Legislation Details (With Text)

File #:	2019-1261		
Type:	Regular Calendar Item	**Status:**	Passed
File created:	8/7/2019	**In control:**	Transportation and Public Works
On agenda:	9/10/2019	**Final action:**	9/10/2019
Title:	9:00 A.M.- Photovoltaic Energy Systems for the Charles M. Schulz - Sonoma County Airport and County Fleet Operations Division Building at the County Campus		
Sponsors:	Transportation and Public Works, General Services		
Indexes:			
Attachments:	1. Summary Report, 2. General Terms Agreement, 3. Airport Solar Agreement, 4. Fleet Solar Agreement, 5. Solar Guide, 6. Exhibit A, 7. PowerPoint, 8. Resolution		

Date	Ver.	Action By	Action	Result
9/10/2019	1	Board of Supervisors	Approved as recommended	Pass

To: Board of Supervisors
Department or Agency Name(s): Transportation and Public Works and General Services
Staff Name and Phone Number: Johannes J. Hoevertsz 707-565-2231
Vote Requirement: Majority
Supervisorial District(s): All

Title:
9:00 A.M.- Photovoltaic Energy Systems for the Charles M. Schulz - Sonoma County Airport and County Fleet Operations Division Building at the County Campus

Recommended Action:

A) Hold a public hearing pursuant to Government Code Section 4217.12 that creates a procurement methodology for solar power purchase and similar agreements allowing the County to perform a best value procurement in light of the benefits of the system to the County.

B) Make the determination and findings that the terms of this proposed Solar Services Agreement with ForeFront Power are in the best interest of the County as described in the discussion of this report.

C) Adopt a Resolution incorporating the determination and findings required by Government Code 4217.12, along with delegating authority for administration of the contemplated agreement and finding the contemplated solar photovoltaic systems to be exempt under the California Environmental Quality Act (CEQA).

D) Authorize the Chair to execute a Power Purchase Agreement with ForeFront Power for an approximate 834kW (DC) sized photovoltaic parking lot canopy system at the Airport Long-Term Parking Lot B, with an alternate location at the Airport Long-Term Parking Lot A, and an approximately 77.76kW (DC) sized system, roof mounted to the top of the Fleet Operations Building at the County Campus.

Executive Summary:

The Department of Transportation and Public Works Airport Division, in conjunction jointly with the Department of General Services Fleet Division, requests the Chair to execute a joint Power Purchase Agreement (PPA) with ForeFront Power LLC for installation of photovoltaic (PV) energy systems at the Charles M. Schulz - Sonoma County Airport (Airport) and County Fleet Operations Division (Fleet) building at the County Campus. A public hearing is also required by Government Code 4217 to provide opportunity for public feedback, and to adopt a Resolution making certain findings required by the provisions of Government Code 4217. The initial term of this PPA shall be twenty (20) years, with an option to renew the agreement for an additional five (5) year term.

Discussion:

The County of Sonoma has a Greenhouse Gas (GHG) reduction goal of 25% below 1990 levels by the year 2020. One of the County's tools to meet this goal is supporting the installation of large and small scale solar developments. The Airport started exploring the constructability of solar five (5) years ago in conjunction with the construction of the new Long-Term parking lot. Fleet was also exploring solar construction at the main campus Fleet building. The Airport and Fleet worked in conjunction to develop a plan to achieve these goals in both locations and produce value savings to the County. In addition to meeting the sustainability goals of the County as outlined above, it was determined that solar energy could also reduce overall energy costs for the Airport and Fleet.

The proposed PV systems will reduce County electricity costs, further enhance GHG goals, and provide clean renewable energy to the Airport and Fleet building on the County Campus.

The sizes of the systems were determined in order to provide 100% of the Airport and Fleet Building electrical needs with solar energy. The Airport system will be an approximate 834kW (DC) of solar power built as a canopy structure, covering the new Long-Term south parking lot. The Fleet based system will be an approximate 77.76kW (DC) of solar power, roof mounted to the top of the Fleet building located at the main County Campus.

