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AZ CORP COMMISSION  
DOCUMENT CONTROL  
September 21, 2006

Arizona Corporation Commission  
DOCKETED

SEP 21 2006

Docket Control  
ARIZONA CORPORATION COMMISSION  
1200 West Washington Street  
Phoenix, Arizona 85007

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**RE: UNS Electric, Inc.'s Greenwatts™ SunShare Program  
(Docket No. E-04204A-04-0304)**

Docket Control:

Enclosed please find an original and 13 copies of UNS Electric Inc.'s ("UNSE" or the "Company") proposed revisions to its Greenwatts™ SunShare Program (the "Program"). UNSE requests that the Arizona Corporation Commission ("Commission") approve these revisions. The Commission approved the Program in Decision No. 67178 (August 10, 2004).

For ease of review, UNSE has included both a clean version of the new Program documents, attached hereto as Exhibit A, and a redlined version showing the modifications made to the previous Program documents, attached hereto as Exhibit B.

As the Commission is aware, the Program is set to expire at the end of 2006. In looking to the future, UNSE sought comment from SunShare customers, solar installers and manufacturers, and evaluated the Program in light of its history and current Commission activity with regard to renewable energy. Based on review of comments received, as well as the evaluation of the Program itself, UNSE proposes the following three modifications to the Program.

First, UNSE proposes to extend the term of the Program until the earlier of (i) the end of 2008; or (ii) the Commission approves rules and a Company-specific program incorporating the Uniform Credit Purchase Program currently being contemplated under proposed rule 14-2-1810. This modification is not intended to prejudge the outcome of Docket No. RE-00000C-05-0030, but rather to recognize that the conditions under which the Program operates may change significantly should the Commission's proposed rules go into effect. At the same time, extension of the Program will provide time for a decision to be made on Arizona's renewable program while continuing to provide financial incentive support for UNSE customers in their decisions to install solar generation systems.

Second, UNSE proposes to return to customers the payment of up to \$3.00 per Standard Test Conditions ("STC") rated DC Watt (\$3,000 per STC rated DC kilowatt) of installed solar generating capacity of the customer's system. The Company's current Program

allows for payment of up to \$2.40 per STC rated DC Watt (\$2,400 per STC rated DC kilowatt) so this modification will increase the return to the customer. The term of the Renewable Energy Credits thus purchased in return for the larger incentive payment will be extended through 2020.

Third, UNSE proposes to increase the annual program cap from the current 50 kW DC to 120 kW DC.

In addition to these substantive changes, UNSE has modified its Program documents to make them more consistent, where possible, with those recently filed by its affiliated company, Tucson Electric Power Company. It is the Company's intention that by making these documents similar, it will be easier for both Commission Staff and employees to respond to questions about the SunShare Programs.

UNSE believes that these proposed changes to the Program are in the public interest for the reasons described above. Accordingly, UNSE requests that the Commission issue an order approving these revisions to the Program.

Sincerely,

  
Michelle Livengood

Enclosures

cc: Chairman Hatch-Miller  
Commissioner Mundell  
Commissioner Wong  
Commissioner Gleason  
Commissioner Mayes  
Ernest Johnson, Esq., Director, Utilities Division  
Christopher C. Kempley, Esq., Chief Counsel  
Lyn Farmer, Esq. Chief Administrative Law Judge  
Ms. Barbara Keene, Utilities Division  
Mr. Ray Williamson, Utilities Division

# ATTACHMENT

"A"

## **GreenWatts™ SunShare Hardware Buydown Program**

As a part of its commitment to developing renewable resources, UNS Electric, Inc. ("UNSE" or the "Company") is proposing to offer its customers an attractive solar electric program. The Company's goal is to create a program that will provide an affordable, environmentally-sensitive solar electric generation system to supplement the customer's electricity needs currently serviced by UNSE. While the installation of the supplemental solar electric generating system requires remaining connected to the UNSE system, a solar electric system properly matched to a customer's electric use can provide a reduction in electric bills by using the renewable resources of the sun. The program is named SunShare to reflect UNSE's commitment to share the cost of developing solar electric generators with the Company's customers by reducing the cost of photovoltaic systems.

The SunShare Program was approved by the Arizona Corporation Commission ("Commission") for 2004, 2005 and 2006, and will expire on December 31, 2006. At that time, UNSE will be extending the SunShare Program, with Commission approval, through December 31, 2008, or until such time as a Commission approved UNSE proposed Uniform Credit Purchase Program ("UCPP") is implemented, whichever occurs first.

### **Solar Generation**

The SunShare Program is a direct hardware buydown program. UNSE will pay the owner of a qualifying solar electric system up to \$3,000 per Manufacturer's rated DC kW at Standard Test Conditions ("STC") of qualifying, proven, installed solar generating capacity for all systems installed and operational within 180 days. The system must meet all qualifications listed in Attachment A, "System Qualifications", and Attachment B "SunShare PV Off-Angle & Shading Annual Energy Derating Chart", of the SunShare Hardware Buydown Agreement. Additionally, the owner must sign an agreement assigning rights to the electrical output and all associated environmental credits to UNSE through December 31, 2020. UNSE will return the electric output to the owner at no cost. Since the buydown is based on the DC array rating, no maintenance will be provided. The SunShare Program is limited to subsidizing up to a combined amount of 240 kW of solar capacity in 2007 and 2008. Once the annual subsidized maximum solar capacity is reached, UNSE will apply subsequent applications to the next year program at the subsidy level appropriate for that year.

