 1 to Attachment B.

6.3 Hot Water System UFI. Company shall pay Builder a UFI for each conforming Hot Water System in an amount calculated by Company based on the SRCC rated kWh annual savings or on deemed kWh annual BTU energy savings resulting from the use of the Hot Water System.

6.4 Any UFI payment determined by Company to be owed to Builder hereunder shall be paid to Builder within thirty (30) days following the Customer System for which the UFI is due passing the Conformance Inspection described under Section 5 above.

## **7. OWNERSHIP OF RENEWABLE ENERGY CREDITS**

Builder hereby irrevocably and unconditionally assigns and transfers to Company any and all RECs derived from the installation and use of any Customer System during the Term. Builder shall not sell, trade, assign or otherwise transfer, or permit to be sold, traded, assigned or otherwise transferred, any RECs derived from the installation and use of any Customer System to any party other than Company, including without limitation, any Home Purchaser, during such time Company is entitled to receive such RECs hereunder. Upon Company's request, Builder shall provide Company with reasonable documentation evidencing its ownership of such RECs and transfer thereof to Company.

## **8. PHOTOVOLTAIC ELECTRIC OUTPUT**

At all times Builder owns a Home that includes a PV System, Builder hereby assigns to Company any and all of its rights to the electrical output of that PV System. Builder shall also ensure that any Home Purchaser makes such assignment of electrical output to Company as more specifically set forth in Section 15.9 below.

## **9. CUSTOMER SYSTEM REMOVAL**

Neither the Customer System nor any components thereof may be removed from the Home during the Customer System Term without Company's prior written consent. Any such removal of the Customer System, including by any Home Purchaser will subject the Builder to the UFI refund obligations set forth in Section 14.4 below.

## **10. BUILDER REPRESENTATIONS**

Builder hereby represents and warrants to Company that the following statements are true and correct as of the Effective Date and will be true and correct at the time of any transfer by Builder to Company of any RECs hereunder:

10.1 Builder is the true and lawful owner of, and has good title to, all RECs transferred from Builder to Company hereunder, free and clear of all liens and encumbrances;

10.2 Each REC transferred from Builder to Company hereunder meets the requirements of the REST;

10.3 Neither Builder, nor, to Builder's knowledge, any third party, has sold, traded, assigned or otherwise transferred any RECs due to be transferred from Builder to Company hereunder to any party other than Company.

10.4 Builder has full power and authority to execute and deliver this Agreement and to perform its obligations hereunder, including, without limitation, the transfer of any RECs to Company; and

10.5 Builder is in full compliance with all applicable federal, state and local laws, regulations, ordinances and codes governing the production and/or sale of electricity.

**11. WARRANTY COMPANY MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND HEREUNDER, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PERFORMANCE HEREUNDER. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, COMPANY MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO ANY CUSTOMER SYSTEM, ITS OPERATION, SAFETY, INSTALLATION OR COMPLIANCE WITH ANY BUILDING OR SAFETY CODES, RULES OR REGULATIONS, AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, COMPANY HEREBY EXPRESSLY DISCLAIMS ANY AND ALL LIABILITY ASSOCIATED THEREWITH.**

**12. LIMITATION OF LIABILITY COMPANY'S ENTIRE LIABILITY ARISING OUT OF ITS PERFORMANCE UNDER THIS AGREEMENT SHALL BE LIMITED TO DIRECT ACTUAL DAMAGES STEMMING FROM CLAIMS DIRECTLY ATTRIBUTABLE TO COMPANY'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT. IN NO EVENT SHALL COMPANY, ITS EMPLOYEES OR AGENTS BE LIABLE TO BUILDER FOR ANY SPECIAL, INDIRECT, PUNITIVE OR CONSEQUENTIAL DAMAGE, HOWEVER CAUSED, RESULTING FROM COMPANY'S PERFORMANCE HEREUNDER.**

**13. INDEMNIFICATION BUILDER AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS COMPANY, ITS AFFILIATES AND PARENT COMPANY, AND ALL THEIR OFFICERS, DIRECTORS, SHAREHOLDERS, EMPLOYEES AND AGENTS FROM AND AGAINST ANY AND ALL COSTS, CLAIMS, LIABILITY, JUDGMENTS AND EXPENSES OF ANY NATURE WHATSOEVER (INCLUDING ANY CLAIMS BY A HOME PURCHASER), WHICH ARISE FROM DAMAGE TO PROPERTY OR FROM INJURY OR DEATH WHICH OCCURS AS A RESULT OF THE PURCHASE, INSTALLATION OR MAINTENANCE OF ANY CUSTOMER SYSTEM. BUILDER'S OBLIGATION TO INDEMNIFY HEREUNDER SHALL SURVIVE TERMINATION OF THIS AGREEMENT.**

