THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ACTION

- **Board of Directors**
  Engineering and Operations Committee

6/9/2015 Board Meeting

8-5

Subject

Appropriate $12,670,000; and award $10,534,920 contract to Kana Engineering Group, Inc. to construct a solar power plant at the F. E. Weymouth Water Treatment Plant (Approp. 15391)

Executive Summary

This action awards a contract to construct a 3-megawatt (MW) solar generating facility on the grounds of the F. E. Weymouth Water Treatment Plant in La Verne.

Timing and Urgency

The planned solar facility at Metropolitan's La Verne site will hedge against projected increases and volatility in the price of electricity, and will enhance Metropolitan's long-term power use efficiency. Southern California Edison (SCE) will provide approximately $1 million as a rebate from the California Solar Initiative (CSI) program over the first five years of operation of the La Verne Solar Power Plant. Per CSI program requirements, the facility must commence operation by March 2016 for Metropolitan to receive the incentive rebates.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is categorized as a Cost Efficiency and Productivity project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2014/15.

Details

Background

In September 2014, Metropolitan's Board authorized final design of the La Verne Solar Power Plant. This facility will be located at the northeast and southwest corners of the Weymouth plant. The solar installation will generate clean renewable energy that will directly offset retail electricity rates, reduce operating costs associated with energy consumption at the La Verne site, and hedge against projected increases and volatility in the price of electricity.

The state of California launched the CSI program in 2007 to provide incentives for installation of solar facilities to customers within the investor-owned utility territories of SCE, Pacific Gas and Electric, and San Diego Gas and Electric. The CSI program is funded by electricity rate payers within those utility service areas. The Weymouth plant is located in the city of La Verne, and is served by SCE. In September 2014, Metropolitan reserved an incentive rebate of $0.088 per kilowatt-hour (kWh) for the first 1 MW in generation capacity. This incentive will provide a rebate of approximately $1 million over the first five years of operation. The CSI program is now fully reserved for SCE customers, and the program is closed for new applicants.

In order to receive the CSI incentive, Metropolitan must execute an agreement for purchase and installation of a solar generating system by July 17, 2015, and commence operation by March 17, 2016. This project is being expedited to meet those deadlines.

In April 2013, SCE introduced the Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT) program. This program supports development of solar facilities of up to 5 MW per site. The RES-BCT program allows

energy not consumed at the time of generation to be exported onto the SCE grid. All exported energy is converted to credits and applied to other designated accounts with SCE. In October 2014, Metropolitan submitted an application and reserved a 3-MW RES-BCT credit transfer for the La Verne site. Since Metropolitan has more than 400 accounts with SCE, this incentive will be beneficial in reducing Metropolitan's overall energy costs.

The scope of the subject construction contract includes site grading; construction of concrete foundations and canopies; installation and integration of electrical equipment including unit substations, transformers, inverters, ductbanks, and grounding; installation of instrumentation including a weather station, controllers, data acquisition and performance monitoring, and revenue metering; construction of perimeter lighting and fencing, and a security system. The contractor will design the layout and orientation of the photovoltaic panels and electrical equipment; prepare structural calculations for the foundations and equipment anchorage; prepare single line electrical diagrams and electrical grounding plans; and prepare a data acquisition and monitoring system. In addition, the contractor will test and commission the generating system, and will maintain the facility for five years.

Final design has been completed and bids have been received, and staff recommends moving forward with construction of the solar facility at this time.

La Verne Solar Power Plant – Construction ($12,670,000)

Specifications No. 1825 to construct a 3-MW solar generating facility at the La Verne site was advertised for bids on March 26, 2015. In order to determine the best overall value to Metropolitan, the bid evaluation included both initial capital cost and projected long-term energy production, resulting in a Total Evaluated Amount for each bidder. For the purpose of evaluating bids, the following factors were considered in determination of the successful bidder: initial capital cost, CSI rebates over a five-year period, and the energy cost savings from solar power generation over a ten-year period. The guaranteed energy production will be verified through performance testing once the equipment is installed.

As shown in **Attachment 2**, two bids were received and opened on May 5, 2015. The low bid from Kana Engineering Group, Inc. in the amount of $10,534,920 complies with the requirements of the specifications. The other bid was in the amount of $11,711,127, while the engineer's estimate was $13 million. Based on the bid evaluation process described above, the bid received from Kana Engineering Group, Inc. provides the lowest Total Evaluated Amount. As a result, staff recommends that a contract be awarded to Kana Engineering Group, Inc. for the La Verne Solar Power Plant. For this contract, Metropolitan has established a Small Business Enterprise (SBE) participation level of at least 5 percent of the bid amount. Kana Engineering Group, Inc. is an SBE firm, and thus achieves 100 percent participation. The subcontractors for this contract are listed in **Attachment 3**.

