



RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: JANUARY 11, 2021

SUBJECT: REQUEST FOR PROPOSALS 1984 – WORK ORDER NO 2028762 FOR ENERGY STORAGE SYSTEM AND PHOTOVOLTAIC INTEGRATION STUDY WITH STANTEC CONSULTING SERVICES, INC. IN FOR A TOTAL CAPITAL EXPENDITURE IN THE AMOUNT OF \$120,000

ISSUE:

Consider approval of Work Order No. 2028672 with Stantec Consulting Services, Inc. for the Energy Storage System and Photovoltaic Integration Study in the amount of \$120,000.

RECOMMENDATION:

That the Board of Public Utilities approve Work Order No. 2028672 for the Energy Storage System and Photovoltaic Integration Study with Stantec Consulting Services, Inc. in the amount of \$120,000.

BACKGROUND:

The Tequesquite Landfill Solar Photovoltaic (PV) Project was completed in 2015. It is a 7.5 Megawatt (MW) solar power farm that is operated by Sun Power, LLC on top of the City owned decommissioned Tequesquite landfill, near Rubidoux Avenue and the Santa Ana River Trail. The project demonstrated a unique and innovative approach that Riverside used to leverage local land resources into renewable power for the benefit of the community. The solar power is purchased by Riverside Public Utilities (RPU) and is directly fed into the local electrical grid and is enough to power about 1,600 homes.

RPU's latest solar Power Purchase Agreement (the 44 MW Camino project) includes an 11 MW / 44 MWh BESS. However, given the recent California Independent System Operator (CAISO) load shedding events, it is very likely that in early 2021, the California (CA) State Legislature could pass one or more new laws that mandate all CA Load Serving Entities (i.e., Investor Owned Utilities, Public Owned Utilities, and Community Choice Aggregators) to procure additional energy storage systems. Hence, this represents an opportune time to study the cost/benefit merits of a Battery Energy Storage System (BESS) at Tequesquite PV, in anticipation of these potential future mandates

The benefits of a BESS were examined in the 2018 Integrated Resource Plan (IRP), but primarily from the perspective of a stand-alone system that would be controlled by the CAISO. The 2018

IRP did not explicitly examine the concept of a BESS added to Tequesquite PV, where such a system could also be used to address distribution grid deficiencies. RPU staff does not have the software or expertise to perform such an analysis.

A BESS uses rechargeable batteries to store energy from solar production, or other energy sources. A BESS uses advanced technology to perform rapid functions that are critical to electric grid operations, including when to discharge the energy into the grid from the battery system. Adding an energy storage system that is integrated with the existing Tequesquite PV facility will modernize part of the existing RPU distribution network into a resilient electric grid. Diversity of energy sources is a benefit to sustainable power provision and grid security. Over the longer term, the integrated system has the potential to improve both reliability and power quality on the electric distribution system.

This joint project between Energy Delivery and Power Resources achieves the following potential benefits that can be realized from this type of integrated system:

- Participation in the wholesale energy market
- Improved system efficiency/reduced losses
- Increase Resource Adequacy factor for the renewable resource
- Sustainable and environmentally friendly energy sources
- Improved power quality, electric service, and reliability
- Voltage/volt ampere reactive (VAR) control capabilities for efficient grid operations

In addition, co-locating the PV and an energy storage system produces cost savings by reducing costs related to site preparation, land acquisition, permitting, interconnection, installation labor, and overhead. The inclusion of battery energy storage, when paired with PV resources, will allow RPU to comply with emerging energy regulations while also providing greater flexibility, resiliency, and efficiency in the allocation of resources.



Existing Tequesquite Landfill 7.5MW Solar system



Typical Photovoltaic with Battery Energy Storage System

DISCUSSION:

The scope of work consists of developing the business case, technical performance requirements, and procurement specifications for an energy storage system located at Tequesquite Landfill Solar PV facility. The selected Consultant will develop a preliminary system design study and support the City in structuring a Request for Proposals (RFP) for the construction of the energy storage system by a developer that will build, own, and operate the energy storage system and provide services to the City through a Power Purchase Agreement (PPA). Power Resources staff will take the lead on the construction of the energy storage system and PPA with support from Energy Delivery staff.

On July 22, 2019, the Board of Public Utilities (Board) approved the Master Professional Services Agreements for the Energy Delivery Consultant Panel (Consultant Panel) in response to RFP No. 1890, and authorized the City Manager, or designee, to execute the Master Professional Consultant Services Agreements, including making minor non-substantive changes, and execute supplemental agreements with each consultant upon approval of the expenditure by the Board.

The Energy Storage System and Photovoltaic Integration Study project was determined by staff to be sent by invitation only to the current Consultant Panel. Under the current Consultant Panel, the only requirement is for the RPU Board to approve a Work Order; a Consultant Panel Supplemental Agreement does not have to go back to Board for approval. Changes to the Board memo can be made to add other proposal information, but it would be inconsistent with the current Electric process for processing Consultant Panel Supplemental Agreements

RPU solicited an RFP for professional consultant services from six qualified firms from the Energy Delivery Consultant Panel for an energy storage system and solar PV integration study. RFP No. 1984 was posted on the City's online bid system on October 10, 2019 and closed on November 12, 2019.

Three firms submitted proposals for the specified scope of work. Staff evaluated the proposals and ranked Stantec Consulting Services Inc. as the most qualified consultant based on the criteria outlined in the RFP. The fee proposal submitted by Stantec Consulting Services, Inc. is within the engineer estimate of \$175,000. The costs submitted by bidders ranged from \$101,372 to \$174,800.

Vendors	Weighted Score Evaluations						
	Approach & Methodology (20%)	Experience (20%)	Professional References (10%)	Qualifications (30%)	Cost (20%)	Total Score	Rank
Stantec Consulting Services, Inc.	133	127	70	215	200	745	1
HDR, Inc.	140	130	60	205	144	679	2
GL PwrSolutions, Inc. (DNV GL)	120	130	60	205	126	641	3

RPU staff will coordinate with Stantec Consulting Services, Inc. during the study and development of an RFP for the construction of an energy storage facility to eliminate any negative visual impacts to the project and surrounding areas, with sensitivity to the existing neighborhood, and within City Planning guidelines for the designated area.

The project/fiscal breakdown is as follows:

Project and Fiscal Breakdown		
Work Type	Performed By:	Amount:
Project Management and Engineering	RPU	\$8,491
Professional Services (Consultant Panel)	Stantec Consulting Services Inc.	\$101,372
Contingency (Professional Services 10%):		\$10,137
Work Order Total:		\$120,000
Anticipated Start Date:		January 2021
Anticipated Completion Date:		March 2021

The Purchasing Manager concurs that the recommended actions are in compliance with Purchasing Resolution No. 23256.

FISCAL IMPACT:

The total fiscal impact is \$120,000. Sufficient funds are available in Public Utilities Electrical Capital Account No. 6130000-470655.

Prepared by:	George R. Hanson, Utilities Assistant General Manager/Energy Delivery
Approved by:	Todd M. Corbin, Utilities General Manager
Approved by:	Al Zelinka, FAICP, City Manager
Approved as to form:	Kristi J. Smith, Interim City Attorney

Certifies availability of funds:	Edward Enriquez, Chief Financial Officer/City Treasurer
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Attachment:

1. Project Site Map
2. Presentation