DATE: March 15, 2017

TO: Airport Commission

FROM: Hazel Johns, Airport Director

SUBJECT: Airline Terminal Solar Photovoltaic Power Purchase Agreement

RECOMMENDATION:

That Airport Commission recommend City Council approve, and authorize the Airport Director to execute, a Power Purchase Agreement with EEI Solar One, LLC, to develop, own, operate, and maintain a solar photovoltaic generating system at the Airport, and sell all power generated to the Airport.

DISCUSSION:

Background
During the approval process for the Airline Terminal project, City Council asked that Airport staff explore ways to offset anticipated increases in carbon emissions related to the building under design. Additional carbon emissions were expected due to the increased energy consumption when transitioning from the 1942 era terminal to the new, more automated, much larger Terminal building.

Airport staff identified solar photovoltaic (PV), where sunlight is converted directly into electricity, as the most likely source of renewable energy available to accomplish the carbon offset goal. Since capital funding was unavailable for the Airport to construct, operate, and own a solar PV collection system, a Power Purchase Agreement (PPA) approach was selected.

Benefits of Solar PV:
- Renewable energy source
- Zero carbon emissions are generated by the facility when in operation
- Proven, reliable technology
- Provides shade for some Airport parking customers

Past Efforts
The Airport has issued Requests for Proposal for the Airline Terminal Solar Photovoltaic Project on two separate occasions; the first in March 2011 and the second in February 2014. The City was unable to come to agreement with the provider selected from the first
group of proposals, and the provider selected from the second Request for Proposal was unable to complete the project as agreed, and was subsequently terminated after filing for bankruptcy.

Reservations for incentive payments from the California Solar Initiative were obtained for the project. The expiration date for these incentives has been extended until December 2017.

Following the termination of the agreement with the bankrupt vendor in 2016, two firms submitted unsolicited proposals for the project. The Airport more closely defined the project and evaluation criteria, and asked those two firms if there was continued interest. Both submitted revised proposals based on Airport needs. The Airport convened a panel of one Airport Department staff member and one Public Works Department staff member to evaluate the proposals. The panel identified EEI Solar One, LLC (then known as Endelos Energy), as clearly the top proposer.

Since that time City staff have worked with EEI Solar One, LLC, to negotiate terms of the Power Purchase Agreement, including the size of the proposed system and the price of the energy to be delivered.

**Power Purchase Agreement**
Under a PPA arrangement, a third party plans, finances, permits, builds, owns, and operates a solar collection system on the Airport. In exchange, the Airport agrees to purchase all power produced by the system and delivered to the Airport’s electric meter, at a pre-determined price, over the 20 year term of the agreement.

The PPA is based on the agreement entered into successfully by the City with the provider of the solar PV collection facility at the Public Works Department’s Corporate Yard. In addition to terms and conditions for development, operation, maintenance of the system, the proposed agreement describes system output and pricing for the energy produced over the life of the agreement.

Other specifics of the agreement include:
- Term of agreement is 20 years
- EEI Solar One, LLC will plan, permit, construct, own, operate, and maintain the facility
- EEI Solar One, LLC guarantees that system will produce at least 85%, but not more than 110% of the anticipated output annually
- At end of the agreement, City will have the option to purchase the facility at fair market value or have EEI Solar One, LLC remove the facility and return the site to original condition at their cost

**Photovoltaic Facility**
The proposed PV collection system will consist of solar photovoltaic panels located on canopies over a portion of the Airport’s long term parking lot. The facility will consist of solar panels mounted on double cantilever canopies. Canopies will provide shade, but
will not be water tight. The array is expected to produce approximately 1,450,000 kilowatt hours per year, which is roughly 75% of the Airline Terminal’s annual electrical load. Power generated will be transmitted underground and delivered to the Airline Terminal electrical switchgear.

Net metering will allow any excess energy produced during the day to go onto the electrical grid and be used during nighttime hours when the system is not producing. Under the current power tariff structure, the system will produce energy and credits for overproduction at mid-day when energy prices are highest. Credits earned during peak rates will be used to power the facility during less expensive mid-peak and off-peak hours. Said another way, we will be selling excess energy back to SCE during the middle of the day at a high on-peak price and buying the power back during night, morning and evening hours at a lower off-peak or mid-peak price. Note that the Public Utilities Commission can change tariffs and tariff rules at any time.

BUDGET AND FINANCIAL INFORMATION:

The Airport will purchase all the energy produced by the proposed EEI Solar One, LLC facility, in lieu of purchasing the energy from Southern California Edison (SCE). EEI Solar One, LLC’s proposed rate per kilowatt hour in year one is $0.1119/kWh. The proposed rate inflates at approximately 2.37% per year over years 1-15, then the rate becomes flat at $0.1558/kWh for the remainder of the agreement. When EEI Solar One, LLC’s proposed pricing schedule is modeled against anticipated Southern California Edison (SCE) pricing over the term of the agreement, in present value terms, the EEI Solar One, LLC proposal beats SCE pricing by over $250,000.

SUSTAINABILITY:

While generating electric energy, solar PV panels produce zero emissions. Up to 75% of the Airline Terminal’s annual electrical demand is expected to be powered by the proposed solar PV facility.

PREPARED BY: Facilities Maintenance Division