**14. TERM AND TERMINATION**

14.1 Term. This Agreement shall commence on the Effective Date and, unless earlier terminated as provided herein, shall continue until December 31<sup>st</sup> of the 20<sup>th</sup> full calendar year after the date the last Customer System installed at the final participating Home in the Subdivision passes the Conformance Inspection (the "Term"). The obligations hereunder for each Customer System shall continue until December 31<sup>st</sup> of the 20<sup>th</sup> full calendar year after the date such Customer System passes the Conformance Inspection (the "Customer System Term").

14.2 Termination. Company may terminate this Agreement:

14.2.1. on thirty (30) days written notice in the event Builder commits a material breach of this Agreement or the Program and fails to cure the same within such thirty (30) day period.

14.2.2. immediately upon written notice in the event that Builder: (a) makes an assignment or any general arrangement for the benefit of creditors; (b) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause under the bankruptcy or similar law for the protection of creditors, or has such petition filed against it and such proceeding remains undismitted for thirty (30) days after filing; or (c) otherwise becomes bankrupt or insolvent (however evidenced).

14.3 Failure to Pass Conformance Inspection. Notwithstanding anything contained herein to the contrary, unless the Company grants an extension, if a Customer System at a particular Home does not pass the Conformance Inspection by the Installation Deadline, Company, in its sole discretion, may terminate this Agreement with respect to that particular Customer System at that particular Home upon written notice to Builder, and neither Party shall have any further obligation or liability hereunder to the other with respect to such Customer System at such Home.

14.4 Unauthorized System Removal. If Builder or a subsequent Home Purchaser removes any Customer System from a Home in violation of Section 9 above, Company, in its sole discretion, may terminate this Agreement with respect to such removed Customer System upon fifteen (15) days prior written notice. In such event, Builder shall immediately refund to Company a pro-rata amount of the UFI paid to Builder for such Customer System based on the number of months remaining in the Customer System Term for that Customer System. Notwithstanding the preceding sentence, if greater than five percent (5%) of the total number of Customer Systems in the Subdivision for which a UFI was paid are removed from the Homes in violation of Section 9 above (whether by Builder or a subsequent Home Purchaser or any combination thereof), Builder shall be in material breach of this Agreement.

14.5 Effect of Termination. In the event of Company's termination of this Agreement for Builder's material breach under Section 14.2, above in addition to any other legal rights and remedies available to Company, Builder shall immediately refund to Company a pro-rata amount of each UFI paid to Builder hereunder (and not previously refunded to Company) based on the number of months remaining in each Customer System Term for each Customer System for which a UFI was paid.

## 15. **MISCELLANEOUS**

15.1 Modification, Waiver and Severability. This Agreement may not be modified or supplemented except by written instrument signed by the Parties. No waiver of any default or breach hereof shall be deemed a waiver of any other default or breach thereof. If any part of this Agreement is declared void and/or unenforceable, such part shall be deemed severed from this Agreement which shall otherwise remain in full force and effect.

15.2 Assignment. This Agreement and the rights, duties, and obligations hereunder may not be assigned or delegated by the Builder without the prior written consent of Company.

15.3 Governing Law and Venue. This Agreement shall be governed by the laws of the State of Arizona, without regard to the choice of law provisions thereof. Venue for any dispute arising hereunder shall be any court of competent jurisdiction located in Pima County, Arizona.

15.4 Entire Agreement. This Agreement is the final integration of the agreement between the Parties with respect to the matters covered by it and supersedes any prior understanding or agreements, oral or written, with respect thereto.

15.5 Counterparts. This Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same Agreement.

15.6 Titles and Captions. Titles or captions contained in this Agreement are inserted for convenience and for reference only and in no way define, limit, extend, or describe the scope of this Agreement or the intent of any provision hereof.

15.7 Expenses and Attorney's Fees. In any actions between the Parties to enforce any of the terms of this Agreement, the prevailing Party shall be entitled to recover expenses, including reasonable attorney's fees.

