



- Board of Directors  
*Engineering & Operations Committee*

9/14/2021 Board Meeting

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7-2

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## Subject

Award an \$11,604,521 contract to Ameresco, Inc. for construction of battery energy storage systems at the Joseph Jensen and Robert A. Skinner Water Treatment Plants; and authorize increase of \$550,000 to an agreement with Stantec Inc. for engineering services for a new not-to-exceed total of \$1,450,000; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

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## Executive Summary

The planned storage system (BESS) facilities at the Jensen and Skinner plants will enhance the efficiency of Metropolitan's long-term power use, provide a hedge against projected electricity price increases, and improve the resiliency of the electric supply at these facilities. Moving forward with the construction of BESS facilities, at this time, is necessary to ensure Metropolitan receives the California Public Utilities Commission's enhanced incentives for microgrid-capable BESS. The incentive agreement stipulates specific project completion timelines. Metropolitan submitted applications to the incentive program in May 2020. The applications have been accepted, and a total of \$6 million has been conditionally reserved for the two projects. Award of the construction contract at this time will allow this project to be completed within the prescribed incentive timelines.

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## Details

### Background

In 2010, Metropolitan's Board adopted Energy Management Policies intended to contain energy costs and reduce exposure to price volatility through the implementation of cost-effective alternative energy projects. The policy objectives directly related to battery energy storage development include:

- Contain costs and reduce exposure to energy price volatility.
- Increase operational reliability by providing system redundancy.
- Provide a revenue stream to offset energy costs.
- Move Metropolitan toward energy independence.

Prior to the adoption of the Energy Management Policies, Metropolitan implemented a 540-kilowatt solar facility at the Center for Water Education at Diamond Valley Lake in 2006 and a one-megawatt solar facility at the Skinner Water Treatment Plant in 2009. Guided by the Board-adopted Energy Management Policies, Metropolitan added three megawatts of solar generation at the Weymouth plant in 2016 and one megawatt of solar generation at the Jensen plant in 2018.

In 2020, Metropolitan completed the Energy Sustainability Plan effort to identify new projects and initiatives within the Energy Management Policies' framework. The Energy Sustainability Plan combined an analysis of Metropolitan's electricity charges and a holistic multi-criteria decision analysis framework, in which potential projects were vetted against a range of future scenarios based upon historical water and power demands and time-of-use tariff updates. Through this effort, BESS facilities at the Jensen, Skinner, and Weymouth plants and at OC-88 Pumping Plant were recommended for near-term implementation. The projects will provide electricity cost savings and improve operational flexibility and resiliency at these critical facilities.

**Self-Generation Incentive Program Available for Jensen, Skinner, Weymouth, and OC-88**

The Self-Generation Incentive Program (SGIP) is a California Public Utilities Commission (CPUC) program that provides enhanced rebates for installing battery energy storage systems at critical facilities serving low-income/disadvantaged communities, or that are located within a CPUC-designated high fire threat district.

In May 2020, Metropolitan submitted four applications to the SGIP for a combined total of \$10.3 million in incentives for the Jensen, Skinner, Weymouth, and OC-88 facilities. In August 2020, Metropolitan received conditional reservation letters for \$3 million in incentives for the Jensen BESS project, \$3 million in incentives for the Skinner BESS project, and \$1.75 million in incentives for the OC-88 BESS project applications. The Weymouth BESS project application was placed on the waitlist. The SGIP incentive will be paid to Metropolitan in phases: 50 percent at project completion, with the remaining 50 percent paid equally over five years upon annual proof of 5 kgCO<sub>2</sub>/kWh reduction in greenhouse gas emissions.

In October 2020, the Board amended the biennial Capital Investment Plan (CIP) for Fiscal Years 2020/21 and 2021/22 to include BESS facilities at the Jensen, Skinner, and Weymouth plants, and at OC-88 Pumping Plant. Preliminary design was completed in January 2021 for BESS facilities at these four locations. Significant cost increases to meet new requirements from the Orange County Fire Authority for the OC-88 project were identified in preliminary design. These cost increases negated the potential financial benefits of the project as originally described in the October 2020 board action. Metropolitan subsequently withdrew its application with SGIP for a BESS facility at OC-88, cancelled the project, and received reimbursement of the \$87,546 application fee.

