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Title: RESOLUTION SELECTING AND AUTHORIZING A SINGLE SOURCE AGREEMENT WITH THE ELECTRIC POWER RESEARCH INSTITUTE, AN IDENTIFIED SUBCONTRACTOR IN THE SAN DIEGO UNIFIED PORT DISTRICT'S APPLICATION TO THE CALIFORNIA ENERGY COMMISSION'S GRANT FUNDING OPPORTUNITY-17-302, FROM MAY 14, 2019, UNTIL MARCH 31, 2023, FOR SUPPORT OF THE TENTH AVE MARINE TERMINAL RENEWABLE MICROGRID INCLUDING: MICROGRID DESIGN, CONSTRUCTION, AND OPERATIONS AND MAINTENANCE SUPPORT; CYBER SECURITY ARCHITECTURE ASSESSMENT; AND MEASUREMENT VERIFICATION PLAN AND REPORT FOR AN AMOUNT NOT TO EXCEED \$419,997, REIMBURSED THROUGH THE CALIFORNIA ENERGY COMMISSION GRANT AGREEMENT NUMBER EPC-17-049

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Attachments: 1. 15. 2018-0568 Attachment A, 2. 15. 2018-0568 Draft Resolution

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5/14/2019	1	Board of Port Commissioners	adopted	

DATE: May 14, 2019

SUBJECT:

RESOLUTION SELECTING AND AUTHORIZING A SINGLE SOURCE AGREEMENT WITH THE ELECTRIC POWER RESEARCH INSTITUTE, AN IDENTIFIED SUBCONTRACTOR IN THE SAN DIEGO UNIFIED PORT DISTRICT'S APPLICATION TO THE CALIFORNIA ENERGY COMMISSION'S GRANT FUNDING OPPORTUNITY-17-302, FROM MAY 14, 2019, UNTIL MARCH 31, 2023, FOR SUPPORT OF THE TENTH AVE MARINE TERMINAL RENEWABLE MICROGRID INCLUDING: MICROGRID DESIGN, CONSTRUCTION, AND OPERATIONS AND MAINTENANCE SUPPORT; CYBER SECURITY ARCHITECTURE ASSESSMENT; AND MEASUREMENT VERIFICATION PLAN AND REPORT FOR AN AMOUNT NOT TO EXCEED \$419,997, REIMBURSED THROUGH THE CALIFORNIA ENERGY COMMISSION GRANT AGREEMENT NUMBER EPC-17-049

EXECUTIVE SUMMARY:

In June 2018, the Board of Port Commissioners (Board) approved the San Diego Unified Port District (District) Agreement with the California Energy Commission (CEC) for the District's Resiliency in Terminal Operations Project (Renewable Microgrid) at the Tenth Avenue Marine Terminal (TAMT). The project was recommended for grant funding by the CEC in the amount of \$4,985,272, with a total anticipated cost of \$9,615,208.

During the grant application process, the Electric Power Research Institute (EPRI) provided significant technical expertise and staffing resources to make the District's grant application a success and to conform to the terms of the Electric Program Investment Charge (EPIC) Program grant requirements. EPRI is a leader in renewable energy, battery storage microgrid implementation, cyber security and evaluation, and brings the expertise needed to make the District's project a successful and replicable microgrid model with broad applications at other seaports, goods movement centers, and industrial facilities. As a California-based nonprofit research institution, EPRI's involvement helped the District gain the maximum available points (15 total) provided that the EPIC Program places preference on projects that spend funds in California.

This agenda item requests that the Board authorize a single source agreement with EPRI in accordance with Board of Port Commissioners (BPC) Policy 110, Section II.H in the amount of to \$419,997 (Attachment A). The agreement with EPRI will be reimbursed through the CEC grant funds and will execute specialized tasks including: assistance with the design, construction operations and maintenance review of the microgrid system; development of a cyber security assessment; measurement verification planning; and participating in the knowledge transfer activities required for the microgrid project.

RECOMMENDATION:

Adopt a Resolution selecting and authorizing a single source agreement with the Electric Power Research Institute, an identified subcontractor in the San Diego Unified Port District's application to the California Energy Commission's Grant Funding Opportunity-17-302, from May 14, 2019, until March 31, 2023, for support of the Tenth Avenue Marine Terminal Renewable Microgrid including: microgrid design, construction, and operations and maintenance support; cyber security architecture assessment; and measurement verification plan and report for an amount not to exceed \$419,997, reimbursed through the California Energy Commission Grant Agreement Number EPC-17-049

FISCAL IMPACT:

The Agreement with the Electric Power Research Institute will be fully funded through the CEC Grant Fund in the amount of \$419,997.

COMPASS STRATEGIC GOALS:

This agenda item supports the following Strategic Goals.

- A thriving and modern maritime seaport.
- A Port with a healthy and sustainable bay and its environment.
- A Port that is a safe place to visit, work and play.
- A financially sustainable Port that drives job creation and regional economic vitality.