Under the SunShare Program, the owner can install any solar electric generating system that meets the qualifications set forth in the preceding paragraph. The owner may be able to use Arizona income tax credits of up to \$1,000 to further reduce the initial cost of the system.

## **Scope**

The SunShare Program is limited in scope. Reservations for buydown payments are limited to 120 kW of installed solar electric capacity in each of 2007 and 2008. The SunShare Program will expire on December 31, 2008, or at such time as a UNSE proposed UCPP is approved by the Commission, whichever occurs first.

## **Inspection**

The free annual inspection offered by UNSE is dependent upon the sufficiency of funding provided under the Environmental Portfolio Standard ("EPS"). While the EPS program is expected to be fully funded through the end of the year 2012, it could be changed by the Commission in the future. If funding levels provided under the EPS are insufficient to continue the inspection program, UNSE, to the extent possible, will notify all inspection program participants at least 12 months prior to the free program's termination. Thereafter, UNSE will endeavor to offer customers the option to purchase a customer system inspection program from the Company offering services comparable to those previously offered. In all cases the free or paid inspection programs offered by UNSE would terminate at the end of 2012.

## **Meter Reading**

UNSE would like to have active owner participation continue throughout the SunShare Program. It will be the responsibility of the owner of the solar electric system to read the solar production meter once each month and report the reading by preaddressed postcard mailed to the Company, or in some other format as specified by the Company. Owners are required to report their name, meter number, and present meter reading. The December meter reading should be taken on December 29<sup>th</sup>, 30<sup>th</sup>, or 31<sup>st</sup> as a representative end-of-the-year reading. UNSE reserves the right to also read the meter at its option. Monthly readings will be used to monitor system performance and anticipate service requirements, thus reporting meter readings is to the benefit of all parties.

## **Qualifications**

See Attachment A, "System Qualifications" in the Hardware Buydown Agreement.

™  
**GreenWatts SunShare Program  
Hardware Buydown Agreement**

This GreenWatts™ SunShare Program Hardware Buydown Agreement (the "Agreement") is hereby made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_, by and between UNS Electric, Inc. an Arizona Corporation ("Company"), and \_\_\_\_\_, ("Customer"). Company and Customer may be referred to individually herein as a "Party" or collectively as the "Parties."

**RECITALS**

A. Company desires to increase the number of solar electricity generation facilities and the consumption of solar electricity within its service territory, while concurrently reducing the cost of solar electric generation systems for its customers. In support of these objectives and to further Company's continuing commitment to develop and encourage the use of renewable energy resources, Company has implemented a program to provide financial incentives to its customers to install solar generating equipment (the "SunShare Program"). The SunShare Program was developed under GreenWatts™, the Company's renewable energy program; and

B. Company desires for Customer to participate in the SunShare Program and Customer desires to so participate under the terms and conditions contained in this Agreement.

NOW, THEREFORE, in consideration of these premises and of the mutual promises herein contained, Company and Customer hereby agree as follows:

**AGREEMENT**

**1. BUYDOWN PROGRAM**

Customer may elect to participate in the SunShare Program as follows:

- 1.1 System. Customer shall purchase a solar generating system from any third party of Customer's choice ("Customer System"). However, to qualify under the SunShare Program, any such Customer System must comply with all requirements set forth in Attachment A and Attachment B hereto.
- 1.2 Buydown. Customer buydown and Company credits shall be based on the Customer System's manufacturer's rated DC kW output based on Standard Test Conditions ("STC"), as explained in section 5 below.

1.3 Maintenance. The Company shall not provide maintenance for the Customer System.

**2. SYSTEM INSTALLATION**

To qualify for participation in the SunShare Program, all Customer Systems installed shall be installed by or on behalf of Customer in accordance with the requirements set forth in Attachment A, including, without limitation, a proper interconnection with Company's existing power grid. Customer shall be solely responsible for the installation of the Customer System, including all costs and expenses associated therewith.

**3. SYSTEM INSPECTION**

Following installation of Customer System, Company shall inspect the Customer System for compliance with the applicable requirements set forth in Attachments A and B hereto. If the Customer System or installation is found to be not in compliance for any reason, Company will notify Customer of the deficiencies causing the noncompliance. Company will have no further obligations under this Agreement until all such deficiencies are remedied by Customer to Company's reasonable satisfaction.

**4. SYSTEM ELECTRICAL OUTPUT**

Customer hereby assigns to Company, all of its rights to all electrical output of the Customer System and all associated environmental credits specifically including those created under the Arizona Corporation Commission's ("Commission") Environmental Portfolio Standard Program (the "EPS"), which may result from the installation and use of the Customer System. Company will thereafter return any and all such electric output to the Customer at no cost to Customer. Company's right to Customer's power output and credits assigned hereunder shall continue until December 31, 2020, and shall survive any termination of this Agreement.

