



DATE: November 27, 2018

TO: Mayor and City Council

FROM: Director of Utilities & Environmental Services

SUBJECT Authorization to Negotiate and Execute a Design-build Contract with Engie Services U.S. Inc. to Build the First Phase of the Two-Megawatt Solar Photovoltaic Energy System to be Installed at the Water Pollution Control Facility (WPCF)

RECOMMENDATION

That Council adopts the attached resolution authorizing the City Manager to negotiate and execute a design-build contract with Engie Services U.S. Inc. to build the first phase of the two-megawatt solar photovoltaic energy system to be installed at the Water Pollution Control Facility (WPCF).

SUMMARY

In March this year, Council approved a new two-megawatt solar photovoltaic facility for the WPCF. The approved project was for construction of the entire facility at once and supplying the electricity generated to two recipients – East Bay Community Energy (EBCE) and Pacific Gas & Electricity (PG&E). Staff has been working with EBCE but has not been able to successfully negotiate terms of an economically viable power purchase agreement. Rather than delay the entire project, staff recommends the project be built in phases and to begin with the first phase, which is the portion of the project that will generate power for PG&E.

BACKGROUND

On March 6, 2018, Council approved a two megawatt (MW) solar project for the WPCF. As described in the March 6 Council report, 600 kilowatt (kW) of the power will be used to further offset the power demands of City facilities through PG&E's Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT) program to help the City get closer to meeting its goal of zero net energy for its municipal facilities, with the remaining 1,400 kW exported to EBCE as clean, renewable, locally produced energy.¹ Under the RES-BCT regulations, the City is authorized to produce up to five MW of power and export its excess energy to a limited number of other City facilities. Due to the existing 1.0 MW solar and 1.13 MW cogeneration facilities at the WPCF, the RES-BCT tariff allows for the addition of only 600 kW of solar energy.

¹ <https://hayward.legistar.com/LegislationDetail.aspx?ID=3361904&GUID=5FA0A52F-BE9D-4266-BFA2-E186DC901EEF&Options=&Search=>

On July 16, 2018, the Council Sustainability Committee considered a staff report about a potential feed-in-tariff (FIT) program that might be offered by EBCE.² The report noted that the FIT program would enable the City to sell power to EBCE, but that the timing of the availability of the FIT program was uncertain and had significant implications on the construction schedule of the solar facility. The report presented three different scenarios:

1. Build in Single Phase. Sell portion to PG&E through RES-BCT and portion to EBCE through FIT program.
2. Build in Two Phases. The EBCE portion would have to start within 180 days of the Notice to Proceed. The additional cost for building in two phases is estimated to be up to \$169,293. Pricing beyond 180 days cannot be guaranteed by the contractor.
3. Build in Single Phase and sell all power to PG&E.

The Committee expressed a preference for Scenario 1 because it had the shortest payback period, and the Committee voted unanimously to support Scenario 1.

DISCUSSION

Staff has been in conversations with EBCE staff since May 2018 when EBCE released a draft of its Local Development Business Plan (LDBP). The draft LDBP included recommendations for a municipal feed-in-tariff or MuniFIT program, which would offer a fixed price for power with a 20-year contract. The final LDBP, approved by the EBCE Board on July 18, 2018, includes less specificity about the MuniFIT program and suggests that the program could be implemented with a collaborative procurement that would involve several or possibly all member jurisdictions. EBCE staff have been working with the City with the understanding that the Council-approved 2 MW solar project for the WPCF needs to proceed prior to a collaborative procurement, but staff has not been able to reach tentative terms of an economically viable agreement to allow the city to recover its costs in a reasonable length of time.

Per the authorization granted by Council on March 6, 2018, staff is ready to execute a contract with a contractor (Engie) for this design build project assuming all 2 MW would be constructed in a single phase. Engie has confirmed they will honor the low bid amount of the contract price until the end of November. Due to the uncertainty associated with selling 1,400 kW to EBCE, staff recommends that the project be built in two phases and that Council authorize the City Manager to execute a contract for the first phase, which is the 600 kW RES-BCT portion of the project.

Staff has successfully obtained PG&E approval for interconnection of the RES-BCT portion of the project. The approval requires that the RES-BCT portion be constructed and interconnected to PG&E by the end of 2019. Not meeting the December 31, 2019 deadline would result in a lower rate offered by PG&E.

ECONOMIC IMPACT

² <https://hayward.legistar.com/LegislationDetail.aspx?ID=3551023&GUID=4F0D14F4-3B3B-4557-8FA2-166E0074593E&Options=&Search=>

Unlike the existing solar PV facility, the energy produced by the first phase of the new facility would almost exclusively be used for export to either other City buildings or facilities to help the City meet its ZNE goal. While the financial variables are numerous and hard to precisely predict at this time, staff believes the project's impact on City residents and businesses to be neutral.

FISCAL IMPACT

On October 3, 2018, the California Energy Commission (CEC) approved a \$2.1 million low interest loan for the RES-BCT portion of the project. The annual debt service will be paid from the Wastewater Operating Fund. Annual operating and maintenance costs will also be paid from the Wastewater Operating Fund. These expenses will be offset by the revenues from the sale of electricity to benefitting accounts.