15.8 Force Majeure. Neither Party shall be liable to the other for failure to perform its obligations hereunder to the extent such failure results from causes beyond its reasonable control, including strikes, climatic conditions, acts of God, governmental laws, regulations, orders or requirements or interruptions of power (each a "Force Majeure Event"). Provided, if any Force Majeure Event claimed by the Builder continues for an uninterrupted period of more than one hundred and eighty (180) days, Company may cancel the reservation for any uninstalled Customer System affected thereby.

15.9 Builder Sale of a Home. In the event Builder sells or otherwise transfers a Home, at the time of such transfer Builder shall require the Home Purchaser to execute an Acknowledgement Agreement in the form of Attachment C attached hereto and incorporated herein (the "Acknowledgement Agreement"). Any sale or transfer of such Home shall not affect this Agreement, nor shall Company's rights hereunder be disturbed in any way, including, without limitation, Company's continued right to all RECs assigned pursuant to Section 7 hereunder. Builder shall provide Company with an executed Acknowledgment Agreement within thirty (30) days of the sale of a Home. If Builder does not so provide Company a fully executed Acknowledgement Agreement for each Home sold, Builder shall be required to immediately refund to Company a pro-rata amount of the UFI paid to Builder for the Customer System(s) on that Home based on the number of months remaining in the Customer System Term for that Customer System.

15.10 Builder Sale of Subdivision. If Builder sells or otherwise transfers the Subdivision, Builder shall require its successor-in-interest to expressly assume all of Builder's obligations hereunder in writing by executing an Assignment and Assumption Agreement in the form of Attachment D attached hereto and incorporated herein (the "Assignment Agreement"), and this Agreement shall not be affected, nor shall Company's rights hereunder be disturbed in any way, including, without limitation, Company's continued right to all RECs assigned pursuant to Section 7 hereunder. Builder shall provide Company with an executed Assignment Agreement at the time of the sale or transfer of the

Subdivision. Any failure to comply with this provision shall be considered a material breach of this Agreement.

15.11 Compliance with Law. Builder shall comply with all applicable federal, state and local laws, regulations, ordinances and codes at all times in performing under this Agreement.

15.12 Survival. After expiration or termination of this Agreement, those provisions which specifically provide for survival beyond expiration or termination, and all provisions, regarding warranty, indemnification and limitation of liability shall survive indefinitely or until the expiration of the time period specified elsewhere in this Agreement with respect to the provision in question.

15.13 No Third Party Beneficiaries. This Agreement shall not confer any rights or remedies upon any person other than the Parties and their respective successors and permitted assigns.

15.14 Taxes. Builder shall pay all local, state and federal taxes, levies, duties and assessments of every nature whatsoever which may be imposed or due in connection with the RECs sold to Company hereunder. Builder shall hold Company harmless from any and all future liability on account of any and all such taxes, levies, duties, and assessments.

15.15 Notices. All notices under this Agreement shall be in writing and shall be given by personal service (including receipted confirmed facsimile), or by certified or registered mail, return receipt requested, or by recognized overnight courier service, to the Parties at the addresses set forth below. All notices shall be deemed given upon the actual receipt thereof.

**Company:** **Tucson Electric Power Company**  
PO Box 711  
Tucson, Arizona 85702  
Fax: (520) 918-8350  
Attn: Renewable Energy Resources

***[signatures on following page]***



**ACCEPTED AND AGREED** as of the Effective Date.

**TUCSON ELECTRIC POWER COMPANY**

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

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

**BUILDER**

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

Print Name: \_\_\_\_\_

Address:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

**ATTACHMENT A**  
**Solar Water Heating – Space Heating System Qualifications**

All Hot Water Systems must meet the following system and installation requirements to qualify for Tucson Electric Power Company's ("TEP" or the "Company") Renewable Energy Credit Purchase Program ("Program"). Capitalized terms not defined herein shall have the meanings ascribed to them in the Builder Up Front Incentive Renewable Energy Credit Purchase Program Agreement.