In May 2021, Metropolitan received confirmation for \$2.125 million in incentives for the Weymouth BESS application. Final design for the Weymouth BESS project was started in June 2021, and staff plans to return to the Board to award a construction contract for Weymouth BESS facilities in February 2022.

In accordance with the April 2020 action on the biennial CIP budget for Fiscal Years 2020/21 and 2021/22 and the October 2020 board action to include this project in the CIP plan, the General Manager will authorize staff to proceed with construction of BESS facilities at the Jensen and Skinner plants, pending board award of the construction contract described below. Based on the current CIP expenditure forecast, funds for the work to be performed pursuant to this action during the current biennium are available within the CIP Appropriation for Fiscal Years 2020/21 and 2021/22 (Appropriation No. 15521). Funds required for work to be performed pursuant to the subject contract after Fiscal Year 2021/22 will be budgeted within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24. This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the Cost Efficiency and Productivity Program.

**Jensen and Skinner Battery Energy Storage Systems - Construction**

The scope of work for the construction contract includes: (1) site grading and paving; (2) furnishing and installation of BESS equipment, unit substation, conduits, and cables to the power substation and appurtenant electrical equipment; (3) construction of equipment pads; (4) furnishing, installing, and programming of monitoring and control systems with microgrid capability; and (5) access road improvements at the Skinner site to meet requirements from the Riverside Fire Department. Metropolitan force construction includes installation of a 300-foot-long electrical duct bank at the Skinner plant, cyber security protection systems, and network infrastructure; control and protection modifications to the electrical switchgear at the Jensen plant; and supervisory control and data acquisition programming. Also, for each site, a contract for fiber optic cable installation will be awarded under the General Manager's administrative code authority to award contracts under \$250,000 or less.

A total of \$16.4 million has been budgeted for this work. Besides the amount of the contract, other allocated funds include: \$1,278,000 for construction management and inspection; \$125,000 for Metropolitan force activities as described above; \$614,000 for Metropolitan staff to review contractor's design package and submittals and to support testing and commissioning of the BESS system; \$550,000 for construction support by Stantec as described below; \$709,000 for contract administration, environmental monitoring, incentive program administration, utilities interconnection agreement applications, and project management; \$460,000 for fiber optic

cable installations at the Jensen and Skinner plants; \$258,000 for communication equipment, materials, and fees; and \$801,479 for remaining budget.

#### **Award of Construction Contract (Ameresco, Inc.)**

Specifications No. 1998 to furnish and construct BESS facilities at the Jensen and Skinner plants was advertised for bids on June 1, 2021. As shown in **Attachment 2**, three bids were received and opened on July 29, 2021. Two bidders did not submit materials at the time of bid in compliance with the requirements outlined in the bid documents. These two bids were deemed to be non-responsive. The bid from Ameresco, Inc., in the amount of \$11,604,521, complies with the requirements of the specifications. The engineer's estimate was \$7,650,000. Staff investigated the difference between the engineer's estimate and the low bid. The key differences are attributed to increased costs for specialized battery and electrical equipment such as transformers, programmable logic controllers, and switchgear; the high volume of construction currently underway in the region, which limited subcontractor bids; and the greater than expected contractor staffing level required to complete construction at two sites within the term of the SGIP milestones. Metropolitan established a Small Business Enterprise (SBE) participation level of at least 5 percent of the bid amount. Ameresco, Inc. has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

This action awards a \$11,604,521 contract to Ameresco, Inc. to construct BESS facilities on the grounds of the Jensen and Skinner plants. The total cost of construction for this project is \$12,447,521, which includes the amount of the contract (\$11,604,521), fiber optic cable installation (\$460,000), material and supplies (\$258,000), and Metropolitan force activities (\$125,000). Engineering Services' goal for inspection of projects with construction greater than \$3 million is 9 to 12 percent. For this project, the anticipated cost of inspection is approximately 10.3 percent of the total construction cost.

#### **Alternatives Considered**

In light of the higher bid than expected bids, staff considered cancelling the project. However, even with the higher bid, the net present value of the project ranged from \$2.6 million to \$3.5 million in energy cost savings over 10 years. The payback period for the project now ranges from five to six years, compared to a three-year payback under the original assumptions. In addition, the recently completed Energy Sustainability Plan identified additional project benefits that include reducing Metropolitan's greenhouse gas emissions (GHG) and supporting the Climate Action Plan's proposed GHG reduction target, increasing operational flexibility and resiliency at critical facilities, and contributing to regional power resilience in southern California by reducing demands on the grid during critical peak periods.

