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Arizona Corporation Commission
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Phoenix, AZ 85007

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AZ CORP COMMISSION
DOCUMENT CONTROL

RE: DOCKET NUMBER E-01345A-05-0373
DECISION NUMBER 68668

Dear Madam or Sir,

Pursuant to Arizona Corporation Commission Decision Number 68668, attached is the updated and final Environmental Portfolio Standard Credit Purchase Program for APS.

If you or your staff have any questions, please contact Angie Krainik at 602/250-2611.

Sincerely,

Angie L Krainik for JH Thompson

Justin H. Thompson
Manager
Regulation, Policy and Analysis

JHT/AKK

Attachment

CC: Brian Bozzo
13 copies for Docket
Ray Williamson

Arizona Public Service Corporation
Environmental Portfolio Standard Credit Purchase Program

Overview of Program

In February 2001, the Arizona Corporation Commission (ACC) adopted the Environmental Portfolio Standard (EPS), which established goals for Arizona retail electricity providers to generate a percentage of their electricity from renewable resources. The standard also added a surcharge to customer's bills to pay for the new program. The EPS requires that a minimum of 60% of the renewable energy goal be provided from solar electric resources by 2007.

APS offers customers, who have new solar systems installed, the opportunity to sell to APS the EPS credits¹ and environmental attributes associated with the energy generated by the system. These credits are utilized to meet APS' EPS requirement in exchange for a payment to the customer.

The EPS Credit Purchase Program provides several different options for APS customers: 1) grid-tied photovoltaic systems; 2) off-grid photovoltaic systems, 3) solar water heating systems, and 4) solar heating, ventilation, and air conditioning (HVAC) systems. APS also has an option for solar energy system dealers and manufacturers. The energy that is generated by a customer's system is credited toward APS' requirement for renewable energy resources under the Arizona Corporation Commission's rules.² The solar water heating systems are applied towards the "other" category and the photovoltaic

¹ "EPS Credit" is defined as the number of eligible kWh (after appropriate extra-credit multipliers are applied) to be used to meet a utility's EPS requirement. Eligible kWh is defined as energy purchased or produced from a system or technology that qualifies under the EPS Rules and is available to displace customer's use of electricity or gas.

² A.A.C. R14-2-1618.

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systems and solar HVAC systems³ are applied towards the solar electric category. The total annual benefit to any one customer is limited to \$500,000.

General Requirements

To ensure that the new system complies with the EPS Credit Purchase program requirements and that funds are available for the installation, a customer should reserve funding for the installation. Funds are made available for reservation on the first working day after January 1 of each year. Reservations can not be made for future years, nor can multi-year reservations be made. Funding is not guaranteed without an EPS reservation. The customer selects the system that meets their needs and obtains complete pricing information from their dealer/installer. After selection of the system, the customer must provide APS with relevant information, including a price quote from the dealer/installer. APS' reservation forms are available at www.aps.com/eps. Once a customer has received confirmation and written verification from APS that the Company will purchase the EPS Credits, the installation process begins.

For photovoltaic systems and small water heating systems, the customer has 180 days from the date on the reservation confirmation to complete the installation. Upon request from the customer, APS will grant extensions of the 180 day requirement caused by delays beyond the customer's control. After 180 days the reserved funding will be made available to other customers seeking reservations, unless an extension has been granted. Upon completion of the installation by an Arizona-licensed⁴ contractor, the grid-tied system is inspected and approved by APS. Within 180 days of installation, the

³ Only solar HVAC systems eligible to meet a portion of the "solar electric" requirement under the EPS as approved by ACC Decision No. 67402, dated November 2, 2004 or future related ACC orders are eligible for APS' credit purchase program.

⁴ The Contractor must hold a valid license from the Arizona Registrar of Contractors for electrical, solar plumbing, solar boiler, or solar air conditioning and refrigeration work, or as appropriate to the system to be installed.

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customer must notify APS and submit an executed credit purchase agreement, such as that available at www.aps.com/eps, and, where applicable, verification of an APS interconnection agreement, as well as the receipts confirming the system purchase price, financing costs (if applicable), payment and installation by an Arizona-licensed⁴ contractor. The customer will then receive payment from APS. The EPS Credit Purchase Agreement assigns the rights to all associated EPS credits and environmental attributes to APS and allows the system to be used by APS in meeting its EPS requirements. The assignment of the associated EPS credits and environmental attributes to APS shall only apply to the contract period for which APS pays the customer.

For large solar water heating systems and solar air conditioning systems, the customer has 365 days from the date of the reservation confirmation to complete the installation. Upon request from the customer, APS will grant extensions at its discretion.