This action appropriates $12.67 million and awards a $10,534,920 contract to Kana Engineering Group, Inc. to construct a solar facility at the La Verne site. In addition to the amount of the contract, the requested funds include $141,000 for Metropolitan force support, which includes Supervisory Control and Data Acquisition (SCADA) programming, equipment start-up and testing, and shutdowns and tie-in to the La Verne site electrical system. The requested funds also include $20,000 for performance monitoring and reporting, which is required by CSI to be provided by a third-party certified provider, as discussed below; $700,000 for construction inspection; $502,000 for review of submittals and design calculations, technical support, and record drawing preparation; $30,000 for environmental monitoring by Rincon Consultants, Inc., as discussed below; $209,000 for project management and rebate administration with SCE and CSI; and $533,080 for remaining budget.

Metropolitan staff will perform inspection of the construction. For this project, the anticipated cost of inspection is 6.6 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost greater than $3 million is 9 to 12 percent. The total cost of construction for this project, which includes the contract and Metropolitan force activities, is $10.68 million.

Technical Services During Construction – MWH Americas, Inc. (No Action Required)

MWH Americas, Inc. performed final design of the La Verne Solar Power Plant under a board-authorized agreement. As the engineer of record, MWH Americas, Inc. will provide technical support during construction. Planned activities include reviewing contractor-designed systems, design calculations, and shop drawings of

fabricated and manufactured equipment; responding to requests for information (RFIs) from the contractor; advising staff on technical issues as they may arise; and preparing record drawings. The estimated cost for MWH Americas, Inc. to provide these services is $370,000. No amendment is needed to the existing agreement with MWH Americas, Inc. for this work.

For this agreement, Metropolitan has established an SBE participation level of 18 percent. MWH Americas, Inc. has agreed to meet this level of participation. The planned subconsultants under this agreement are Terrazas Group and Power-Tech Engineers.

Environmental Monitoring – Rincon Consultants, Inc. (No Action Required)

Rincon Consultants, Inc. will perform environmental monitoring for the La Verne Solar Power Plant under an existing professional services agreement. Planned activities include monitoring of construction activities for compliance with environmental mitigation measures contained in the project's Final Environmental Impact Report (EIR); providing technical expertise on air quality, biology, noise, and traffic; and preparing compliance reports. This work is specialized and Metropolitan has insufficient technical staff in-house to perform these activities. The estimated cost for Rincon Consultants, Inc. to provide these services is $30,000. No amendment is needed to the existing agreement with Rincon Consultants, Inc. for this work.

The agreement with Rincon Consultants, Inc. was previously awarded under the General Manager's Administrative Code authority. For this agreement, Metropolitan has established an SBE participation level of 18 percent. Rincon Consultants, Inc. has agreed to meet this level of participation. Applied Earthworks, Inc. is the sole subconsultant planned under this agreement.

Performance Monitoring and Reporting Services – (No Action Required)

In order to comply with the terms of the CSI incentive agreement, Metropolitan will retain an independent firm to perform data collection, monitor system performance, and submit performance data reports to CSI during the five-year rebate period. The firm will be selected through a competitive process from a list of CSI-approved providers. The agreement is planned to be awarded under the General Manager's Administrative Code authority, and has an estimated cost of approximately $20,000. No subconsultants are planned under this agreement.

Summary

This action appropriates $12.67 million and awards a $10,534,920 contract to Kana Engineering Group, Inc. to construct the La Verne Solar Power Plant. This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2014/15 capital expenditure plan. See **Attachment 1** for the Financial Statement, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the List of Subcontractors, and **Attachment 4** for the Location Map.

The total estimated cost to complete the La Verne Solar Power Plant, including the amount appropriated to date and current funds requested, is approximately $13.6 million. This project is included within capital Appropriation No. 15391, the Power Reliability and Energy Conservation Appropriation, which was initiated in fiscal year 2002/03. With this action, the total funding for Appropriation No. 15391 will increase from $36,227,000 to $48,897,000.