Staff also considered several alternatives in order to meet the SGIP construction completion milestone. Initially, staff sought to include all work for the BESS project in a single contract. However, critical construction activities were reviewed, and risks identified that could impact the construction schedule. Work was then identified that can be performed by Metropolitan forces to minimize delay risks and avoid multiple plant shutdowns. Metropolitan forces will install a new electrical duct bank at the Skinner plant in advance of the contract so that the contractor can expeditiously connect the BESS to the plant electrical system. At the Jensen plant, control and protection modifications to the electrical switchgear will also be performed by Metropolitan forces in advance of the construction contract. This approach will take advantage of a planned plant shutdown for the Jensen Electrical Upgrade project.

Staff also considered issuing separate contracts for each of the BESS sites, instead of combining the two sites into one contract. With the current approach to project implementation, Metropolitan will benefit from economies of scale on the cost of the BESS equipment. In addition, by having the same BESS design and manufacturer for both Skinner and Jensen plants, the operation and maintenance of the BESS will be more efficient due to standardized spare parts requirements and staff training.

#### **Technical Support During Construction (Stantec Inc.) – Amendment to Agreement**

Stantec Inc. performed final design of the BESS facilities at the Jensen and Skinner sites. Stantec was prequalified via Request for Qualifications No. 1215 and was selected to provide engineering services for the BESS facilities based on their specialized expertise. As the engineer of record, Stantec is recommended to provide technical support during construction. This support includes review of the contractor-supplied systems

and equipment, review of shop drawing submittals, and responding to requests for information from the contractor; advising staff on technical issues that may arise, and preparing record drawings. The estimated cost for Stantec to provide these services is \$550,000. For this agreement, Metropolitan has established an SBE participation level of 5 percent. Stantec has agreed to meet this level of participation. The planned subconsultants for this agreement are Project Line Technical Services, Inc. and Integrated Engineering Management.

This action authorizes an increase of \$550,000 to the existing agreement with Stantec Inc., for a new not-to-exceed total of \$1,450,000, to provide technical support during construction of the BESS facilities.

### **Summary**

This action awards a \$11,604,521 contract to Ameresco, Inc. to construct BESS facilities at the Jensen and Skinner plants. This action also authorizes an amendment to an existing agreement with Stantec Inc. to provide technical consulting services during construction. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractors for Low Bidder, and **Attachment 4** for the Location Map.

### **Project Milestones**

December 2022 - Completion of construction and commissioning of BESS facilities at the Jensen and Skinner plants

January 2023 - Filing of incentive claim with the SGIP

### **Policy**

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Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 51963, dated April 14, 2020, the Board appropriated a total of \$500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

By Minute Item 52140, dated October 13, 2020, the Board amended the current CIP to include the implementation of BESS at four Metropolitan facilities; and authorized an agreement with Stantec Inc. in an amount not-to-exceed \$900,000.

### **California Environmental Quality Act (CEQA)**

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#### **CEQA determination for Option #1:**

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action consists of modifying existing public facilities with negligible or no expansion of existing or former use and no possibility of significantly impacting the physical environment. In addition, the proposed action includes the construction and location of limited numbers of new, small facilities or structures; installations of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made including water, main, sewage, electrical, gas, and other utility extensions, including street improvements, of reasonable length to serve such construction. The numbers of structures described in this section are the maximum allowable on any legal parcel. In addition, the proposed action includes minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes. Accordingly, the proposed action qualifies under Class 1, Class 3, and Class 4 Categorical Exemptions (Sections 15301, 15303, and 15304 of the State CEQA Guidelines).

#### **CEQA determination for Option #2:**

None required

## Board Options

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### Option #1

- a. Award \$11,604,521 contract to Ameresco, Inc. to construct Battery Energy Storage System Facilities at the Jensen and Skinner plants; and
- b. Authorize increase of \$550,000 to agreement with Stantec Inc., for a new not-to-exceed total of \$1,450,000, to provide technical support.

**Fiscal Impact:** Expenditure of \$16.4 million in capital funds. Approximately \$6 million will be incurred in the current biennium and have been previously authorized.