**5. HARDWARE BUYDOWN**

Subject to the Customer System passing the Company inspection set forth in Section 3 above and to Customer's compliance with the remaining terms and conditions of this Agreement, Company shall pay Customer up to \$3,000 per STC rated DC kW of installed solar generating capacity of the Customer System for which completed SunShare Agreements are received and accepted by Company and operational within 180 days. Payment derating for off-angle and shading shall apply by the percentages listed on Attachment B.

**6. INSPECTION AND TERM OF PLACEMENT**

6.1 Annual Inspection. Company will conduct at least one inspection annually, at no cost to Customer, for each Customer System which qualified for buydown payments under Section 5 above. Said annual inspections will commence in the year following Company's buydown payment to Customer. Customer

shall provide Company with reasonable access to the Customer System to conduct inspections.

- 6.2 Status. Company performs this service under this Agreement as an independent contractor, not as an employee of Customer. Nothing in this Agreement is intended to construe the existence of a partnership, joint venture, or agency relationship between Company and Customer.
- 6.3 Removal. Customer shall not remove the Customer System or any components thereof from the premises until December 31, 2020, without express agreement of Company. If Customer removes the Customer System in violation of this provision, Customer shall immediately reimburse Company all Hardware Buydown Payment and/or Buydown Credit amounts paid by Company to Customer under Section 5 hereunder.
- 6.4 Duration. Notwithstanding anything contained herein to the contrary, Company will continue to provide the annual inspection set forth in the Section 6.1 above, for so long as EPS funding is sufficient to support such services. If, in Company's sole discretion, funding levels provided under the EPS are insufficient to continue said inspection services, Company may terminate such services. To the extent possible, Company will notify Customer no less than twelve (12) months prior to such termination. Thereafter, Company will endeavor to offer Customer the option to purchase a Customer System inspection program from Company offering comparable services as those previously offered. In no event will any inspection programs offered by Company extend beyond December 31, 2012.

**7. METER READING**

Once per month during the term of this Agreement, Customer shall read the Customer System solar production meter and shall report Customer's name, meter number, and present meter reading by preaddressed postcard mailed to the Company, or in some other format as specified by Company. In December of each year, the reading should be taken on December 29<sup>th</sup>, 30<sup>th</sup>, or 31<sup>st</sup> as a representative end-of-the-year reading. Company reserves the right to read, at its option, the Customer System meter. Customer shall provide Company with reasonable access to the Customer System to conduct any such readings.

**8. 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 OF ANY SERVICES OR PROVISION OF ANY GOODS HEREUNDER.**

9. **LIMITATION OF LIABILITY**

COMPANY'S ENTIRE LIABILITY ARISING OUT OF ITS PERFORMANCE UNDER THIS AGREEMENT SHALL BE LIMITED TO CLAIMS DIRECTLY ATTRIBUTABLE TO COMPANY'S GROSS NEGLIGENCE OR WILFUL MISCONDUCT. IN NO EVENT SHALL COMPANY, ITS EMPLOYEES OR AGENTS BE LIABLE TO CUSTOMER FOR LOSS OF PROFITS OR ANY OTHER SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGE, HOWEVER CAUSED, RESULTING FROM COMPANY'S PERFORMANCE HEREUNDER.

10. **TERMINATION**

If either Party shall at any time commit any material breach of any covenant or warranty under this Agreement and shall fail to cure same within thirty (30) days following written notice thereof, the non-breaching Party may terminate this Agreement, in whole or in part. This Agreement may also be terminated at any time by mutual written agreement of the Parties.

11. **MISCELLANEOUS**

11.1 **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.

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

11.3 **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.

11.4 **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.

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

11.6 **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.

- 11.7 Expenses and Attorney's Fees. In the event of a breach or threatened breach of any term or provision of this Agreement, the non-breaching party shall be entitled to all of its remedies available at law or in equity, unless otherwise limited in this Agreement, and in addition shall be entitled to be reimbursed for all of its reasonable costs and expenses in enforcing this Agreement (if successful), including, but not limited to, reasonable attorney's fees. This section shall survive termination or expiration of this Agreement for any reason.
- 11.8 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, interruptions of power or unavailability of equipment or supplies.
- 11.9 Customer Sale of Residence. In the event Customer sells the residence for which the Customer installed the Customer System, Customer's successor-in-interest shall expressly assume all of Customer's obligations hereunder in writing, 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 power output and credits assigned pursuant to Section 4 hereunder.
- 11.10 Notices. All notices under this Agreement shall be in writing and shall be given to the Parties thereto 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:**

**UNS Electric, Inc.**  
PO Box 3099  
Kingman, AZ 86402-3099  
Fax: (928) 681-8915  
Attn: Eileen Jacobson

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed  
as of \_\_\_\_\_, 200\_\_\_\_.

**UNS ELECTRIC, INC.**

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

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

**CUSTOMER**

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

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

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

**ATTACHMENT A**  
**System Qualifications**

All solar electric generating Customer Systems must meet the following system and installation requirements to qualify for UNS Electric, Inc.'s ("UNSE" or Company") GreenWatts™ SunShare Hardware Buydown Program. Capitalized terms not defined herein shall have the meanings ascribed to them in the GreenWatts™ SunShare Program Hardware Buydown Agreement.

