



# Award Construction Contract for Battery Energy Storage Systems at the Jensen and Skinner Plants

Engineering & Operations Committee

Item 7-2

September 13, 2021

# Current Action

- Award \$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
- Authorize an amendment to an agreement with Stantec Inc. for a new not-to-exceed amount of \$1,450,000 for engineering support during construction

# Distribution System





# Project Location – Jensen Plant





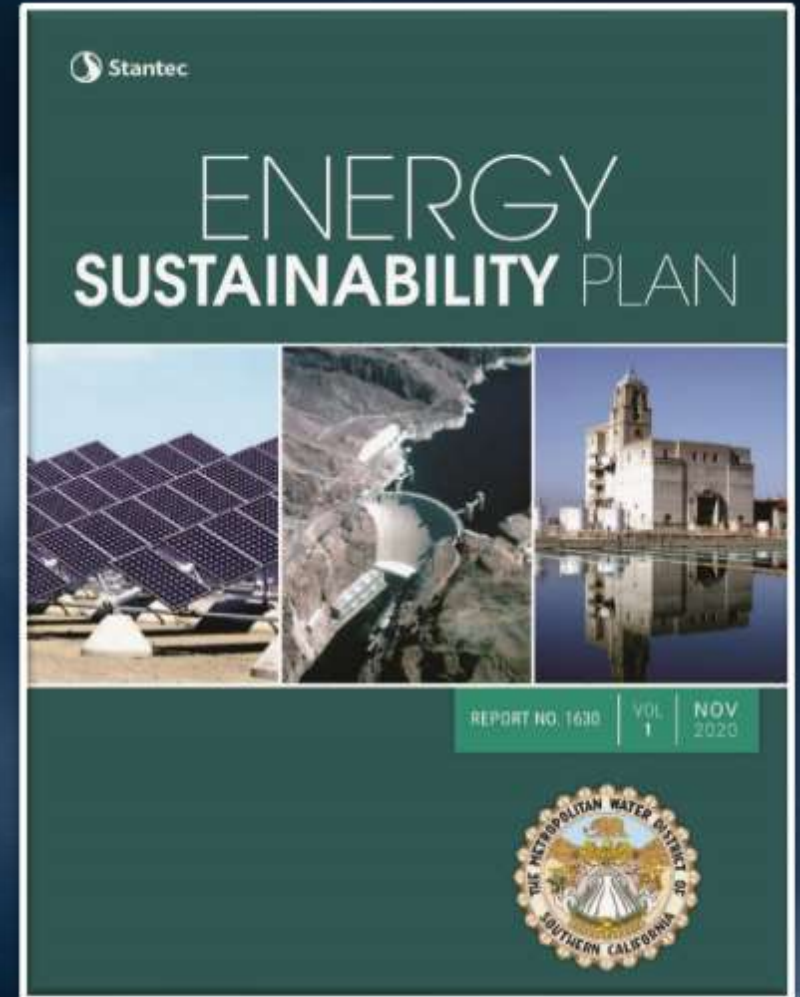
# Project Location – Skinner Plant





# Background

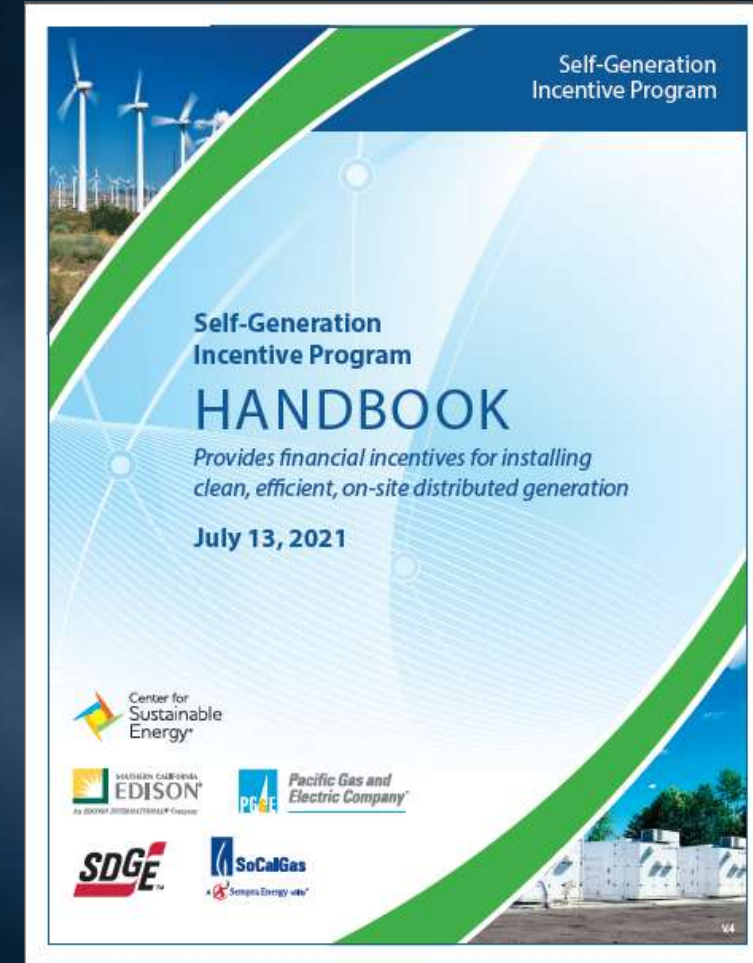
- Energy Sustainability Plan (2020)
  - Analysis of electricity needs & energy supply risk
  - Holistic multi-criteria assessment
- Technology
  - Battery paired with solar facilities on site
    - Storing excess solar energy for later use
  - Peak load reduction
    - Energy arbitrage: charge when power is cheap & discharge when power is expensive
  - Micro-grid configuration
- Key benefits of BESS to Metropolitan
  - Reduce energy cost and GHG emission
  - Increase operational flexibility and resiliency