Project Milestones

July 2015 – Submittal of executed contract to CSI

February 2016 – Completion of testing of the solar generating system

March 2016 – Filing of incentive claim with CSI

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The environmental effects of the funding, design, procurement of materials, construction and operation of the La Verne Solar Power Generation Facility Project (Project) were evaluated in the F. E. Weymouth Water Treatment Plant Improvements Program Final EIR, which was certified by the Board on April 14, 2015. The Board also approved the Findings of Fact (Findings), the Statement of Overriding Considerations (SOC), the Mitigation Monitoring and Reporting Program (MMRP), and the Project itself. The current board action is solely based on appropriation and authorization of funding and construction of the approved Project and not on any changes to the approved Project. Hence, the previous environmental documentation acted on by the Board in conjunction with the proposed action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act on the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the certified 2015 Final EIR, Findings, SOC, and MMRP, and that no further environmental analysis or documentation is required.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action has been previously addressed and that no further environmental analysis or documentation is required, and

a. Appropriate $12.67 million; and
b. Award $10,534,920 contract to Kana Engineering Group, Inc. for construction of the La Verne Solar Power Plant.

Fiscal Impact: $12.67 million of capital funds under Approp. 15391
Business Analysis: Under this option, Metropolitan will receive up to $1 million in rebate incentives for the La Verne solar facility from the CSI program over the first five years of operation.

Option #2

Do not proceed with the La Verne Solar Power Plant at this time.
Fiscal Impact: None
Business Analysis: This option would forgo an opportunity to receive a $1 million rebate from the California Solar Initiative, along with the long-term cost savings and bill-credit-transfer opportunities provided by a solar power facility. Staff would continue to monitor industry cost trends and available incentives for solar facilities, and would reassess potential projects annually.

Staff Recommendation

Option #1

5/19/2015

Gordon Johnson *Date*
Manager/Chief Engineer
Engineering Services

5/26/2015

Jeffrey Kightlinger *Date*
General Manager

Attachment 1 – Financial Statement

Attachment 2 – Abstract of Bids

Attachment 3 – Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12636982

Financial Statement for Power Reliability & Energy Conservation Appropriation

A breakdown of Board Action No. 12 for Appropriation No. 15391 for the La Verne Solar Power Plant[1] is as follows:

	Previous Total Appropriated Amount (Sept. 2014)	Current Board Action No. 12 (June 2015)	New Total Appropriated Amount
Labor			
Studies and Investigations	$ 683,550	$ -	$ 683,550
Final Design	882,000	-	882,000
Owner Costs (Program mgmt. & rebate admin.)	1,644,100	194,000	1,838,100
Submittals Review & Record Drwgs	481,500	132,000	481,500
Construction Inspection and Support	2,372,250	700,000	3,072,250
Metropolitan Force Construction	574,500	117,000	691,500
Materials & Supplies	1,025,000	24,000	1,025,000
Incidental Expenses	411,105	15,000	426,105
Professional/Technical Services	3,553,900	-	3,553,900
MWH Americas, Inc.	800,000	370,000	1,170,000
Rincon Consultants, Inc.	150,000	30,000	180,000
Performance monitoring firm	-	20,000	20,000
Equipment Use	49,100	-	49,100
Contracts	22,622,000	10,534,920	33,156,920
Remaining Budget	977,995	533,080	1,511,075
Total	**$ 36,227,000**	**$ 12,670,000**	**$ 48,897,000**

Funding Request

Appropriation Name:	Power Reliability and Energy Conservation Appropriation		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15391	**Board Action No.:**	12
Requested Amount:	**$** 12,670,000	**Budget Page No.:**	155
Total Appropriated Amount:	**$** 48,897,000	**Total Appropriation Estimate:**	$ 34,537,000

[1] The total amount expended to date on the La Verne Solar Power Plant is approximately $696,000. The total estimated cost to complete this project, including the amount appropriated to date and current funds requested, is approximately $13.37 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on May 5, 2015 at 2:00 P.M

Specifications No. 1825
La Verne Solar Power Plant

The work consists of installation of up to a 3-MW solar power plant at the La Verne site, including procurement and installation of photovoltaic panels, tracking systems, power inverters, solar system instrumentation and meters, unit substations, and a weather station; grounding, and grading. In addition, the contractor shall test and commission the generation facility and maintain the facility for the first five years.

Engineer's Estimate: $13,000,000

Bidder and Location	Base Bid	Estimated CSI Rebate	Estimated Long-term Power Savings[1]	Total Evaluated Amount[2]	SBE $	SBE%	Met SBE[3]
Kana Engineering Group, Inc. Rancho Cucamonga, CA	**$10,534,920**	**$947,812**	**$7,602,531**	**$1,984,577**	**$10,534,920**	**100%**	**Yes**
Stronghold Engineering, Inc. Riverside, CA	$11,711,127	$814,302	$6,531,092	$4,365,733	-	-	-

[1] Based on energy cost savings over a 10-year period

[2] Based on 10-year overall cost (Base bid less estimated CSI Rebate and power savings)

