



Legislation Text

File #: 2021-0351, Version: 1

DATE: January 11, 2022

SUBJECT:

SOLAR POWER PURCHASE AGREEMENT AT TENTH AVENUE MARINE TERMINAL (TAMT) TO SUPPORT THE MICROGRID INFRASTRUCTURE PROJECT

A) CONDUCT PUBLIC HEARING AND ADOPT RESOLUTION MAKING FINDINGS OF ENERGY SAVINGS FROM THE SOLAR POWER PURCHASE AGREEMENT AT TAMT PROJECT UNDER CALIFORNIA GOVERNMENT CODE SECTION 4217.10, ET SEQ.

B) ADOPT AN ORDINANCE AWARDED A POWER PURCHASE AGREEMENT TO EDF RENEWABLES DISTRIBUTED SOLUTIONS, INC. FOR THE 700-KILOWATT SOLAR PHOTOVOLTAIC SYSTEM ON THE WAREHOUSE B ROOF AT TAMT UNDER A 20-YEAR TERM.

C) ADOPT A RESOLUTION APPROVING CHANGE ORDER NO. 2 FOR CONTRACT TIME EXTENSION OF 214 DAYS FOR CONTRACT NO. 20-06, MICROGRID INFRASTRUCTURE AT TENTH AVENUE MARINE TERMINAL PROJECT, TO ALIGN PROJECT COMPLETION WITH THE POWER PURCHASE AGREEMENT DELIVERABLES, WITH NO INCREASE TO THE GRANT FUNDED BOARD APPROVED PROJECT BUDGET, PURSUANT TO BPC POLICY NO.110

EXECUTIVE SUMMARY:

On June 13, 2018, the California Energy Commission (CEC) awarded a grant in the amount of \$4,985,272.00 to the San Diego Unified Port District (District) to demonstrate a business case for microgrids in support of California's Energy and Greenhouse Gas Policies. The proposed installation of the Tenth Avenue Marine Terminal (TAMT) Microgrid System (Microgrid System) is divided into two separate components, each delivered through a separate contract. The first component, the Microgrid Infrastructure, consists of the battery energy storage system (BESS), microgrid controller, and associated electrical infrastructure. This Microgrid Infrastructure allows the District to save money through peak energy shaving, resulting from energy storage capacity created by the BESS, and provides energy reliability in the event of a grid outage. The Board of Port Commissioners (Board) approved a contract for the construction of the Microgrid Infrastructure on November 10, 2020 (through award of Contract No. 20-06). The second component consists of a solar photovoltaic system (Solar PV System), which will reduce the District's electricity expenses by offsetting District utility bills. The combined Microgrid Infrastructure and Solar PV System allows the District to operate critical systems independent of the local electrical utility in times of crisis.

The Solar PV System, as a component of the Microgrid System, is proposed for installation at TAMT Warehouse B, Bays 5 and 6 and operation through approval and execution of a power purchase agreement (PPA, referred to as an “Energy Services Agreement” in the attached contract, Attachment A) with EDF Renewables Distributed Solutions, Inc. (EDF). Through the PPA, EDF would construct, own, operate, and maintain the Solar PV System and would sell produced energy to the District (at a cost substantially less than the anticipated costs of procuring energy from San Diego Gas & Electric [SDG&E]). Execution of the PPA and construction of the Solar PV System will allow complete functionality of the Microgrid System and, as discussed below, will generate a positive net present value (NPV) (in the form of anticipated energy cost savings) of approximately \$1,029,286 over the PPA 20-year term when not accounting for the CEC grant funding applicable to the cost of the Microgrid Infrastructure. When accounting for the CEC grant funding, the District realizes a positive NPV (in the form of anticipated energy cost savings) of approximately \$4,000,000 over the PPA 20-year term.

Therefore, District staff recommends (1) awarding the PPA for the installation of a 700-kW Solar PV System for a 20-year term to EDF and (2) making certain findings of energy savings pursuant to California Government Code section 4217.10, *et seq.* (Government Code 4217) as referenced in Attachment B.

Because the Solar PV System and Microgrid Infrastructure project are components of the larger Microgrid System, the two components have necessary interdependencies. The Microgrid Infrastructure project, for instance, cannot complete installation and be considered fully operational until the Solar PV System is completed. To accommodate the expected timeline for construction of the Solar PV System, staff is seeking approval of Change Order No. 2 for Contract No. 20-06 Microgrid Infrastructure at TAMT which will extend the project an additional 214 calendar days, for a revised contract expiration of August 26, 2022, effectively enabling the Microgrid System to deliver all of its scope at no additional cost.