**Business Analysis:** This option will enable Metropolitan to reduce retail electricity expenditures and increase treatment plant resiliency to power supply outages. Metropolitan will receive \$6.0 million in incentives from the SGIP to offset project expenditures. This includes \$3.0 million at the completion of construction in December 2022 and an additional \$3.0 million over a three to five-year period thereafter. Based on the projected electric utility rate increases, the net present value of this option ranges from \$2.6 million to \$3.5 million over ten years, and the payback period is from five to six years.

### Option #2

Do not proceed with the project at this time.

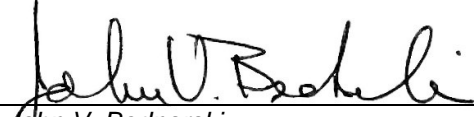
**Fiscal Impact:** None

**Business Analysis:** Metropolitan will forego an opportunity to receive \$6.0 million in incentives from the SGIP, reduce operating costs, and improve resiliency at critical facilities.

## Staff Recommendation

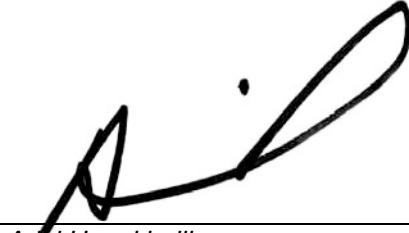
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### Option #1

  
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John V. Bednarski  
Manager/Chief Engineer  
Engineering Services

8/12/2021

Date

  
\_\_\_\_\_  
Adel Hagekhalil  
General Manager

9/1/2021

Date

**Attachment 1 – Allocation of Funds**

**Attachment 2 – Abstract of Bids**

**Attachment 3 – Subcontractors for Low Bidder**

**Attachment 4 – Location Map**

### **Allocation of Funds for BESS at the Jensen and Skinner plants**

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	<b>Current Board Action (Sep. 2021)</b>
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., contract admin., envir. monitoring)	709,000
Submittals Review & Record Drwgs.	614,000
Construction Inspection & Support	1,278,000
Metropolitan Force Construction	125,000
Materials & Supplies	120,000
Incidental Expenses	108,000
Professional/Technical Services	-
Stantec Inc.	550,000
Environmental Monitoring	30,000
Equipment Use	-
Contracts	-
Ameresco, Inc.	11,604,521
Fiber Optic Cable Installers	460,000
Remaining Budget	801,479
<b>Total</b>	<b>\$ 16,400,000</b>

The total amount expended to date for the installation of battery energy storage systems at the Jensen and Skinner plants is approximately \$1.6 million. The total estimated cost to complete the Jensen and Skinner Battery Energy Storage Systems, including the amount appropriated to date, and funds allocated for the work described in this action, is \$18.6 million.

**The Metropolitan Water District of Southern California**

**Abstract of Bids Received on July 13, 2021 at 2:00 P.M.**

**Specifications No. 1998**

**Joseph P. Jensen and Robert A. Skinner Water Treatment Plants  
Battery Energy Storage Systems**

The work consists of furnishing and constructing a 1 MW/4,000 MWh Battery Energy Storage System at each location. It includes equipment pad, monitoring and control systems with microgrid capability, unit substation, conduits and cables to the power substation, security system, and site grading and paving. The contract also includes testing and commissioning the system.

Engineer's estimate: \$7,650,000

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE Amount</b>	<b>SBE %</b>	<b>Met SBE<sup>1</sup></b>
Ameresco, Inc Ontario, CA	\$11,604,521	\$1,925,000	16.5%	Yes
SunPower Corporation Systems Anheim, CA <sup>2</sup>	\$7,902,058	-	-	-
Siemens Industry, Inc. Cypress, CA <sup>2</sup>	\$11,058,340	-	-	-

<sup>1</sup> SBE (Small Business Enterprise) participation level established at 5 percent for this contract bid.

<sup>2</sup> Bid was determined to be non-responsive.

**The Metropolitan Water District of Southern California****Subcontractors for Low Bidder****Specifications No. 1998****Joseph P. Jensen and Robert A. Skinner Battery Energy Storage Systems**

Low bidder: Ameresco, Inc.

<b>Subcontractor and Location</b>
MB Herzod Electric, Inc., Paramount, CA
Teichert Energy & Utilities Group, Inc., San Diego, CA



