
CITY OF TEMPE
REQUEST FOR COUNCIL ACTION

Council Meeting Date: 10/15/2015
Agenda Item: 6A4

ACTION: Approve 20-year Solar Services Agreements and Performance Guarantee Agreements with SolarCity Corporation for the development, construction, and maintenance of solar photovoltaic electric generating systems to be installed at the East Valley Bus Operations and Maintenance Facility and the Kiwanis Recreation Center.

FISCAL IMPACT: The total combined cost of the 20-year Solar Services Agreements for the East Valley Bus Operations and Maintenance Facility (\$1,979,955) and the Kiwanis Recreation Center (\$1,202,809) is \$3,182,764. Due to the lower per kilowatt-hour cost associated with the solar production portion of the systems' energy demand the City will realize a combined 20-year net present value savings over currently approved energy budgets for the East Valley Bus Operations Maintenance Facility (\$107,781) and Kiwanis Recreation Center (\$56,400) of \$164,181. A pre-payment of \$152,288 is needed to allow the Kiwanis Recreation Center to show positive 20-year net value savings.

RECOMMENDATION: Approve the Solar Service Agreements (SSA) and the Performance Guarantee Agreements for the installation of a solar photovoltaic electric generating system at the East Valley Bus Operations and Maintenance Facility (EVBOM) and the Kiwanis Recreation Center.

BACKGROUND INFORMATION: In order to advance the City's 20/2025 renewable energy goal (20-percent of total energy demand generated via renewable energy by the year 2025) an inter-departmental committee researched potential solar locations and ultimately selected three sites including the EVBOM, Kiwanis Recreation Center, and the Tempe Center for the Arts.

On May 18, 2015, staff issued a Request for Pricing for the above three (3) sites to the City's approved short-list of solar providers:

- Green Choice Solar
- Oak Leaf Energy Partners
- SolarCity Corporation

As part of the request, staff supplied the solar companies with a variety of historical data including monthly electricity bills, 15-minute interval data, and aerial photos of the proposed sites. Site walks were conducted to allow the companies to assess the electrical equipment and designated solar array areas including the overhead bus shelter canopies at EVBOM, parking lot area at Kiwanis Recreation Center and the Park located just east of the Tempe Center for the Arts. The City issued two (2) addendums to clarify a number of supplier questions.

Proposals were opened on July 16, 2015 with one (1) response recorded from:

- SolarCity Corporation

Evaluation Process

SolarCity Corporation ("SolarCity") offered photovoltaic systems and pricing on all three (3) locations as noted below in Chart 1:

Chart 1 – System Size and Pricing Review

Company	EVBOM (SES1) (SRP)		EVBOM (SES2) (SRP)		Kiwanis Recreation Center (SRP)		Tempe Center for the Arts (APS)	
	Size (kW)	Cost (kWh)	Size (kW)	Cost (kWh)	Size (kW)	Cost (kWh)	Size (kW)	Cost (kWh)
SolarCity Corporation	809.1	\$0.058	161.82	\$0.064	406.1	\$0.054*	407.68	\$0.069

*Includes pre-payment of \$152,288

The SolarCity per kilowatt hour (kWh) cost shown above is firm and unchanging for the entire 20-year lease period. Historically, electric utilities increase their rates on an annual basis averaging 3.4% for SRP accounts and 2.4% for APS accounts.

SolarCity is recommending a combined system of 970.92 kW (SES1 and SES2) to be installed on top of the existing bus shelter canopies at EVBOM, a 406.1kW system to be installed on top of new solar carport canopies at the Kiwanis Recreation Center parking area, and a 407.68 kW system to be installed on top of new solar shade canopies at the park located just east of Tempe Center for the Arts.

The committee met a number of times over a two month period to discuss and review the proposal. Additional insight was provided by the City’s solar energy consultant (Kent Simer of K.R. Saline & Associates) who performed independent analysis on the SolarCity design and pricing proposals.

EVBOM Solar Design

Due to the existing bus shelter canopy infrastructure at the EVBOM facility, SolarCity is able to provide a photovoltaic system that easily achieves savings over the existing utility rate without any pre-payment funding being necessary from the City. The design utilizes two different Service Entrance Sections (SES1 and SES2) to maximize system size. A total of 3,132 (310 watt) solar panels will make up the two solar system arrays at the EVBOM facility.

Kiwanis Recreation Center Solar Design

The 406.1 kW design offered by SolarCity for the Kiwanis Recreation Center parking area requires the installation of new carport shade canopies to house the solar panels and as a result will cause the City to contribute funding in the amount of \$152,288. This pre-payment facilitates the installation of the solar shade structure canopies which will allow the system to generate long-term energy savings. The prepayment amount will be transferred from Tempe Public Library Complex Solar Project as part of a separate request on the October 15, 2015 Regular Council Meeting agenda. A total of 1,562 (260 watt) solar panels will make up the solar system array at the Kiwanis Recreation Center site.

Tempe Center for the Arts Solar Design

The SolarCity design for the park area near Tempe Center for the Arts incorporates rectangular carport canopies that are not considered compatible with the surrounding building architecture. As a result, the committee is not recommending this site for an award. Additional community input is needed in order to establish a more compatible shade structure design.

Award Recommendation

The evaluation committee recommends that Council approve the EVBOM and Kiwanis Recreation Center solar projects and decline the Tempe Center for the Arts project at this time. The triple bottom line for this project is that it will reduce operating costs, save ratepayers money and reduce carbon emissions by 1,608 metric tons per year, the equivalent of the removal of 338 cars from the road each year or the energy used in 221 homes each year. The economic benefit is a 20-year net present value savings of \$164,181.

The fact that only one offer was received from the approved solar provider short list is concerning to staff. SolarCity’s dominant economic position in this space appears to be the main reason why the two other companies declined to submit offers. Staff will be evaluating what adjustments need to be made in order to increase supplier participation on future solar projects.

If approved as recommended, the timeline for engineering, financing, construction and commissioning of the solar systems is expected to be completed within 10 months from contract signing.

ATTACHMENTS: Solar Service Agreements and Performance Guarantee Agreements

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Legal review by: David Park, Assistant City Attorney

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