Upon completion of the installation by an Arizona-licensed⁴ contractor, the system is inspected and approved by APS. Prior to completion or up to 180 days after of installation, the customer/or system owner must execute a credit purchase agreement with APS. The customer will then begin receiving payments from APS on the schedule described later in this document. The credit purchase agreement assigns the rights to all associated EPS credits and environmental attributes to APS and allows the system to be used by APS in meeting its EPS requirements.

All systems eligible for credit purchase must be located on an APS customer's property or supply a central plant that generates energy for an APS customer⁴, except for off-grid systems. Any project developer that builds an eligible system that also provides energy to a non-APS customer must provide metering to document the energy received by each customer. Commercial systems may be owned by third parties, and APS may make payments to such third parties with written consent of the APS customer. Residential customers may assign payment only to an installer, dealer or manufacturer.

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For both residential and commercial systems, payments to third parties can only be executed after written acceptance of the system by the APS customer and execution of a credit purchase agreement with APS.

Consumer Options

A. Grid-tied Photovoltaic Systems.

With the grid-tied option, a participating customer's photovoltaic system is interconnected to the APS electric grid. The customer receives a one-time EPS Credit Purchase payment (based on the manufacturer's rating) of \$3.00 per watt-DC (residential) or \$2.50 per watt-DC (non-residential) for purchasing and installing the system. For system expansions, payment is capped at 50% of the total cost for expansion.

For example, residential customers installing a new 1,000-watt solar system on their home will receive a one-time payment of \$3,000 from APS. To ensure funding is available, customers must reserve the EPS Credit Purchase funds prior to installing their system. Customers that apply for funding after the installation or after contracting with a contractor will only receive funding if it is available at that time.

To protect the reliability of APS' system and the safety of its employees, in addition to the requirement that the system be installed by an Arizona-licensed⁵ contractor, the customer is also required to execute an interconnection agreement, which addresses operational and safety standards. Beginning in 2005, each customer is required to report the total system performance to APS on an annual basis. Systems are not limited in size.

Qualifications for Grid-tied Option:

- This option is available to both residential and commercial customers who purchase a complete photovoltaic solar system or expand an existing photovoltaic solar system with all new components. A complete solar electric

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system includes solar panels, inverter, and other related equipment to provide AC electricity to a customer site.

- Installations must meet APS interconnection requirements.
- Customers must sign an interconnection agreement with APS.
- The system must use UL-rated components and meet IEEE 929 specifications.
- An Arizona-licensed⁴ contractor must install the system.
- The customer must provide a separate meter for the solar system, and it must be placed adjacent to the existing APS meter and marked "solar meter."
- The system generation (kWh) must be reported annually to APS.

In addition to the one-time payment option, APS will reserve a portion of the funding for commercial grid-tied photovoltaic systems that are willing to contract with APS for credit purchase based on production (i.e. cents per kilowatt hour of production) in place of an upfront lump sum payment. Term and credit purchase price for such systems are to be negotiated between the customer and APS before a reservation for the funds is made. If the reserved funding is not fully subscribed by such projects by the end of September each year, the remaining funds will be released for upfront lump sum credit purchase payments.

B. Off-grid Photovoltaic Systems.

This option is available to residential and commercial customers in remote areas who are not connected to the electrical grid and wish to purchase a solar energy system to provide power for their electrical needs. The off-grid option can provide a cost effective alternative for rural customers, who would otherwise incur a line extension cost to receive electrical service. A customer receives a one-time EPS Credit Purchase payment of \$2.00 per watt-DC for the installation of an off-grid remote photovoltaic system, up to a maximum of 5kW. For example, a 1,000-watt solar system qualifies the customer to

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receive \$2,000 from APS. For system expansions, payment is capped at 50% of the total cost for expansion.

Qualifications for Off-Grid Option:

- This option is available to customers who purchase a new, complete, or expand an existing remote photovoltaic solar system. A complete remote solar electric system includes solar panels, batteries, inverter, and other related equipment to provide AC electricity to a customer site.
- The system must be installed in APS service territory.
- The system must use UL components and meet IEEE 929 specifications.
- An Arizona-licensed⁴ contractor must install the system.
- This option is limited to a maximum system size of 5 kW.

C. Small Solar Water Heating Systems.

This option is available to both residential and commercial customers to replace an electric water heater or other water heating system approved by the ACC. The customer receives a one-time EPS Credit Purchase payment for the installation of a solar water heating system of \$0.50 per first year kilowatt hour savings based on the OG-300 rating from the Solar Rating Certification Corporation ("SRCC").