1. The Customer System must produce at least 800 watts AC and no more than 10,000 watts AC at noon as corrected to PTC for temperature and solar insolation over a one-year cycle.
2. The Customer System components must be certified as meeting the requirements of IEEE-929 - Recommended Practice for Utility Interface of Photovoltaic Systems.
3. The Customer System components must be certified as meeting the requirements of UL-1741 - Power Conditioning Units for use in Residential Photovoltaic Power and be covered by a non-prorated manufacturer's warranty of at least two years.
4. Photovoltaic components must be certified as meeting the requirements of UL-1703 - Standard for Flat Plate Photovoltaic Modules and Panels Systems and be covered by a non-prorated manufacturer's warranty of at least 10 years.
5. The Customer System design and installation must meet all requirements of the latest edition of the National Electrical Code ("NEC"), including Article 690 and all grounding, conductor, raceway, overcurrent protection, disconnect and labeling requirements.
6. The Customer 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 the NEC in effect in the jurisdiction where the installation is being completed, 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.
7. The Customer System must meet Company and Arizona Corporation Commission interconnection requirements for self-generation equipment.
8. The Customer System installation must meet the UNSE Service Requirements, as follows:

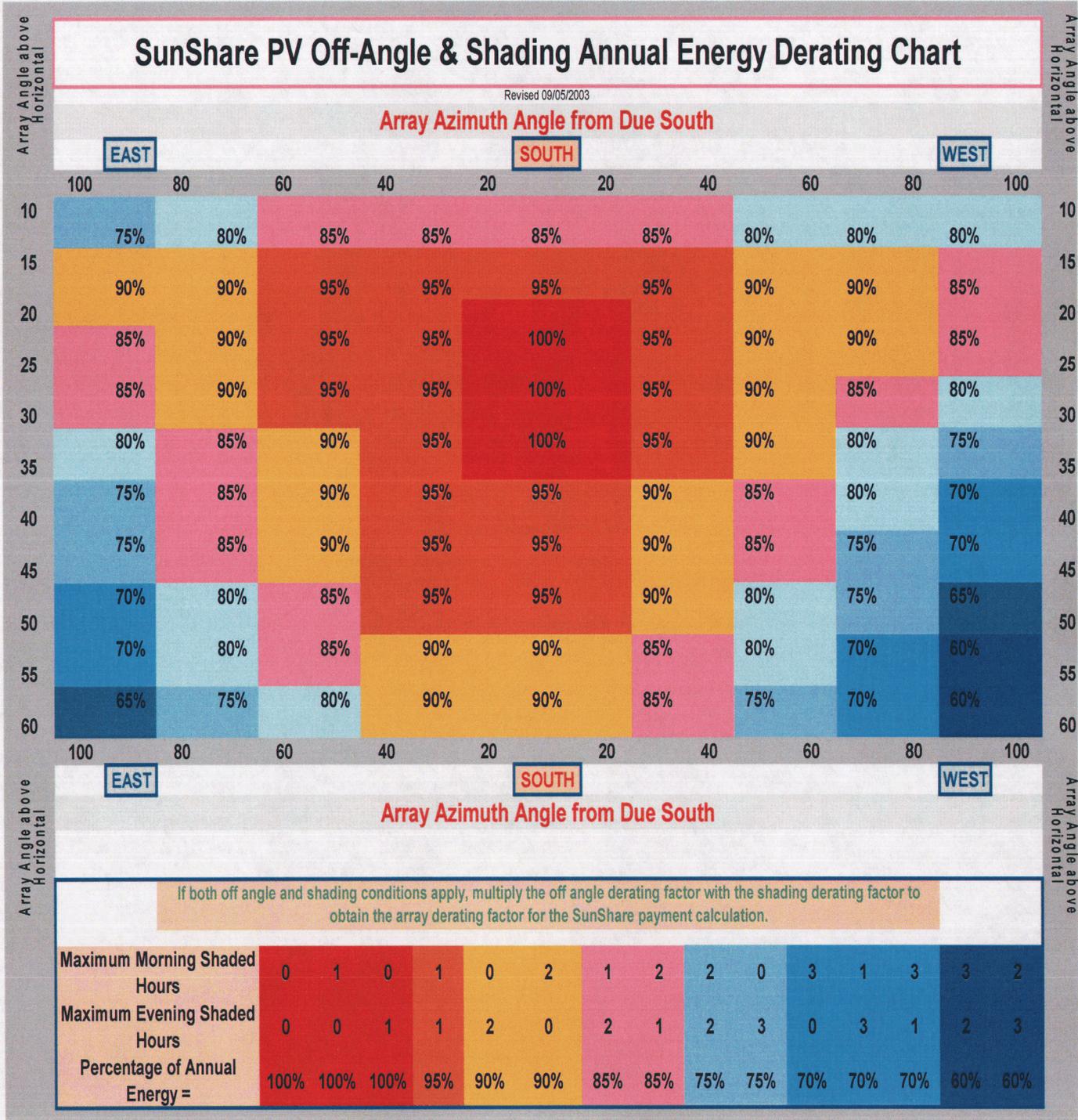
An AC disconnect means shall be provided in an area accessible at all times to the Company on all ungrounded AC conductors and shall consist of a lockable gang-operated disconnect clearly indicating open or closed. The switch shall be visually inspected to determine that it is open. The switch shall be clearly labeled "DG SERVICE DISCONNECT."