1. Domestic Solar Water Heating systems will be rated by the SRCC and meet the OG-300 system standard. Systems that include OG-100 collectors, but are not certified under OG-300, will need to be verified by submitting either a testing certification for a substantially similar system prepared by a publicly funded laboratory or by submitting an engineering report stamped by a registered professional engineer detailing annual energy savings. Solar Space Heating systems are permitted under the Energy Star and Energy Smart programs only and will utilize OG-100 collectors.
2. Domestic Water Heating systems shall be selected and sized according to the geographic location and hot water needs of the specific application. Customer's application to participate in the Program shall include a manufacturer's or installer's verification disclosing that the system size and collector type proposed is appropriate for the specific application, including certification that collector stagnation temperature shall never exceed 300 degrees Fahrenheit under any possible conditions at the location of the installation. The manufacturer's or installer's verification may be presented as a manufacturer's product specification sheet and will be included in the Customer's application. Compliance reporting production will be based on the design energy savings submitted at time of application.
3. Solar Space Heating systems will be sized in conformance with the Solar Space Heating Incentive Calculation Procedure found in the then-current Program. Compliance reporting production will be based on the design energy savings submitted at time of application.
4. Active, open-loop systems are not eligible for UFI incentives except for active, open-loop systems that have a proven technology or design that limits scaling and internal corrosion of system piping, and includes appropriate automatic methods for freeze protection and prevents stagnation temperatures that exceed 250 degrees F. under all conditions at the location of installation. Details disclosing conformance with this exception shall be submitted as part of the manufacturer's verification documentation.
5. Integrated Collector System (ICS) systems shall have a minimum collector piping wall thickness of 0.058 inches. Details disclosing conformance with this requirement shall be submitted as part of the manufacturer's verification documentation. ICS units shall include certification that collector stagnation temperature shall never exceed 250 degrees F. under any possible conditions at the location of the installation.
6. The 'high' limit on all Domestic Water Heating controllers shall be set no higher than 160 degrees F.
7. Active thermal storage for solar space heating systems shall use water as the storage element.

8. Contractors must provide a minimum of a five year equipment warranty as provided by the system manufacturer, including a minimum warranty period of five years for repair/replacement service to the customer.
9. The solar collector, heat exchangers and storage elements shall have an equipment warranty of at least five (5) years to qualify for a UFI.
10. The Hot Water System shall be installed with a horizontal tilt angle between 20 degrees and 60 degrees (30 and 60 degrees for space heating applications), and an azimuth angle of +/- 60 degrees of due south (+/- 45 degrees for space heating applications). It is recommended that collectors be positioned for optimum winter heating conditions at a minimum tilt angle of 45 degrees above horizontal, or as recommended by the manufacturer for the specific collector type and geographic location of installation.
11. All systems should be installed such that the energy collection system is substantially unshaded and should have substantially unobstructed exposure to direct sunlight between the hours of 9 a.m. and 3 p.m.
12. Heat exchange fluid in glycol systems should be tested, flushed and refilled with new fluid as necessary or at a minimum every five years or sooner per manufacturer's recommendations.
13. The Hot Water System and installation must meet the requirements of all federal, state and local building codes and have been successfully inspected by the building official having jurisdiction. Accordingly, the installation must be completed in accordance with the requirements of the latest edition of National Plumbing Code.
14. The Home where the Hot Water System is installed must be connected to the Company's electric grid.
15. All Customer Systems must be installed in a professional, workmanlike and safe manner.

**ATTACHMENT B**  
**Grid-Tied Residential Solar System Qualifications**

All grid-tied residential solar PV Systems must meet the following system and installation requirements to qualify for Tucson Electric Power Company's ("TEP" or the "Company") Renewable Energy Credit Purchase Program. Capitalized terms not defined herein shall have the meanings ascribed to them in the Builder Up Front Incentive Renewable Energy Credit Purchase Program Agreement.

1. All systems shall be installed with a horizontal tilt angle between 10 degrees and 60 degrees, and an azimuth angle of +/- 100 degrees of due south. Installation configurations for some systems receiving a UFI will not be eligible for the full RECPP incentive. The reduction will be determined by the TEP developed de-rating chart, attached hereto as Schedule 1 and as discussed further in the Program.
2. Qualifying systems using Building Integrated Photovoltaic (BIPV) modules of total array capacity of 5 kWDC or less shall receive 90% of the UFI incentive value for PV systems listed in this Attachment B. Systems using BIPV module of total array capacity of greater than 5 kWDC do not qualify for a UFI.
3. Photovoltaic (PV) modules must be covered by a manufacturer's warranty of at least 20 years.
4. Inverters must be covered by a manufacturer's warranty of at least ten years to receive a UFI.
5. The minimum PV array size shall be no less than 1,200 Wdc.
6. All photovoltaic modules must be certified by a nationally recognized testing laboratory as meeting the requirements of UL Standard 1703.
7. All other electrical components must be UL listed.
8. The inverter must be certified as meeting the requirements of IEEE-1547 - Recommended Practice for Utility Interface of Photovoltaic Systems and it must be UL 1741 certified.
9. The PV System design and installation must meet all requirements of the latest edition of the National Electrical Code, including Article 690 and all grounding, conductor, raceway, overcurrent protection, disconnect and labeling requirements.
10. The PV System and installation must meet the requirements of all federal, state and local building codes and have been successfully inspected by the building official having jurisdiction. Accordingly, the installation must be completed in accordance with the requirements of the latest edition of National Electrical Code in effect in the jurisdiction where the installation is being completed (NEC), including, without limitation, Sections 200-6, 210-6, 230-70, 240-3, 250-26, 250-50, 250-122, all of Article 690 pertaining to Solar Photovoltaic Systems, thereof, all as amended and superseded.