RECOMMENDATION:

- A) Adopt a Resolution making findings of energy savings from the installation of the 700- kilowatt Solar Photovoltaic System under a Solar Power Purchase Agreement at TAMT Project under California Government Code Sections 4217.10, *et seq.*

- B) Adopt an Ordinance awarding a Power Purchase Agreement to EDF Renewables Distributed Solutions, Inc. for the 700-kilowatt Solar Photovoltaic System on the Warehouse B Roof at TAMT under a 20-year term.

- C) Adopt a Resolution approving Change Order No. 2 for contract time extension of 214 days for Contract No. 20-06, Microgrid Infrastructure at Tenth Avenue Marine Terminal Project, to align project completion with the Power Purchase Agreement deliverables, with no increase to the grant funded Board approved project budget, pursuant to BPC Policy No.110

FISCAL IMPACT:

Funds for the Solar PV System energy cost payments are budgeted under Utilities. However, these payments were already assumed in the budget (at a higher rate/level) as utility expenses associated with costs of energy from SDG&E. Refer to Attachment B for additional details on the cost savings associated with the project. Expenses associated with the Solar PPA payments will be budgeted in future fiscal years.

COMPASS STRATEGIC GOALS:

This agenda item supports the following Strategic Goals by constructing modern infrastructure to use solar power, a renewable source of energy, which increases the District's energy resiliency and reliability at the TAMT, reduces greenhouse gas (GHG) emissions and reduces the District's cost of electrical energy from the local power provider (SDG&E).

- A thriving and modern maritime seaport.
- A Port with a healthy and sustainable bay and its environment.
- A financially sustainable Port that drives job creation and regional economic vitality.

DISCUSSION:

On June 13, 2018, the California Energy Commission (CEC) awarded a grant in the amount of \$4,985,272 to the District. The grant received was through the CEC Electric Program Investment Charge (EPIC) under the Grant Funding Opportunity (GFO-17-302) titled *Demonstrate Business Case for Advanced Microgrids in Support of California's Energy and Greenhouse Gas (GHG) Policies*. The proposed installation of the Microgrid System is divided into two separate components, each delivered through a separate contract. The first component, the Microgrid Infrastructure, consists of the BESS, microgrid controller, and associated electrical infrastructure. This Microgrid Infrastructure allows the District to save money through peak energy shaving, resulting from energy storage capacity created by the BESS, and provides energy reliability in the event of a grid outage. The second component consists of a Solar PV System, which will reduce the District's electricity expenses by reducing District utility bills and associated GHG emissions through use of solar energy. With installation of the Solar PV System, the District will purchase energy generated by the Solar PV System at a lower cost than otherwise required by purchases from SDG&E. The combined Microgrid Infrastructure and Solar PV System allows the District to operate independent of the local electrical utility in times of crisis.

On November 10, 2020 the Board authorized staff to move forward with the first component of the Microgrid System by awarding Contract No. 20-06 for the construction of the Microgrid Infrastructure at the TAMT, which includes the microgrid controller, BESS, and associated electrical infrastructure.

District staff now recommends moving forward with the second component of the Microgrid System by awarding the PPA for the installation of a 700-kW solar PV system for a 20-year term to EDF.

Solicitation Process - Request for Proposals

In accordance with Government Code 4217 public agencies are authorized to enter into energy

service contracts on terms that the governing body determines are in the best interests of the public agency, if the determination is made at a regularly scheduled public hearing, public notice of which is given at least two weeks in advance. Government Code 4217 authorizes use of any solicitation process including a RFP process based on best value to procure energy services projects. The RFP process allowed the District to evaluate proposals based on best value and through a competitive procurement process. Selection criteria was based on the following: project cost benefits; experience; approach; technology employed; and any other relevant considerations. Government Code 4217 has been used by local government entities including University of California, San Diego; the City of San Diego; and the County of San Diego.

To comply with these provisions, the governing body must find that the anticipated cost to the public agency for electrical energy provided by the energy conservation facility under the proposed contract will be less than the anticipated marginal costs to the public agency that would have been consumed by the public agency in the absence of the proposed contract.