9. The Customer System photovoltaic panels and modules must face within +/- 90 degrees of real south, and be completely unshaded from three hours after sunrise to three hours before sunset. System arrays which are facing at an azimuth angle of more than 20 degrees from true south or shaded for more than one hour per day will be subject to a reduced amount of buydown payment per Attachment B.
10. The Customer System photovoltaic panels and modules must be fitted at an angle of 10 degrees to 60 degrees from horizontal. System arrays which are fitted with an elevation angle of less than 20 degrees or more than 35 degrees above horizontal will be subject to a reduced amount of buydown payment per Attachment B.
11. Company will provide a meter and meter socket that will be installed in a readily accessible outdoor location by the Customer between the DC to AC converter and the connection to the overcurrent device in the Customer's electric service panel.
12. Storage Batteries are not allowed as part of the Customer System as they would reduce the annual AC power output. Company offers a net metering option, "Non-Firm Power Purchase from Renewable Energy Resources", which credits the Customer with the energy sent into the grid on a kWh basis.
13. Installation must have been made after January 1, 1997.
14. The Customer must be connected to the Company's electric grid.
15. The DC to AC inverter used must provide maximum power point tracking for the full voltage and current range expected from the photovoltaic panels used and the temperature and solar insolation conditions expected in that region of Arizona.
16. The DC to AC inverter must be capable of adjusting to "sun splash" from all possible combinations of cloud fringe effects without interruption of electric production.
17. All Customer System installations must be completed in a professional, workmanlike and safe manner.
18. Total voltage drop on the DC and AC wiring from the furthest PV module to the AC meter will not exceed 2%.
19. PV panels and DC to AC inverter will be installed with sufficient clearance to allow for proper ventilation and cooling. At a minimum, manufacturer clearance

**REVISION 1**  
**ACC APPROVED 8/03/04**  
**REVISED & ACC APPROVED \_\_\_\_/06**

recommendations will be observed, but in no case less than four inches above any surface and an additional inch of clearance for each foot of continuous array surface beyond four feet in the direction parallel to the mounting support surface.

**ATTACHMENT B**  
**SunShare PV Off-Angle & Shading Annual Energy Derating Chart**



# ATTACHMENT

"B"

## **GreenWatts™ SunShare Hardware Buydown Program**

As a part of ~~its~~our commitment to developing renewable resources, UNS Electric, Inc. ("UNSE" or the "Company") is proposing to offer ~~its~~our customers an attractive solar electric program. ~~The Company's~~Our goal is to create a program that will ~~provide~~support an affordable, environmentally-~~sensitive~~solar electric generation system to supplement the customer's electricity needs currently serviced by UNSE. While the installation of the supplemental solar electric generating system requires remaining connected to the UNSE system, a solar electric system properly matched to a customer's electric use can provide a reduction in electric bills, by using the renewable resources of the sun. The program is named SunShare to reflect UNSE'sour commitment to share the cost of developing solar electric generators with the Company'sour customers by reducing the cost of photovoltaic systems.

The SunShare Program was approved by the Arizona Corporation Commission ("Commission") for 2004, 2005 and 2006, and will expire on December 31, 2006. At that time, UNSE will be extending the SunShare Program, with Commission approval, through December 31, 2008, or until such time as a Commission approved UNSE proposed Uniform Credit Purchase Program ("UCPP") is implemented, whichever occurs first.

~~UNSE is proposing a program to work in partnership with our successful, renewable program, GreenWatts as follows:~~

### **Solar Generation**

~~The SunShare Program~~UNSE is proposing a direct hardware buydown program. UNSE will pay the owner of a qualifying solar electric system a subsidy of up to \$3,000 per Manufacturer's rated DC kW at Standard Test Conditions ("STC") of qualifying, proven, installed solar generating capacity for all systems installed and operational within 180 days. ~~of rated DC capacity for systems for which completed Sunshare Agreements are received and accepted by TEP in 2004 and operational within 180 days after agreement receipt. The subsidy will be up to \$2,700 in 2005 for systems for which completed Agreements are received and accepted by TEP in 2005 and operational within 180 days and up to \$2,400 in 2006 for systems for which completed Agreements are received and accepted by TEP in 2006 and operational within 180 days.~~ The system must meet all qualifications listed in Attachment A, "System Qualifications", and Attachment B "~~Tucson~~ SunShare PV Off-Angle & Shading Annual Energy Derating Chart", in ~~of~~ the SunShare Hardware Buydown Agreement. Additionally, the owner must sign an agreement assigning rights to the electrical output and all associated environmental credits to UNSE through December 31, 2020. UNSE will return the electric output to the owner at no cost. Since the buydown is based on the DC array

rating, no maintenance will be provided. The SunShare Program is limited to subsidizing up to a combined amount of ~~24050~~ 24050 kW of solar capacity in ~~each year~~ 2007 and 2008. Once the annual subsidized maximum solar capacity is reached, UNSE will apply subsequent applications to the next year program at the subsidy level appropriate for that year.

Under the SunShare Program, the owner can install any solar electric generating system that meets the qualifications set forth in the preceding paragraph. The owner may be able to use Arizona income tax credits of up to \$1,000 to further reduce the initial cost of the system.