Projected 20-year energy savings for the Airport parking lot system is $3,108,480, while projected 20-year savings for the Fleet roof mounted system is $519,501. A detailed 20-year analysis is attached as Exhibit A to this summary.

On May 22, 2018, a Request for Proposals and Qualifications (RFPQ) was released to seek proposals for a PV energy and battery storage system located at the Airport.

The RFPQ detailed six (6) goals:

1. Enter into a PPA with a qualified entity.

2. Obtain shared-savings proposals for battery storage should the interested party deem battery storage to be viable.

3. Obtain a base proposal for solar and energy storage at the Airport which would serve approximately 17 electric accounts.

4. Obtain a preliminary airspace analysis and glare study at the Airport per Federal Aviation Administration (FAA) requirements.

5. Obtain an add-alternate proposal for the County Fleet building.

6. Obtain optional capital purchase proposals for consideration.

A pre-bid conference and site walk-thorough was held for all interested parties on June 7, 2018, which was attended by over 49 individuals, representing 29 firms. Eight (8) firms responded to the RFPQ with their qualifications meeting all minimum requirements. An evaluation team (composed of representatives from General Services, the Airport, and Kenwood Energy (participating as expert consultants) reviewed all proposals based on six (6) value factors:

1. PPA Rate ($ per kWh generated) - the set rate that is generated through solar panels.

2. PPA Rate escalation -the annual increase in the price of electricity that is used in the PPA.

3. First year PV energy cost - the estimated costs in dollars for the first year of solar energy use.

4. First year Pacific Gas & Electric (PG&E) savings - the estimated savings in dollars for the first year of solar energy use.

5. Net savings - the estimated savings in dollars calculated by subtracting the first year of savings minus the first year of energy costs.

6. Net present value - the sum of the annual savings created by the PPA, as compared to PG&E rates, over 25 years, taking into account inflation and discount rates. The final net present value, provides the ability to directly compare the value of proposals that use different PPA prices and different escalation rates.

During the evaluation process it was determined that a battery storage system would not be in the best interest of either the Airport or Fleet. This decision was based on technical analysis by Kenwood Energy, and additional data provided during interviews with responding firms. Battery storage solutions are used to reduce electricity bills by intelligently discharging energy at precise times to shave demand spikes (the highest draw from the grid during a given period). The load profile and rate tariff at both the Airport and Fleet are not suitable for batteries as energy usage does not involve enough energy spikes. The Airport has applied for a FEMA/Cal OES Hazard Mitigation Grant, which if accepted will provide for an emergency generator to be installed providing energy backup in case of emergency PG&E shut offs. Additionally, the PG&E/Sonoma Clean Power rate tariff at both sites are not ideal for storage because the power billing rate is not high enough for demand spikes to make storage economical.

After the evaluation process was completed, ForeFront Power LLC was determined to be the most qualified firm for this project and included the most cost effective solutions for developing the systems needed to energize the two locations.

Under the proposed PPA, ForeFront Power LLC will install, obtain financing, own, maintain and operate the system. The County will purchase the clean electricity generated by the system from ForeFront Power LLC over a 20 year term with an optional five (5) year renewal of terms. The County will also have an option to purchase the system completely at year six (6) and beyond, with additional early termination fees starting at $1.78 ($/kW(DC) and decreasing annually as detailed in the *PPA Airport and Fleet Special Conditions Schedule 3*. At the end of the 20-year term, the County can purchase the system at fair market value or have it removed at no

cost to the County. PV systems are usually expressed as kW (kilowatts). 1 kW is equal to 1,000 Watts. The reference to "DC" watts is for clarity because the system size can be expressed as either direct current (DC) or alternating current (AC). There are inefficiencies in converting from DC to AC such that the AC value is always lower than the DC value. For example, if the Airport system size is estimated to be 840 kW DC, then the AC value would be about 720 kW.