DISCUSSION:

Background

In June 2018, the Board approved the District's Agreement with the CEC for the Grant Funding

Opportunity (GFO), GFO-17-302, titled “Demonstrate Business Case for Advanced Microgrids in Support of California’s Energy and Greenhouse Gas Policies” funded through the Electric Program Investment Charge (EPIC) Program¹. The purpose of the grant is to fund the deployment and demonstration of advanced energy and microgrid technologies that move toward replicable deployment. The District microgrid project includes the installation of a 700-kilowatt rooftop solar photovoltaic (PV), a 2,500-kilowatt-hour lithium-ion battery energy storage system (BESS), a microgrid controller, energy efficiency improvements to terminal lighting, and electrical infrastructure upgrades at TAMT.

The microgrid project implements a mitigation requirement identified in the TAMT Redevelopment Plan Final Environmental Impact Report (EIR) and facilitates Climate Action Plan progress by increasing renewable energy and energy efficiency, thereby reducing greenhouse gas (GHG) emissions (pursuant to EIR Mitigation Measure GHG-6, State Clearinghouse (SCH) No. 2015-031046)². The installation of a Renewable Microgrid at TAMT is estimated to result in a reduction of 360 metric tons of carbon dioxide equivalent annually.

Additional project benefits include cost savings and increased energy security and resiliency. The use of the BESS coupled with solar PV and the microgrid controller will allow the District to participate in demand response programs by reducing or shifting electricity usage during peak periods in response to time-based rates or other forms of financial incentives resulting in reduced electric utility expenses. In addition, the microgrid system will increase the District’s ability to provide back-up power to District operated critical facilities at TAMT, including security infrastructure, site lighting and the existing jet fuel pump, during grid interruptions. The project aims to advance California’s energy and GHG reduction policies through electrification, resiliency, technological advancement, and replicability.

Single Source Justification - Electric Power Research Institute

Pursuant to BPC Policy 110, Section II.H, staff is requesting authorization to enter into a single source agreement with EPRI to support the implementation of the microgrid project (Attachment A). During the grant application process, the CEC required an extensively detailed description of the project and involved service providers to ensure adequate responsiveness to the grant required tasks. EPRI, a California headquartered nonprofit research institution, and the National Renewable Energy Laboratory, a Colorado based nonprofit research institution, both expressed interest to the District to serve as partners on the project for tasks associated with cyber security and measurement and verification. The EPIC grant terms, however, had preference for the grant funds to be spent in California. To be competitive in the grant application process, staff felt it was necessary to gain as many points where possible by prioritizing vendors operating in the state of California, therefore gaining 100% of the possible points in this evaluation area. EPRI was identified as a more appropriate teaming partner on the grant because they are based in California.

EPRI conducts research, development, and demonstration projects for public interest energy and environmental research, focusing on electricity generation, delivery, and technology advancement. EPRI is a leader in renewable energy, battery storage microgrid implementation and evaluation, and brings the expertise and experience needed to make the District’s project a successful and replicable microgrid model with broad applications at other seaports, goods movement centers, and industrial facilities.

During the grant application process, EPRI provided pro-bono services to the District, including the

preparation of the grant required StorageVET™ modeling of the BESS and provided significant contributions to the grant proposal and development of project tasks to fulfil the CEC's requirements. As the developer of the StorageVET™ modeling tool, an open-source BESS evaluation and modeling software, EPRI was in a unique position to provide a deeper understanding of the tool, further increasing the District's competitiveness and efficiency in meeting the grant requirements. EPRI also assisted in the facilitation of the District's understanding of CEC grant development and selection processes by providing insight into their past and current experience receiving CEC grants. In summary, EPRI played a key role in the District's CEC grant application, by contributing significant hours to the development and review of the grant proposal, preparation of the BESS evaluation using the StorageVET tool, and added additional points to the District's application by increasing the amount of grant funds allocated to entities operating in the state of California.

As an identified partner, EPRI was included in the District's approved grant with the CEC in the amount of \$419,997 to execute specialized tasks including assistance with the design, construction and operations and maintenance review; cyber security assessment; measurement verification planning; and participating in the knowledge transfer activities required for the microgrid project. Additional details are provided below.

Microgrid Project Support Services

EPRI will provide modeling and microgrid evaluations throughout all phases of the project consistent with the requirements of and funded by the grant Agreement. This includes the development of a Measurement and Verification Plan for the project during the 12-month demonstration period. Testing and evaluation of the microgrid functionality will focus on the project's four distributed energy resources (DER) elements and will include the following assessments: (1) Energy Efficiency Savings; (2) Solar PV + BESS Operational and Financial Performance; (3) Islanded Operations Performance; and (4) Demand Response Financial Performance. During the demonstration period, staff is proposing that EPRI collect 12-months of data on the many benefits of the operation of the microgrid along with installation issues, microgrid performance and operational constraints, the effectiveness of the microgrid to respond to grid emergencies, and cost savings.