## Scope

The SunShare Pprogram is limited in scope. Reservations for Aggregate buydown payments are limited to 12050-DC kW of installed solar electric capacity in each of 2007 and 2008 each year of the program 2004 thru 2006. The SunShare Program will expire on December 31, 2008, or at such time as a UNSE proposed UCPP is approved by the Commission, whichever occurs first.

## Inspection

-The free annual inspection offered by UNSE, is dependent upon the sufficiency of funding provided under the Environmental Portfolio Standard ("EPS"). While the EPS program is expected to be fully funded through the end of the year 2012, it could be changed by the Commission ACG in the future. If funding levels provided under the EPS are insufficient to continue the inspection program, UNSE, to the extent possible, will notify all inspection program participants at least 12 months prior to the free program's termination. Thereafter, Company-UNSE will endeavor to offer cCustomers the option to purchase a cCustomer sSystem inspection program from the Company offering comparable services comparable to as those previously offered. In all cases the free or paid inspection programs offered by UNSE would terminate at the end of 2012.

## Metering Reading

UNSE would like to have active owner participation continue throughout the SunShare Pprogram. It will be the responsibility of the owner of the solar electric system to read the solar production meter once each month and report the reading to by preaddressed postcard mailed to the Company, the Company, either by a voice recording device or in some other format as specified by the Company. Owners are required to report their name, meter number, and present meter reading. The December meter reading should be taken on December 29<sup>th</sup>, 30<sup>th</sup>, or 31<sup>st</sup> 34<sup>st</sup> as a representative end-of-the-year reading. UNSE reserves the right to also read the meter at its option. Monthly readings will be used to monitor system performance and anticipate service requirements,; thus reporting meter readings is to the benefit of all parties.

## Qualifications

See Attachment A, "System Qualifications" in the Hardware Buydown Agreement.

## **GreenWatts™ SunShare Program Hardware Buydown Agreement**

This GreenWatts™ SunShare Program Hardware Buydown Agreement (the "Agreement") is hereby made and entered into this \_\_\_\_\_ day of

\_\_\_\_\_, 20 \_\_\_\_, by and between UNS Electric, Inc. an Arizona Corporation ("Company"), and \_\_\_\_\_, ("Customer"). Company and Customer may be referred to individually herein as a "Party" or collectively as the "Parties."

### RECITALS

A. Company desires to increase the number of solar electricity generation facilities and the consumption of solar electricity within its service territory, while concurrently reducing the cost of solar electric generation systems for its customers. In support of these objectives and to further Company's continuing commitment to develop and encourage the use of renewable energy resources, Company has implemented a program to provide financial incentives to its customers to install solar generating equipment (the "SunShare Program"). The SunShare Program was developed under GreenWatts™, the Company's renewable energy program; and

B. Company desires for Customer to participate in the SunShare Program and Customer desires to so participate under the terms and conditions contained in this Agreement.

NOW, THEREFORE, in consideration of these premises and of the mutual promises herein contained, Company and Customer hereby agree as follows:

### AGREEMENT

#### 1. BUYDOWN PROGRAM

Customer may elect to participate in the SunShare Program as follows:

##### 1.1 Solar Generating System

1.1.1 System. Customer shall purchase a solar generating system from any third party of Customer's choice ("Customer System"). However, to qualify under the SunShare Program, any such Customer System must comply with all requirements set forth in Attachment A "~~System Qualifications~~" and Attachment B "~~SunShare PV Off-Angle & Shading Annual Energy Derating Chart~~" attached hereto and incorporated herein.

1.1.2 Buydown. Customer buydown and Company credits shall be based on the Customer System's manufacturer's rated DC kW output based on Standard Test Conditions ("STC"), as explained in section 5 below.

1.3 Maintenance. The Company shall not provide maintenance for the Customer System.

2. **SYSTEM INSTALLATION**

To qualify for participation in the SunShare Program, all Customer Systems installed shall be installed by or on behalf of Customer in accordance with the requirements set forth in Attachment "A", including, without limitation, a proper interconnection with Company's existing power grid. Customer shall be solely responsible for the installation of the Customer System, including all costs and expenses associated therewith.

3. **SYSTEM INSPECTION COMPLIANCE WITH COMPANY STANDARDS**

~~3.1 — Installation. Following installation of Customer's System, Company shall inspect the Customer System for compliance with the applicable requirements set forth in Attachments A and B hereto. If the Customer System or installation is found to be not in compliance for any reason, Company will notify Customer of the deficiencies causing the noncompliance. Company reserves the right to remove the Customer's System from the Company facilities if it is deficient or noncompliant. Company will have no further obligations hereunder this Agreement until all such deficiencies are remedied by Customer to Company's reasonable satisfaction. Company is not liable for any damage caused by the Customer's System.~~

~~3.2 — Annual Inspection. Company will conduct at least one inspection annually, at no cost to Customer, for each Customer System that qualified for buydown payments under Section 5 below. Annual inspections will commence in the year following Company's buydown payment to Customer. Customer shall provide Company with reasonable access to the Customer System to conduct inspections.~~