# Background

## Self-Generation Incentive Program (SGIP)

- 4 applications submitted in May 2020
  - Jensen, Skinner & OC-88 confirmed in August 2020
  - Weymouth confirmed in May 2021
- Current project status
  - OC-88 cancelled
    - Higher cost to meet new requirement of OCFD
  - Skinner and Jensen advertised in June 2021
  - Weymouth construction contract award is planned in Spring 2022



# Contractor Scope

- Site grading and paving
- Construction of equipment pads
- Furnish & install
  - battery energy storage system and appurtenant equipment
  - monitoring & control systems with microgrid capability
- Improve access road at Skinner site to meet Riverside Fire Dept. requirements
- Perform testing and commissioning per SGIP and electrical utilities requirements

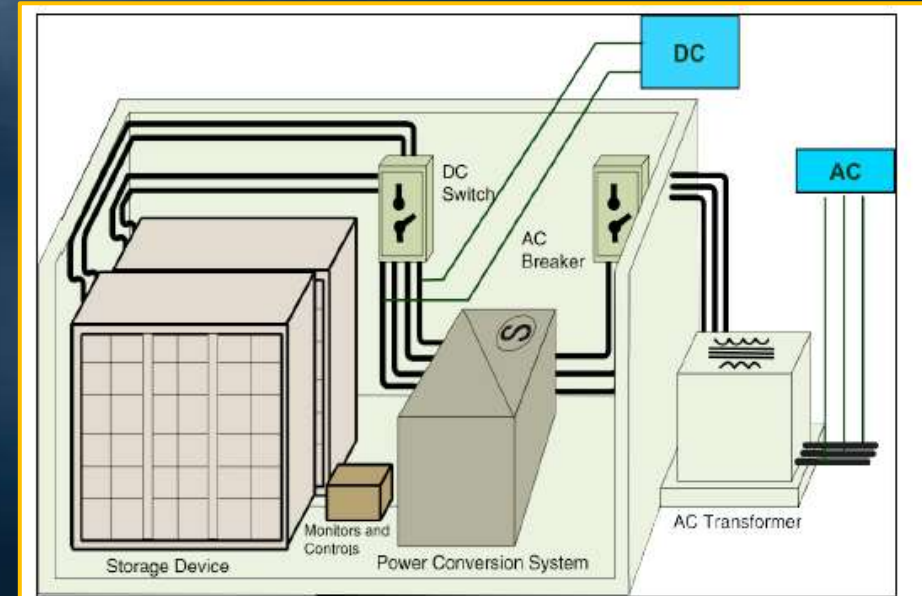


Figure 1. Schematic of a Battery Energy Storage System  
(Source: Sandia National Laboratories)



# Bid Results

## Specifications No. 1998

Bids Received	July 29, 2021
No. of Bidders*	3
Low responsive bidder	Ameresco, Inc.
Low Bid	\$11,604,521
Engineer's Estimate	\$7,650,000
SBE Participation**	16.5%

\* 2 bids deemed non-responsive

\*\* SBE (Small Business Enterprise) participation set at 5%

# Alternatives Considered

- Reject all bids and do not proceed with the project
- Continue project as originally planned
  - Selected Option
  - Economic viability of project re-evaluated
    - Anticipated SGIP incentive: \$6M
    - Net cost savings: \$2.6M to \$3.5M over 10 years
    - Payback: 5 to 6 years
  - Other benefits identified in the Energy Sustainability Plan



# Alternatives Considered

- Contractor completes all required construction work
  - Challenge to meet SGIP Milestones
  - Need for separate plant shutdown
- Metropolitan performs critical work in advance
  - Selected option
  - Installation of electrical duct bank at Skinner
  - Control and protection modification of electrical switchgear at Jensen
    - Increase flexibility to coordinate and schedule work
    - Take advantage of already planned shutdowns

# Metropolitan Scope

- Metropolitan Force Construction
  - Installation of electrical duct bank at Skinner
  - Control and protection modification of electrical switchgear at Jensen
  - Installation of network infrastructure for cyber security protection
- Construction Support Activities
  - Construction management and inspection
  - Environmental monitoring, contract administration & PM
  - Testing, Start-up & Commissioning



# Stantec Inc.

## Agreement Amendment

- Selected under RFQ 1215
- Additional scope of work
  - Engineering and technical support during construction
  - Submittals review & record drawings
  - Support for testing & commissioning
- SBE participation level – 5%
- Amendment amount – \$550,000
- NTE amount – \$1,450,000

# Allocation of Budgeted Funds

## Contracts

Ameresco, Inc.	\$11,604,521
Fiber optic cable installers	460,000

## Metropolitan Labor

Construction inspection	1,278,000
Metropolitan Force construction	353,000
Submittals review, testing & commissioning	614,000
Contract adm., SGIP & Intercon. agrmts, & PM	709,000

## Professional Services

Stantec Inc.	550,000
Environmental monitoring service	30,000

<u>Remaining Budget</u>	801,479
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**Total: \$16,400,000**

Total construction cost: \$12.4 million



# Project Schedule



Construction



Board Action



Testing/Commissioning



Completion

# Board Options

- Option #1

- Award \$11,604,521 contract to Ameresco, Inc. to construct Battery Energy Storage System Facilities at the Jensen and Skinner plants; and
- 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.

- Option #2

- Do not proceed with the project at this time.



# Staff Recommendation

- Option #1