EPRI will evaluate the operational stability and cyber security features of the microgrid system. This includes hardening the microgrid system against cyber security incidents during the design and construction of the microgrid. This task focuses on the development of a cyber security architectural assessment for the microgrid based on a high-level risk assessment and in close coordination with District staff. The risk assessment process involves several steps and engagement with District subject matter experts to identify key assets, characterize potential threats, assess vulnerabilities and impacts, assess the threat likelihood, determine risk, and recommended security controls. Examples of security controls and hardening techniques include changing default passwords, disabling unneeded communication ports and services, and leveraging network switches to "white list" traffic to only authorized network equipment to communicate within the network. Additionally, security testing will need to be performed prior to the system becoming operational to ensure that the security controls are properly implemented per the District's requirements. Once in operation, the equipment event logs - from network switches to protective relays - will require periodic reviews to verify that occurrences of unnoticed intrusions have not been occurring. As new cyber threat vectors are identified, the system will be re-evaluated to determine if changes in hardware or procedures are warranted.

EPRI will contribute to technology and knowledge transfer activities throughout all phases of the

project in coordination with other grant partners. This includes District hosted site visits at TAMT, presentation of key findings and outcomes in technical journals and at conferences hosted by University of California, San Diego and EPRI, participation in microgrid workshops, as well as exporting the lessons learned from the District's project to future microgrids.

EPRI Project Experience

Relevant EPRI project experience includes the following:

- a) Critical Microgrid Facility Resiliency in New York State and NY Prize Competition Project (Report Published September 2014), Funding Source: New York State Energy Research and Development Authority (**NYSERDA**);
- b) Cost-Effectiveness of Energy Storage in California (Report Published June 2013), Funding Source: **EPRI**;
- c) Microgrid Feasibility Study Report (Report Published December 2013), Funding Source: **EPRI**;
- d) Grid Interactive Microgrid Controller for Resilient Communities, Funding Source: **DOE**;
- e) Modular, Cyber-Secure, and Replicable Microgrid Control System for Generation and Storage Management at Military Installations, dated November 2015, Funding Source: **DoD ESTCP**;
- f) Transportable Microgrid with Energy Storage, dated November 2016, Funding Source: **DoD ESTCP**;
- g) Microgrid Valuation and Optimization Tool, Notice of Award February 2, 2018, Funding Source: **CEC**;
- h) Commercializing Virtual Wide Area Urban Microgrids for Grid Resiliency and Disaster Readiness, Notice of Award Feb 20th, 2018, Funding Source: **CEC**; and
- i) APS Solar Partner Program: Research Highlights (Report Published January 2017); Funding Source: **EPRI**.

Conclusion

Staff is requesting authorization to enter into a Single Source Agreement with EPRI to provide consulting support services per Section II.H. of Board of Port Commissioners Policy 110. EPRI is recognized by the CEC for their valuable service expertise, microgrid experience, and past and current work with local, state, and federal government agencies, and private sector industry. The services proposed for EPRI are grant reimbursable expenses which were considered in the grant proposal and subsequent agreement negotiation with the CEC. By working with EPRI, the District will benefit from their national and global experience, increasing the CEC's goals for repeatability of microgrids at industrial facilities throughout California and beyond.

General Counsel's Comments:

The Office of the General Counsel reviewed this agenda and approved the proposed agreement as to form and legality.

Environmental Review:

The proposed Board action would authorize staff to enter into a single source agreement with EPRI from May 14, 2019 until March 31, 2023 for support of the TAMT Renewable Microgrid for an amount not to exceed \$419,997, reimbursable through the CEC grant agreement for \$4,985,272 million in funds, approved by the Board on June 12, 2018 by adopting Resolution No. 2018-0185. The Microgrid was adequately covered in the Second Addendum to the Final Environmental Impact

Report (FEIR) (SCH No. 2015-031046; ODC Document No. 68288) and resolution approving installation of a renewable microgrid at TAMT, contingent on grant funding, that was 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 (SCH No. 2015-031046), 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 California Environmental Quality Act (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, 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 proposed Board action is merely a step in furtherance of the original project for which environmental review was 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 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.

Equal Opportunity Program:

Not applicable.

PREPARED BY:

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Attachment(s):

Attachment A: Agreement - Electric Power Research Institute

1. [Granicus File Number 2018-0185 <https://portofsandiego.legistar.com/LegislationDetail.aspx?ID=3522387&GUID=1D65E56D-E96A-4AD2-B2A3-950225155842>](https://portofsandiego.legistar.com/LegislationDetail.aspx?ID=3522387&GUID=1D65E56D-E96A-4AD2-B2A3-950225155842)
2. [Granicus File Number 2018-0086 <https://portofsandiego.legistar.com/LegislationDetail.aspx?ID=3470783&GUID=C52F676E-8559-45AE-B997-E3E1B686A998>](https://portofsandiego.legistar.com/LegislationDetail.aspx?ID=3470783&GUID=C52F676E-8559-45AE-B997-E3E1B686A998)