~~3.3 — Duration. Notwithstanding anything contained herein to the contrary, Company will continue to provide the annual inspection set forth in the Section 3.2 above, for so long as EPS funding is sufficient to support such services. If, in Company's sole discretion, funding levels provided under the EPS are insufficient to continue inspection services, Company may terminate such services. To the extent possible, Company will notify Customer no less than twelve (12) months prior to such termination. Thereafter, Company will endeavor to offer Customer the option to purchase a Customer System inspection program from Company that provides comparable services as those previously offered. In no event will any inspection programs offered by Company extend beyond December 31, 2012.~~

4. **SYSTEM ELECTRICAL OUTPUT**

~~As a further condition to Customer's participation in the SunShare Program, Customer hereby assigns to Company, all of its rights to all electrical output of the Customer System and all associated environmental credits specifically including those created under the Arizona Corporation Commission's ("Commission") Environmental Portfolio Standard Program (the "EPS"), which may result from the installation and use of the Customer System. Customer also hereby assigns all~~



Agreement is intended to construe the existence of a partnership, joint venture, or agency relationship between Company and Customer.

6.32 Removal. ~~Customer shall not remove the Customer System or any components thereof from the premises until December 31, 2020, without express agreement of Company. shall provide thirty days written notice to Company before removing the Customer System or any components thereof from the premises. If Customer removes the Customer System in violation of this provision, Customer shall immediately reimburse Company all prorated portion of the Hardware Buydown Payment and/or Buydown Credit amounts paid by Company to Customer under Section 5 hereunderabove. The prorated portion would be calculated based on the percentage of time remaining until December 31, 2016 divided by the time span since time of acceptance of the Customer System to the SunShare program until December 31, 2016.~~

6.4 Duration. ~~Notwithstanding anything contained herein to the contrary, Company will continue to provide the annual inspection set forth in the Section 6.1 above, for so long as EPS funding is sufficient to support such services. If, in Company's sole discretion, funding levels provided under the EPS are insufficient to continue said inspection services, Company may terminate such services. To the extent possible, Company will notify Customer no less than twelve (12) months prior to such termination. Thereafter, Company will endeavor to offer Customer the option to purchase a Customer System inspection program from Company offering comparable services as those previously offered. In no event will any inspection programs offered by Company extend beyond December 31, 2012.~~

7. **METER READING**

Once per month during the term of this Agreement, Customer shall read the Customer System solar production meter and shall report Customer's name, meter number, and present meter reading by preaddressed postcard mailed to the Company ~~to a Company voice recording device~~, or in some other format as specified by Company. In December of each year, the reading should be taken on December 29<sup>th</sup>, 30<sup>th</sup>, or 31<sup>st</sup> as a representative end-of-the-year reading. Company reserves the right to read, at its option, the Customer System meter. Customer shall provide Company with reasonable access to the Customer System to conduct any such readings.

8. **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**

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PARTICULAR PURPOSE WITH RESPECT TO ITS PERFORMANCE OF ANY SERVICES OR PROVISION OF ANY GOODS HEREUNDER.

9. **LIMITATION OF LIABILITY**

COMPANY'S ENTIRE LIABILITY ARISING OUT OF ITS PERFORMANCE UNDER THIS AGREEMENT SHALL BE LIMITED TO CLAIMS DIRECTLY ATTRIBUTABLE TO COMPANY'S GROSS NEGLIGENCE OR WILFUL MISCONDUCT. IN NO EVENT SHALL COMPANY, ITS EMPLOYEES OR AGENTS BE LIABLE TO CUSTOMER FOR LOSS OF PROFITS OR ANY OTHER SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGE, HOWEVER CAUSED, RESULTING FROM COMPANY'S PERFORMANCE HEREUNDER.

10. ~~**TERM**~~

~~This Agreement will be effective upon execution of both Parties, and will remain in effect until December 31, 2016.~~

104. **TERMINATION**

If either Party shall at any time commit any material breach of any covenant or warranty under this Agreement and shall fail to cure same within thirty (30) days following written notice thereof, the non-breaching Party may terminate this Agreement, in whole or in part. This Agreement may also be terminated at any time by mutual written agreement of the Parties.~~Either Party may terminate this Agreement with 30 days written notice. Company is entitled to prorated portion of the Hardware Buydown Payment and/or Buydown Credit amounts pursuant to Section 6.2 above.~~

112. **MISCELLANEOUS**

11.1a. 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.

11.2b. Assignment. This Agreement and the rights, duties, and obligations hereunder may not be assigned or delegated by any Party without the prior written consent of Company. ~~However, the Assignment may be assigned to a successor owner of the home where the GreenWatts SunShare hardware is installed with the notice to the Company.~~

11.3e. 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 ~~county where the Company has offices or where the Customer has installed the GreenWatts SunShare hardware.~~

- 11.4d. 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.
- 11.5e. Counterparts. This Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same Agreement.
- 11.6f. 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.
- 11.7g. Expenses and Attorney's Fees. In the event of a breach or threatened breach of any term or provision of this Agreement, the non-breaching party shall be entitled to all of its remedies available at law or in equity, unless otherwise limited in this Agreement, and in addition shall be entitled to be reimbursed for all of its reasonable costs and expenses in enforcing this Agreement (if successful), including, but not limited to, reasonable attorney's fees. This section shall survive termination or expiration of this Agreement for any reason.
- 11.8h. 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, interruptions of power or unavailability of equipment or supplies.
- 11.9j. Customer Sale of Residence. In the event Customer sells the residence for which ~~where~~ the Customer installed the Customer System, Customer's successor-in-interest shall expressly assume all of Customer's obligations hereunder in writing, 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 power output and credits assigned pursuant to Section 4 hereunder. ~~shall give full written disclosure to the Customer's Successor in Interest, specifically addressing the assignment of the Agreement. If the Successor in Interest does not agree to assume all of Customer's rights and obligations under the Agreement, the Customer will be responsible for refunding the buy-down funds to the Company.~~
- 11.10i. Notices. All notices under this Agreement shall be in writing and shall be given to the Parties thereto by personal service (including receipted confirmed facsimile), or by certified or registered mail, return receipt requested, or by recognized overnight courier service, to the Company

Parties at the addresses set forth below. All notices shall be deemed given upon the actual receipt thereof.