During the term of the PPA, the Airport and Fleet will pay ForeFront Power LLC a monthly payment for the energy services provided by the system during each calendar month equal to the production of the system for the relevant month multiplied by the kWh rate. The monthly rate schedules are charted out in the *PPA Airport and Fleet Special Conditions Schedule 2.* Estimated annual production are charted in *the PPA Airport and Fleet Special Conditions Schedule 4.* Maps of suggested locations are displayed in the *PPA Airport and Fleet Special Conditions Schedule 8.*

Government Code Section 4217.12 authorizes a public agency to enter into an energy service contract (like the proposed PPA) on terms that the public agency determines are in the best interest of the County at a public hearing and the agency finds that the anticipated costs for energy under the proposed energy service contract will be less than the anticipated costs to the County for the energy in the absence of the contract. A public notice announcing this meeting was posted by Monday, August 26, 2019.

The *FAA Airport Solar Guide* published in April 2018, discusses the advantages and disadvantages of solar energy at airports, and provides the FAA with clear procedures for reviewing solar projects, as well as acting as a reference for technical, financial, and regulatory topics. Due to limitations of some solar energy systems, solar PV has a history of providing the best value for airports today. Solar PV systems at airports have the following advantages per the FAA:

1. Most cost-effective; serving a smaller on-site energy demand as opposed to large-scale generation for an entire energy grid.

2. Maintains a low profile and modular design, compatible with airport property.

3. Designed to absorb sunlight (opposed to reflecting sunlight), minimizing impacts from glare.

4. Does not attract wildlife.

Solar PV is at a maximum benefit when the energy is generated and consumed on-site. This is a substantial advantage as the Airport would then be the generator of its own energy and consumer of the same. On the negative side, Solar PV systems introduce new structural surfaces to an airport, creating possible reflectivity resulting in glare, and therefore requiring future detailed analysis and possible alternative locations. The Airport in conjunction with the FAA, will work closely with ForeFront Power LLC to assess reflectivity using the following FAA recommended methods:

1. An analysis of potential impacts in consultation with the Air Traffic Control Tower, pilots and Airport staff.

2. A demonstration field test with solar panels at the proposed site in coordination with the Air Traffic Control tower.

3. A geometric analysis to determine days and times when there is possible glint or glare.

The Airport in coordination with ForeFront Power LLC have determined an alternate site as Parking Lot A, north of the Airport Terminal. The alternate location would only be used in the case that future FAA required reflectivity analysis determined that Parking Lot B does not pass a geometric analysis, and no remediation of that location is possible.

Upon Board approval and resolution of any reflectivity remediation, the system construction can begin within twelve (12) months, depending on FAA feedback. The system will take approximately sixteen (16) weeks to install, and operation will begin shortly thereafter. The County Fleet Operations Division Building system construction timeline mirrors that of the Airport installation.

Prior Board Actions:
None

FISCAL SUMMARY

Expenditures	**FY 19-20 Adopted**	**FY20-21 Projected**	**FY 21-22 Projected**
Budgeted Expenses			
Additional Appropriation Requested			
Total Expenditures			
Funding Sources			
General Fund/WA GF			
State/Federal			
Fees/Other:			
Use of Fund Balance			
Contingencies			
Total Sources			

Narrative Explanation of Fiscal Impacts:

ForeFront Power LLC will obtain full financing for this project. They will maintain ownership and maintenance responsibilities for the solar structure and energy produced, and sell power back to the Airport and Fleet at a discounted rate. Discounted cumulative savings for the life of the twenty (20) year agreement are $3,108,480 for the Airport, and $519,501 for the Fleet.

Staffing Impacts:			
Position Title (Payroll Classification)	**Monthly Salary Range (A-I Step)**	**Additions (Number)**	**Deletions (Number)**

Narrative Explanation of Staffing Impacts (If Required):

None

Attachments:

Power Purchase Agreement: General, Airport Specific and Fleet Specific, FAA Airport Solar Guide, Resolution, and Exhibit A: 20-Year Cost Savings Analysis.

Related Items "On File" with the Clerk of the Board:
None