11. The PV System must meet Company and Arizona Corporation Commission interconnection requirements for self-generation equipment.
12. The PV System installation must meet the TEP Service Requirements 2000 Edition, Page 1.20, as follows:

“AN AC DISCONNECT MEANS SHALL BE PROVIDED ON ALL UNGROUNDED AC CONDUCTORS and SHALL CONSIST OF A LOCKABLE GANG OPERATED DISCONNECT CLEARLY INDICATING OPEN OR CLOSED. THE SWITCH SHALL BE VISUALLY INSPECTED TO DETERMINE THAT THE SWITCH IS OPEN. THE SWITCH SHALL BE CLEARLY LABELED STATING “DG SERVICE DISCONNECT.”
13. For residential PV Systems, Company will provide a meter and meter socket that will be installed by the Builder in a readily accessible outdoor location between the PV System and the connection to the overcurrent device in the Customer’s electric service panel.
14. Energy storage devices are not allowed as part of the PV System unless the energy storage charge controller is a separate component and Company can locate the meter at the PV System’s inverter output.
15. The Home where the PV System is installed must be connected to the Company’s electric grid.
16. All PV Systems must be installed in a professional, workmanlike and safe manner.

# SCHEDULE 1

## PV Off-Angle & Shading Annual Energy Derating Chart

		Array Azimuth Angle from Due South																		
		East 90	100	110	120	130	140	150	160	170	South 180	190	200	210	220	230	240	250	260	West 270
Array Angle Above Horizontal	0	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
	5	90%	90%	90%	90%	90%	90%	95%	95%	95%	95%	95%	95%	90%	90%	90%	90%	90%	90%	90%
	10	90%	90%	90%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	90%	90%	90%	85%
	15	90%	90%	95%	95%	95%	95%	100%	100%	100%	100%	100%	100%	95%	95%	95%	95%	90%	90%	85%
	20	85%	90%	95%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	95%	95%	90%	85%	85%	85%
	25	85%	90%	95%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	95%	95%	90%	85%	85%	85%
	30	85%	90%	90%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	95%	90%	90%	85%	80%	80%
	35	85%	85%	90%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	95%	90%	85%	85%	85%	80%
	40	80%	85%	90%	95%	95%	100%	100%	100%	100%	100%	100%	100%	95%	90%	90%	85%	80%	75%	75%
	45	80%	85%	85%	90%	95%	95%	100%	100%	100%	100%	100%	100%	95%	95%	90%	85%	85%	80%	75%
	50	75%	80%	85%	90%	90%	95%	95%	100%	100%	100%	95%	95%	95%	90%	90%	85%	80%	75%	70%
55	75%	80%	85%	85%	90%	95%	95%	95%	95%	95%	95%	95%	90%	90%	85%	80%	80%	75%	70%	
60	70%	75%	80%	85%	85%	90%	90%	90%	95%	90%	90%	90%	85%	85%	85%	80%	75%	70%	0%	

0 degree kept at 85% to account for soiling  
 3/12 roof pitch to be kept at 5% derate for higher cell temps of flush mount

### Array Shading

If both off-angle shading conditions apply, multiply the off angle de rating factor with the shading de rating factor to obtain the array de rating factor for the Up-Front Incentive ( UFI ) payment Calculation.

Maximum Morning Shaded Hours	0	1	0	1	0	2	1	2	2	0	3	1	3	3	2
Maximum Evening Shaded Hours	0	0	1	1	2	0	2	1	2	3	3	3	1	2	3
Percentage of annual energy	100%	100%	100%	95%	90%	90%	85%	85%	75%	75%	70%	70%	70%	80%	80%

**ATTACHMENT C**  
**FORM OF ACKNOWLEDGEMENT AGREEMENT**  
*(see attached)*

## **ACKNOWLEDGEMENT AGREEMENT**

This Acknowledgement Agreement (the "Agreement") dated as of \_\_\_\_\_ 20\_\_, (the "Effective Date") is made by and between \_\_\_\_\_ ("Builder"), \_\_\_\_\_ ("Home Purchaser") and Tucson Electric Power Company ("Company").