Qualifications for Solar Water Heating System:

- This option is available to both residential and commercial customers and must replace an electric water heater or other water heating system approved by the ACC.
- The system must have obtained certification under the Solar Rating and Certification Corporation's OG-300 system rating test.
- An Arizona-licensed⁴ contractor must install the system.
- This option is limited to systems rated at 10,000 kWh per year energy savings or less.

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D. Large Solar Water Heating Systems

This option is available to commercial customers to replace an electric water heater or other water heating system approved by the ACC⁵. The customer receives a production-based incentive (PBI) for the thermal energy delivered by a solar water heating system of \$0.07 per kilowatt hour-equivalent based on metered production. APS will make its own thermal meter readings for determining the amount of the quarterly payment. The PBI is for a term of 10 years or 50% of the total system cost, whichever comes first. The cost associated with financing the system may be included in the total system cost (receipts or documentation must be provided to APS at the time of the credit purchase agreement execution) and the allowable finance rate is capped at the federal prime rate plus 5%. For example, if a solar system costs \$20,000 and the financing cost is \$2000, then the total system cost (for purposes of this Credit Purchase Program) is \$22,000. Accordingly, the maximum PBI would be \$11,000. Payments are made at the end of each calendar quarter within 30 days of receipt and confirmation of thermal meter readings. The customer is responsible for providing meter readings. APS reserves the right to inspect the system, including the meter(s), at any time. For purposes of payment, 3,412 BTUs equal one kWh.

Qualifications for Large Solar Water Heating Systems:

- This option is available to commercial customers and must replace an electric water heater or other water heating system approved by the ACC.
- Minimum system size is 5,000 kWh per year energy savings.
- Payments are based on delivered BTUs which are defined as BTUs generated and used for heating water excluding waste heat.
- An Arizona-licensed⁴ contractor must install the system.

⁵ Currently, APS is limited to providing incentives for natural gas customers to two customers per calendar year and a maximum of 60,000 therms per calendar year. If this order is amended or superseded by any other ACC Order, APS' credit purchase program would reflect such a change.

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E. Solar HVAC Systems

This option is available to commercial customers to replace an electric HVAC system or other HVAC systems as approved by the ACC. The customer receives a PBI for the thermal energy delivered for cooling by a solar HVAC system of \$0.16 per kilowatt hour-equivalent based on metered production. In addition, systems that incorporate solar thermal heating and/or solar thermal water heating are eligible for the large solar water heating PBI of \$0.07 per kilowatt hour-equivalent of thermal energy delivered for heating. APS will make its own thermal meter readings for determining the amount of the quarterly payment. The PBI is for a term of 10 years or 50% of the total system cost, whichever comes first. All heating and cooling payments are credited for calculation of the 50% cap. The cost associated with financing the system may be included in total system cost (receipts or documentation is provided to APS at the time of the credit purchase agreement execution), and the allowable finance rate is capped at the federal prime rate plus 5%. For example, if a solar system costs \$20,000 and the financing cost is \$2000, then the total system cost (for purposes of this Credit Purchase Program) is \$22,000. Accordingly, the maximum PBI would be \$11,000. Payments are made at the end of each calendar quarter within 30 days of receipt and confirmation of thermal meter readings. The customer is responsible for providing meter readings. APS reserves the right to inspect the system, including the meter (s), at any time. For purposes of payment, 3,412 BTUs equal one kWh.

Qualifications for Solar Air Conditioning Systems:

- This option is available to commercial customers and must replace an electric HVAC system or another HVAC system approved by the ACC, and may be used for new construction if not prohibited by another Commission Decision or waiver restriction.
- Minimum system size is 10 tons of cooling.

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- Cooling and heating must be metered and reported separately.
- Payments are based on delivered BTUs which are defined as BTUs generated and used for cooling and/or heating purposes excluding waste heat.
- An Arizona-licensed⁴ contractor must install the system.

Dealers and Manufacturers of Photovoltaic Solar Energy Systems

Dealers and manufacturers of photovoltaic solar energy systems may apply for the EPS Credit Purchase agreement for their own installations on their own premises. Dealers receive a one-time EPS Credit Purchase payment of \$3 per watt-DC or 50% of the system cost basis, whichever is less. The cost basis for a dealer will be based on their actual cost of the technology. In addition to the general and grid-tied system requirements, dealers and manufacturers must also comply with the following.

Additional Requirements for Dealers and Manufacturers:

- A dealer cannot profit from installing their own systems on their facilities or include a markup on systems sold to themselves or their employees.
- Dealers cannot include installation in the cost basis for the EPS Credit Purchase Program.
- Dealers must be able to verify the cost they paid for each system component by providing a purchase invoice or receipt for each major component with the reservation and agreement.
- Manufacturers are treated the same as dealers but they cannot include their own technology in the cost basis for the EPS Credit Purchase Program.