Company:

UN~~S~~ Electric, Inc.  
PO Box ~~30997~~11, Mail Stop UE201  
Kingman~~Tucson~~, AZ 86402-30995702  
Fax: (520~~928~~) ~~681-8915884~~ 3601  
Attn: ~~Eileen Jacobson~~Michelle Livengood

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed  
as of \_\_\_\_\_, 200\_\_\_\_.

**UNS ELECTRIC, INC.**

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

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

**CUSTOMER**

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

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

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

**ATTACHMENT "A"**  
**System Qualifications**~~SYSTEM QUALIFICATIONS~~

All ~~Customer~~ solar electric generating Customer ~~SSystems~~ must meet the following system and installation requirements to qualify for UNS Electric, Inc.'s ("UNSE" or Company)'s GreenWatts™ SunShare Hardware Buydown Program. Capitalized terms not defined herein shall have the meanings ascribed to them in the GreenWatts™ SunShare Program Hardware Buydown Agreement.

1. The Customer System must produce at least 800 watts AC and no more than 10,000 watts AC at noon as corrected to PTC for temperature and solar insolation over a one-year cycle.
2. The Customer System components must be certified as meeting the requirements of IEEE-929 - Recommended Practice for Utility Interface of Photovoltaic Systems.
3. The Customer System components must be certified as meeting the requirements of UL-1741 - Power Conditioning Units for use in Residential Photovoltaic Power and be covered by a non-prorated manufacturer's warranty of at least two years.
4. Photovoltaic components must be certified as meeting the requirements of UL-1703 - Standard for Flat Plate Photovoltaic Modules and Panels Systems and be covered by a non-prorated manufacturer's warranty of at least 10 years.
5. The Customer System design and installation must meet all requirements of the latest edition of the National Electrical Code ("NEC"), including Article 690 and all grounding, conductor, raceway, overcurrent protection, disconnect and labeling requirements.
6. The Customer 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 the NEC~~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 superseeded.
7. The Customer System must meet Company and Arizona Corporation Commission interconnection requirements for self-generation equipment.
8. The Customer System installation must meet the UNSE Service Requirements, as follows:

~~An AC disconnect means shall be provided in an area accessible at all times to the Company 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 it is open. The switch shall be clearly labeled DISCONNECT MEANS SHALL BE PROVIDED IN AN AREA ACCESSIBLE AT ALL TIMES TO THE UTILITY 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."~~

9. The Customer System photovoltaic panels and modules must face within +/- 90 degrees of real south, and be completely unshaded from three hours after sunrise to three hours before sunset. System arrays which are facing at an azimuth angle of more than 20 degrees from true south or shaded for more than one hour per day will be subject to a reduced amount of buydown payment per Attachment "B".
10. The Customer System photovoltaic panels and modules must be fitted at an angle of 10 degrees to 60 degrees from horizontal. System arrays which are fitted with an elevation angle of less than 20 degrees or more than 35 degrees above horizontal will be subject to a reduced amount of buydown payment per Attachment "B".
11. ~~UniSource Electric Company~~ will provide a meter and meter socket that will be installed in a readily accessible outdoor location by the Customer between the DC to AC converter and the connection to the overcurrent device in the Customer's electric service panel.
12. Storage Batteries are not allowed as part of the Customer System as they would reduce the annual AC power output. Company offers a net metering option, "Non-Firm Power Purchase from Renewable Energy Resources", which credits the Customer with the energy sent into the grid on a kWh basis.
13. ~~First energization of equipment and the installation~~ must have been made after January 1, 1997.
14. The Customer must be connected to the Company's electric grid.
15. The DC to AC inverter used must provide maximum power point tracking for the full voltage and current range expected from the photovoltaic panels used and the temperature and solar insolation conditions expected in that region of Arizona.
16. The DC to AC inverter must be capable of adjusting to "sun splash" from all possible combinations of cloud fringe effects without interruption of electric production.

17. All Customer System installations must be completed in a professional, workmanlike and safe manner.
18. Total voltage drop on the DC and AC wiring from the furthest PV module to the AC meter will not exceed 2%.
19. PV panels and DC to AC inverter will be installed with sufficient clearance to allow for proper ventilation and cooling. At a minimum, manufacturer clearance recommendations will be observed, but in no case less than four inches above any surface and an additional inch of clearance for each foot of continuous array surface beyond four feet in the direction parallel to the mounting support surface.

**ATTACHMENT "B"**  
**SunShare PV Off-Angle & Shading Annual Energy Derating Chart"**