### **RECITALS**

The Builder is a party to a Renewable Energy Credit Purchase Agreement with Company dated \_\_\_\_\_, 20\_\_ (the "REC Agreement") pertaining to the solar hot water heater and/or photovoltaic system(s) (each a "Customer System") located at \_\_\_\_\_ (the "Home") that the Builder intends to sell to the Home Purchaser. The REC Agreement requires that any purchaser of the Home enter into an acknowledgement agreement recognizing certain obligations under the REC Agreement with respect to the Customer System(s).

### **AGREEMENT**

1. **TERM.** This Agreement shall commence on the Effective Date and shall continue until December 31<sup>st</sup> of the 20<sup>th</sup> full calendar year after each Customer System passed its Conformance Inspection under the REC Agreement. If such dates are not known, this Agreement will terminate on December 31<sup>st</sup> of the 20<sup>th</sup> full calendar year from the Effective Date.
2. **ACKNOWLEDGEMENT.** Home Purchaser hereby acknowledges and represents the following:
  - 2.1. Company owns all renewable energy credits derived from the installation and use of the Customer System ("REC's"), including those created under Arizona Renewable Energy Standard and Tariff codified at A.A.C. R14-2-1801 *et seq.*, as may be amended. Home Purchaser will not attempt to assert ownership of or to sell, trade, assign or otherwise transfer any such RECs.
  - 2.2. If the Customer System includes a photovoltaic generating system, Home Purchaser hereby assigns to Company any and all of its rights to the electrical output of system, the value of which will be returned by Company to Home Purchaser in accordance with the applicable Company tariff.
  - 2.3. Home Purchaser will not remove any Customer System or component thereof without the prior written consent of Company and Home Purchaser agrees to maintain each Customer System in proper working condition and to provide Company with reasonable access to conduct annual inspections of the Customer Systems.

**ACCEPTED AND AGREED** as of the Effective Date.

#### **BUILDER**

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

#### **HOME PURCHASER**

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

#### **TUCSON ELECTRIC POWER COMPANY**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_



**ATTACHMENT D**  
**SUBDIVISION ASSIGNMENT AND ASSUMPTION AGREEMENT**  
*(see attached)*

**SUBDIVISION ASSIGNMENT AND ASSUMPTION AGREEMENT**

This Subdivision Assignment and Assumption Agreement (the "Assignment") dated as of \_\_\_\_\_ 20\_\_, is made by and between \_\_\_\_\_ ("Seller"), \_\_\_\_\_ ("Buyer") and Tucson Electric Power Company ("Company").

**RECITALS**

The Seller is a party to a Renewable Energy Credit Purchase Agreement with Company dated \_\_\_\_\_, 20\_\_ (the "REC Agreement") pertaining to the subdivision located at \_\_\_\_\_ (the "Subdivision") that the Seller intends to sell to the Buyer; and

The REC Agreement requires that any purchaser of the Subdivision assume Seller's obligations under the REC Agreement. Incident to the sale of the Subdivision by Seller to Buyer, the Parties desire to effect the required assumption by this Assignment.

**AGREEMENT**

**1. ASSIGNMENT.** Incident to the sale of the Subdivision, Seller hereby assigns and transfers to Buyer the REC Agreement and all of Seller's right, interest, obligations and liabilities thereunder, effective upon the sale of the Subdivision. Buyer hereby accepts the assignment of the REC Agreement from Seller, and assumes all of Seller's obligations and liabilities thereunder, effective upon the sale of the Subdivision. Company hereby consents to such assignment and assumption of the REC Agreement. Except as expressly provided herein, the Assignment does not affect the REC Agreement or Company's rights thereunder, including, without limitation, Company's continued right to any renewable energy credits and electrical output assigned thereunder.

**2. MISCELLANEOUS.** This Assignment may not be modified or supplemented except by written instrument signed by the parties hereto. This Assignment and the rights, duties, and obligations hereunder may not be assigned or delegated by any party hereto without the prior written consent of the other parties. This Assignment may be executed in any number of counterparts, all of which taken together shall constitute one and the same agreement, and any party hereto may execute this Assignment by signing any such counterpart.

**ACCEPTED AND AGREED** as of the Effective Date.

**BUYER**

**SELLER**

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

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

**TUCSON ELECTRIC POWER COMPANY**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_