On March 6, 2018, City Council authorized staff to negotiate and execute a contract with Engie Services U.S. for a 2 MW solar photovoltaic facility in an amount not to exceed \$5,740,000, which included the low bid of \$5,464,360 and a \$275,640 administrative change order contingency for unforeseen changes and conditions during design and construction. During preparation of the contract with Engie, part of the administrative change order budget was expended by adding a few items to the scope of work that were omitted from the original RFQ including a fire alarm panel, extending the water line for cleaning the panels, and lime treatment for the road subgrade. These items added \$131,387 to the low bid resulting in a revised contract amount of \$5,595,747, or \$2.80/watt. The remaining administrative change order contingency is \$144,253.

Subsequently, when staff realized an agreement with EBCE to accept power from the 1,400 kW portion of the project might be delayed, staff requested Engie Services U.S. to estimate the cost impact for a phased approach and to revise the contract assuming a phased approach. The phased approach assumes a notice-to-proceed (NTP) would be issued for only the RES-BCT portion of the array, and after an agreement with EBCE was reached, a second NTP would be issued for the EBCE portion of the array. Engie has indicated that they will honor the pricing included in their bid only if the second NTP is issued between 30 to 180 days following the initial NTP. This phased approach added an additional \$169,294 in additional costs primarily associated with mobilization and engineering. Under the phased approach, the facility costs are as follows:

Phase		Cost (\$)	\$/watt	Interconnect to
First Phase	RES-BCT (600kw)	\$2,150,955	\$3.58	PG&E
Second Phase	EBCE (1400kw)	\$3,614,086	\$2.58	EBCE
Overall	(2MW)	\$5,765,041	\$2.88	

Note that the higher cost per watt for the first phase (RES-BCT portion) results from higher initial costs including grading, fencing, preparing documentation such as storm water pollution prevention plans, etc., that are not required for the second phase (EBCE portion) of the project. The overall cost at \$2.88/watt is slightly higher than the cost to construct the project in one phase as noted above (\$2.80/watt).

To implement the phased approach, staff estimates the project cost will increase from \$5,740,000 to \$6,055,850, which includes \$290,809 in administrative change order

contingency. The administrative change order contingency would cover unforeseen conditions and changes during construction, as well as potential additional costs should the NTP for the second phase (EBCE portion) of the project be issued more than 180 days following the NTP for the first phase. To construct the first phase only, the cost is \$2,323,031, which includes an eight percent change order contingency.

A comparison of the total estimated project costs for the 2 MW single phase project versus the phased approach project is summarized in the following table:

	Original Costs - 2MW Constructed in One Phase	Revised Total Costs for Phased Project	Costs for First Phase Only
Design and Administration Services – City Staff	\$ 70,000	\$70,000	\$40,000
Design and Construction Contract (including administrative change orders)	\$5,740,000	\$6,055,850	\$2,323,031
Estimated PG&E Interconnection Service Upgrade fee (only applies to EBCE portion)	\$250,000	\$250,000	-
Inspection– City Staff and Third-Party Testing Companies	\$100,000	\$100,000	\$60,000
Total	\$6,160,000	\$6,475,850	\$2,423,031

STRATEGIC INITIATIVES

This agenda item supports the Complete Communities Strategic Initiative. The purpose of the Complete Communities initiative is to create and support structures, services, and amenities to provide inclusive and equitable access with the goal of becoming a thriving and promising place to live, work and play for all. This item supports the following goal and objective:

Goal 1: Improve quality of life for residents, business owners, and community members in all Hayward neighborhoods.

Objective: Create resilient and sustainable neighborhoods.

By producing more renewable energy free from greenhouse gas emissions, this project will improve the community's sustainability and in a small measure contribute to the health and wellbeing of our residents throughout the City.

SUSTAINABILITY FEATURES

Future implementation of the second phase of the project is contingent on reaching an agreement with EBCE. The installation of additional solar PV in municipal facilities would allow the City to work towards producing local, GHG-free electric energy, from renewable sources. This project will get the City a step closer to meeting the Council's stated ZNE goal for City municipal

services by 2025. The City is currently producing more than 50 percent of its electric energy from renewable sources and purchases just over 8,000 megawatt hours from PG&E. This project can potentially produce an additional 4,806 megawatt hours and get the City substantially closer to meeting its municipal ZNE goal. In addition, if the City is able to initiate a new energy purchase agreement with EBCE in the near future, the second phase of this project will enable the City to generate and sell clean, renewable, locally produced electricity for local communities.

PUBLIC CONTACT

As noted in the March 6 Council report, the California Environmental Quality Act (CEQA) Initial Study and Draft Mitigated Negative Declaration were circulated and posted for public review and comment.

NEXT STEPS

The revised estimated schedule for this project is summarized as follows:

Complete Construction Contract	December 2018
Initiate Construction on First Phase	January 2019
Begin Operation of First Phase	July 2019

Staff will continue to work with EBCE to negotiate the terms of a power purchase agreement for the remaining 1,400 kW of the project. Once tentative terms of an agreement are reached, staff will present them to Council.

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Approved by:



Kelly McAdoo, City Manager