The solicitation for the Solar PV System was published on the District’s public website in accordance with BPC Policy No. 110 on February 18, 2021 and advertised for 33 calendar days with notifications sent to over 600 vendors. On March 23, 2021, 7 proposals were received with fees ranging from \$0.0993 to \$0.1225/kilo-watt hour (kWh) for the 700-kW system for a 20-year PPA term. As compared to the SDG&E average electricity cost of \$0.24 kWh at TAMT, the solar PPA costs proposed present a clear opportunity to reduce the electricity expenses the District pays at TAMT. Proposals were received from the following companies:

Company	Proposed Cost / kWh (assuming a 20-year PPA Term)
Baker Electric	\$0.1088 / 700 kW AC
Centrica Business Solutions Services, Inc.	\$ 0.0993 / 660 kW AC
EDF Renewables Distributed Solutions, Inc.	\$0.0970* / 704 kW AC
Transition Energy / G C Electric	\$0.1075 / 700 kW AC
National Energy Partners, LLC	\$0.1225 / 625 kW AC
<u>Nexamp, Inc.</u>	\$0.1075 / 666.6 kW AC
RER Energy Group LLC	\$0.1152 / 687.5 kW AC
* Revised price increase to \$0.1090/kWh occurred during negotiations due to escalation, market fluctuations and unforeseen impacts due to COVID-19.	

Staff reviewed the proposals and qualifications March 29-30, 2021 and selected three proposers to move forward with interviews - Baker Electric, Centrica Business Solutions Services, Inc. (Centrica), and EDF Renewables Distributed Solutions, Inc. (EDF). Interviews were held on April 19, 2021 using the District’s Decision Analysis methodology, the selection panel ranked the firms according to the criteria established in the RFP. EDF was rated the highest and was ranked #1 overall. EDF

demonstrated a comprehensive technical approach to structurally integrating the Solar PV System onto the existing Warehouse B roof, demonstrated a flexible approach considering centralized versus decentralized inverter solutions, and highlighted numerous experiences working with SDG&E on the interconnection process and the City of San Diego on the permitting process. While Baker Electric, Centrica and EDF demonstrated a competitive approach to the project, EDF had the highest ranked proposal offering the best solution for the PPA, clear understanding of the interconnection process for the Microgrid Infrastructure Project and proposed a reasonable and fair cost.

The decision analysis consisted of five weighted criteria: Experience of Proposed Staff, Approach to Project, Capability to Perform, Fair and Reasonable Cost, and Firm's Relevant Experience. The selection panel consisted of two representatives from University of California San Diego (UCSD), three from Electric Power Research Institute (EPRI), two from Burns & McDonnell (Engineer of Record), and three from the District.

Since receipt of proposals for the PPA in March of 2021, there have been significant market disruptions, primarily due to COVID-19, in the global supply chains that have increased the costs in the solar industry. Over the last 9 months there have been increases to solar panel pricing and steel commodity costs. In addition, there have been labor shortages and significant shipping delays, all of which have led to inflationary pressures that can be seen throughout the entire market, including the solar market. These conditions may continue into 2022. As a result, a pricing adjustment from that originally proposed by EDF (from \$0.097/kWh to \$0.109/kWh) reflects the changes in market conditions over the last 9 months.

Government Code 4217 - Findings Analysis

Based upon the selection of EDF, District staff worked with Burns & McDonnell Engineering Company (Burns & McDonnell) and the Electric Power Research Institute (EPRI) to evaluate the cost savings that would be generated by the proposed project. The *Assessment of Supportable Government Code Section 4217 Findings for the Tenth Avenue Marine Terminal Microgrid Project and Solar Photovoltaic Array* (Findings Report, Attachment B), presents the cost savings analysis comparing the construction of the project against the energy cost savings attributable to the project. The costs evaluated are specific to the period of time the Solar PV System would be under agreement (20 years) and the modeled cost savings that would occur during this time as compared to the cost associated with the Microgrid Infrastructure project.

The analysis in the Findings Report modeled the Microgrid System using a 20-year PPA with a price of \$0.1090/kWh (the terms of the EDF PPA). The models demonstrated an average energy savings. The Findings Report concluded that the Microgrid System, as a result of the PPA energy cost savings, would result in an overall savings (from assumed SDG&E electricity bills) of approximately \$3,799,817 over the 20-year term of the PPA. The estimated Microgrid Infrastructure project construction costs are \$2,770,531. When combined, the Microgrid Infrastructure project construction costs and PPA energy savings result in a positive net present value (NPV) of approximately \$1,029,286 at a 2% discount rate, when not accounting for CEC grant funding. Even without the grant funding this project is cost-effective for the District.

