



DATE: December 17, 2019

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT: Adopt a Resolution Authorizing the City Manager to Execute an Operations and Maintenance Agreement with Engie Services U.S., Inc., for the First Phase (Phase IIA) of the Two-Megawatt Solar Photovoltaic Energy System at the Water Pollution Control Facility (WPCF)

RECOMMENDATION

That Council adopts a resolution (Attachment II) authorizing the City Manager to negotiate and execute a 20-year Operations and Maintenance (O&M) Services Agreement with Engie Services U.S., Inc., to perform maintenance services for the Phase IIA 600 kilowatt (kW) solar photovoltaic energy system installed at the Water Pollution Control Facility (WPCF).

SUMMARY

On March 6, 2018, Council approved construction of a new two-megawatt solar photovoltaic facility at the WPCF. The approved project was for construction of the entire facility supplying the electricity generated to two recipients – East Bay Community Energy (EBCE) and Pacific Gas & Electricity (PG&E). Staff began conversations with EBCE to purchase the power under the municipal feed-in-tariff or MuniFIT program. When it became clear that the timing and availability of the FIT program was uncertain and had significant implications on the construction schedule of the solar facility, staff presented three scenarios to the Council Sustainability Committee that would allow the project to proceed. The Committee’s preferred approach was to build the project in a single phase with a portion to be provided to PG&E through RES-BCT and a portion to EBCE through the FIT program. Staff continued talks with EBCE but were unable to successfully negotiate terms of an economically viable power purchase agreement with EBCE. Subsequently, in November of this year, Council approved a phased approach beginning with the first phase (Phase IIA), which is the portion of the project that will generate power for the City facilities. Construction of the Phase IIA solar photovoltaic energy system is nearing completion and an on-going O&M services agreement is needed to maintain the equipment warranty and to ensure the system operates properly.

BACKGROUND

On March 6, 2018, Council¹ approved a two megawatt (MW) solar project for the WPCF. As described in the March 6 Council report, 600 kilowatts (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 1,400kW exported to EBCE as clean, renewable, locally produced energy. 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.

On July 16, 2018, the Council Sustainability Committee considered a staff report² about a potential feed-in-tariff (FIT) program that might be offered by EBCE. 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 a Single Phase. Transmit a portion to City facilities through PG&E using RES-BCT, and a 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 excess energy 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.

Following the Council Sustainability Committee meeting, staff continued conversations with EBCE following release of its draft 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, included less specificity about the MuniFIT program and suggested that the program could be implemented with a collaborative procurement that would involve several or possibly all member jurisdictions. EBCE staff had 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 were not 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 was ready to execute a contract with the contractor (Engie) for this design build project assuming all 2 MW would be constructed

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

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

in a single phase. Staff successfully obtained PG&E approval for interconnection of the RES-BCT portion of the project contingent on the RES-BCT portion being 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. Due to the uncertainty associated with selling 1,400 kW to EBCE, and because of the deadline for completion of the PG&E portion of the project, staff recommended that the project be built in two phases. On November 27, 2018, Council approved the phased construction and award of the first phase of the project for the 600kW RES-BCT portion of the solar facility.

DISCUSSION

Per the authorization granted by Council on November 27, 2018, the City Manager executed a contract for the Phase IIA 600kW RES-BCT portion of the project. Notice to proceed was issued on January 11, 2019, and interconnection with PG&E and a permit to operate is anticipated to be completed mid-December 2019. Under the terms of the contract with Engie, the solar facility has an energy production guarantee that is honored so long as Engie performs the Operations and Maintenance of the facility during the 20-year guarantee period. Staff negotiated an agreement for the maintenance of the facility that includes a twice a year solar panel washing in the amount of \$10,341/year with a 3% annual escalation in cost over the 20-year period.

The negotiated maintenance cost of \$10,341/year includes labor and materials for routine maintenance for the solar facility. In addition, parts of the system are warranted for ten-years including the solar generating system components (photovoltaic modules and inverters), per the design-build contract. Following expiration of the one-year warranty, any repairs (other than on the solar generating system components) are repaired on a time and materials basis. An allowance of up to \$10,000/year is estimated for miscellaneous service/repairs.

Annual or semi-annual maintenance is required for mowing and weed abatement to ensure the area around the panels are kept clear of growth that would otherwise shade the panels and reduce the solar production. Staff were unable to negotiate a reasonable rate for mowing from Engie. In addition, it is expected to be economically advantageous to combine the mowing of both the 1 MW solar field with the newly expanded solar field. Staff expect the annual or semi-annual mowing and weed abatement to cost about \$15,000/year.

The total O&M cost will vary each year depending on the actual repairs that are needed and are estimated to be approximately \$35,000/year.

ECONOMIC IMPACT

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

Staff estimates the O&M costs during the first year to be \$25,000. The first year cost is less than in subsequent years due to the entire system being covered under the one-year warranty period following completion of construction. The annual operating and maintenance costs will be paid for out of the Wastewater Operating Fund. In future years, staff will account for any additional O&M costs as part of the annual Operating Budget process.

STRATEGIC INITIATIVES

This agenda item supports the Complete Communities Strategic Initiative. The purpose of the Complete Communities initiative is to create and support structure, 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 addresses the following goal and objective:

Goal: 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. In addition, staff are pursuing other opportunities including building the second phase and leasing the energy to a neighboring utility (Union Sanitary District). Under this kind of arrangement, the District would lease the solar facility and purchase the energy from the City until such time as the WPCF's energy needs increase such that the additional solar produced can be used at the WPCF. 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, or enter into an agreement with a neighboring utility, the second phase of this project will enable the City to generate and sell clean, renewable, locally produced electricity for local communities and or nearby utilities.

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 remaining work of this project is summarized as follows:

Permit to Operate from PG&E	December 2019
Complete Construction Contract	January 2020

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. Upon Council approval of this item, the City Manager will execute the O & M agreement.

Prepared by: Suzan England, Senior Utilities Engineer

Recommended by: Alex Ameri, Director of Public Works

Approved by:



Kelly McAdoo, City Manager