The CEC grant covers the full capital cost of the Microgrid Infrastructure project (approximately \$3,800,000). The remaining grant funds and District electricity cost savings are sufficient to cover the microgrid operations and maintenance costs during the grant funding period. Overall, this project will generate a NPV benefit of approximately \$4,000,000 over 20 years when factoring in the CEC grant funds.

A notice was posted in advance of the public hearing as required by the Government Code 4217. Based on the detailed analysis of Findings Report, District staff recommends that the Board adopt findings of energy savings from the project consistent with Government Code 4217 (Attachment B).

Staff recommends the Board award to EDF Renewables Distributed Solutions, Inc. the 20-year Solar Power Purchase Agreement for the 700-kW Solar PV System on the Warehouse B Roof at TAMT (Attachment A).

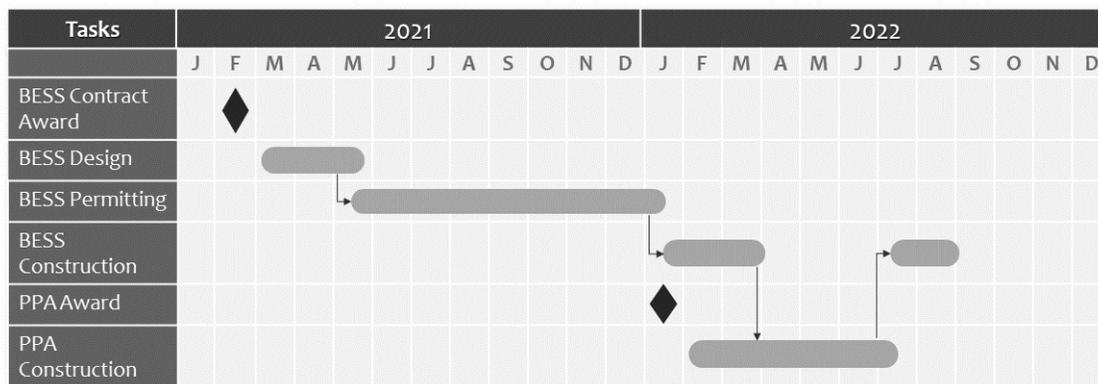
Interconnection and Coordination with the TAMT Microgrid Infrastructure Project

On November 10, 2020, the Board awarded contract No. 20-06 Microgrid Infrastructure at TAMT for permitting and construction of the microgrid BESS and supporting electrical infrastructure. The project scope also includes optimization of load shifting/peak shaving, demand response, and islanded operations, as well as a comprehensive cybersecurity assessment of the entire system to identify its cybersecurity risks and ensure its preparedness. The project is currently in the permitting phase with an anticipated construction permit issuance by the City of San Diego Development Services Department (City) in January 2022. Construction of the site improvements and installation of the BESS is anticipated to start shortly after the City's permit is issued.

Due to the interdependencies between the Microgrid Infrastructure at TAMT and the proposed Solar PV System to be delivered through the solar PPA (Figure 1), the Microgrid Infrastructure Improvements at TAMT project is able to deliver its entire project scope only when the Solar PV under the PPA is installed and connected to the Microgrid. The project's cybersecurity assessment and system optimization scope cannot be completed until the entire Microgrid System is complete. The Microgrid System isn't complete until both, BESS and Solar PV, systems are installed, and interconnected.

Figure 1 - Microgrid Infrastructure System Schedule

Microgrid System Schedule



Staff is seeking approval of Change Order No. 2 for Contract No. 20-06 Microgrid Infrastructure at TAMT which will extend the project an additional 214 calendar days, for a revised contract expiration of August 26, 2022, effectively enabling the project to deliver all of its scope at no additional cost.

General Counsel’s Comments:

The General Counsel’s Office has reviewed the agenda sheet and attachments, as presented to it, and approves them as to form and legality.

Environmental Review:

The proposed Board actions, including without limitation: 1) a Resolution adopting findings of energy savings from the Solar Power Purchase Agreement at Tenth Avenue Marine Terminal (TAMT) under California Government Code Section 4217.10, et seq.; 2) adopt an Ordinance awarding EDF Renewables Distributed Solutions, Inc. a Power Purchase Agreement for the 700 kilowatt solar photovoltaic system on the Warehouse B roof at TAMT, under a 20-year term; and 3) a Resolution approving Change Order No. 2 for a contract time extension of 214 number of days for Contract 20-06 Microgrid Infrastructure at TAMT, were adequately covered in both the Second Addendum to the Final Environmental Impact Report (FEIR) (SCH No. 2015-031046; Office of the District Clerk (ODC) Document No. 68288) and the resolutions approving installation of a renewable microgrid at TAMT, contingent on grant funding, that were prepared and certified by the District, on April 10, 2018, by the Board adopting Resolution Nos. 2018-061 and 2018-062, respectively. The FEIR for the TAMT Redevelopment Plan and Demolition and Initial Rail Component Project (UPD# EIR-2015-39 & SCH No. 2015-031046; ODC Document No. 65901), incorporated herein, by reference, prepared and certified by the District, on December 13, 2016, by the Board adopting Resolution No. 2016-199.

The proposed project is not a separate “project” for CEQA purposes but is a subsequent

discretionary approval related to a previously approved project. (CEQA Guidelines § 15378(c); *Van de Kamps Coalition v. Board of Trustees of Los Angeles Comm. College Dist.* (2012) 206 Cal.App.4th 1036.) Additionally, pursuant to CEQA Guidelines Sections 15162 and 15163, and based on the review of the entire record, including without limitation, the FEIR, the District finds and recommends that the approval of the agreement does not require further environmental review as: 1) no substantial changes are proposed to the project and no substantial changes have occurred that require major revisions to the FEIR due to the involvement of new significant environmental effects or an increase in severity of previously identified significant effects; and 2) no new information of substantial importance has come to light that (a) shows the Project will have one or more significant effects not discussed in the FEIR, (b) identifies significant impacts would not be more severe than those analyzed in the FEIR, (c) shows that mitigation measures or alternatives are now feasible that were identified as infeasible and those mitigation measures or alternatives would reduce significant impacts, and (d) no changes to mitigation measures or alternatives have been identified or are required. Because none of these factors would be triggered by the adoption of the agreement or change order for a time extension, the District has the discretion to require no further analysis or environmental documentation (CEQA Guidelines §15162(b)). Pursuant to CEQA Guidelines §15162 (b), the District finds and recommends that no further analysis or environmental documentation is necessary. Accordingly, the Board action for the proposed resolutions is merely a step to further the original project, for which environmental review was previously performed, and no supplemental or subsequent CEQA has been triggered, and no further environmental review is required.

In addition, the proposed Board action complies with Section 87 of the Port Act, which allows for (1) the establishment, improvement, and conduct of a harbor, and for the construction, reconstruction, repair, maintenance, and operation of wharves, docks, piers, slips, quays, and all other works, buildings, facilities, utilities, structures, and appliances incidental, necessary, or convenient, for the promotion and accommodation of commerce and navigation. The Port Act was enacted by the California Legislature and is consistent with the Public Trust Doctrine. Consequently, the proposed Board action is consistent with the Public Trust Doctrine.

Finally, the proposed Board action is considered “excluded development” pursuant to Sections 8.a. (Existing Facilities), 8.b (Replacement or Reconstruction) and/or 8.c (New Construction or Conversion of Small Structures) of the District’s Coastal Development Permit (CDP) Regulations because it involves minor alterations involving negligible expansion of the existing use and will have substantially the same purpose and capacity as the existing facilities; therefore, issuance of a CDP is not required.

Diversity, Equity, and Inclusion Program:

For the Solar PV Project solicitation, due to limited known sub opportunities, bonus points for Diversity Equity and Inclusion (DEI) participation categories were made available but not claimed by EDF. One subcontractor was listed as part of EDF’s team: Gomez Engineering Group of Chula Vista, California.

For Contract No. 20-06 (Microgrid Infrastructure, already awarded), EDF received DEI bonus points and listed two (2) small business enterprise (SBE) subcontractors out of 3 for a total of 30% SBE participation.

PREPARED BY:

Renée Yarmy
Program Manager, Energy & Sustainability, Maritime

Eric Guerreiro
Capital Project Manager, Engineering-Construction

Attachment(s):

Attachment A: Energy Services Agreement with EDF Renewables Distributed Solutions, Inc. for a 700-kilowatt Solar Photovoltaic System

Attachment B: Assessment of Supportable Government Code Section 4217 Findings for the Tenth Avenue Marine Terminal Microgrid Project and Solar Photovoltaic Array

Attachment C: Change Order No. 2 to Contract 20-06 Microgrid Infrastructure at TAMT