[3] SBE (Small Business Enterprise) participation level was established at 5 percent for this contract

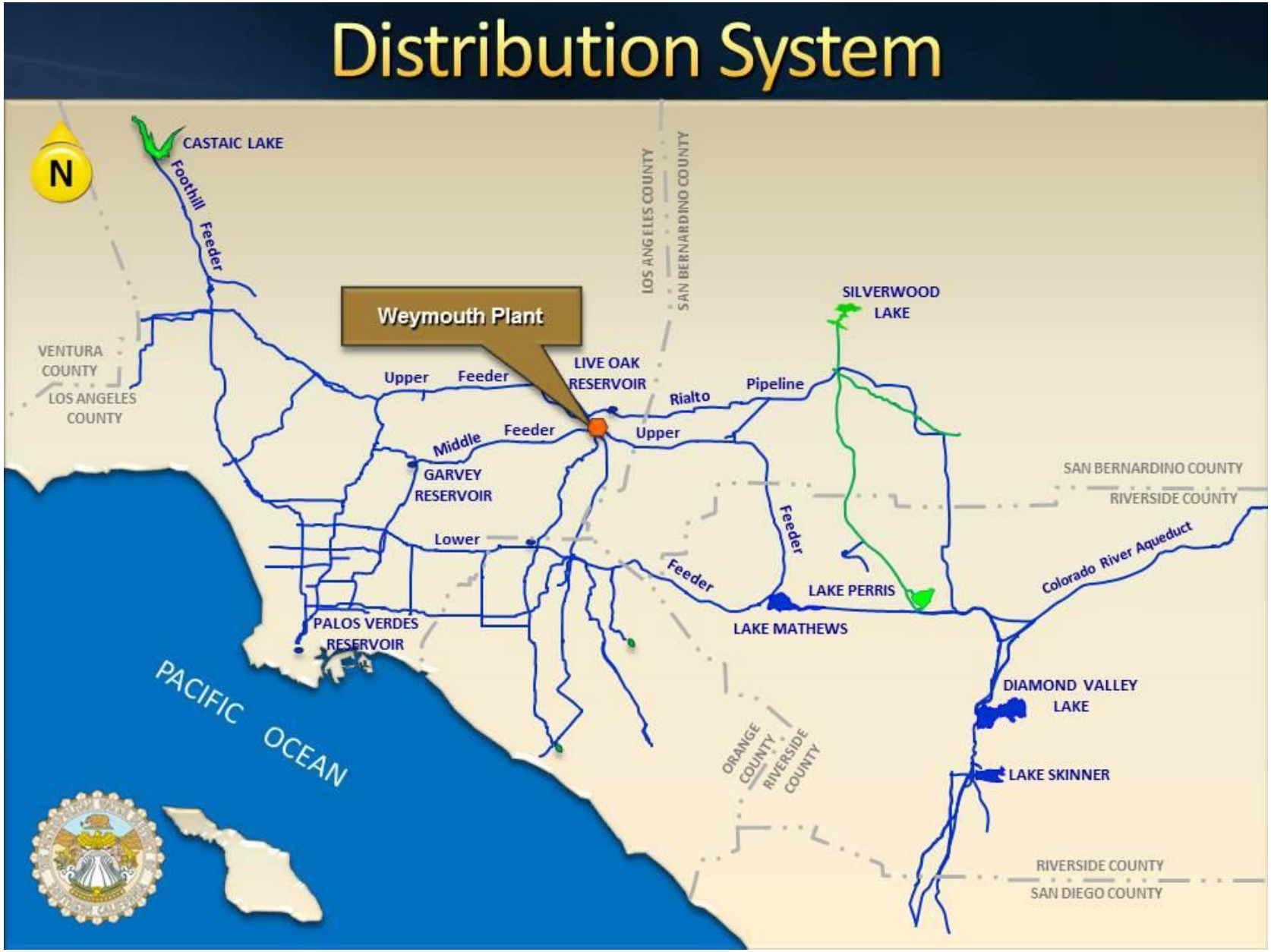
The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

Specifications No. 1825
La Verne Solar Power Plant

Low Bidder: Kana Engineering Group, Inc.

Subcontractor and Location
Meza Electric, Walnut, CA
Alcorn Fence, Sun Valley, CA
JRN Engineering, Alta Loma, CA


Distribution System
N
CASTAIC LAKE
Foothill Feeder
VENTURA COUNTY
LOS ANGELES COUNTY
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
Weymouth Plant
LIVE OAK RESERVOIR
Upper Feeder
Middle Feeder
GARVEY RESERVOIR
Lower Feeder
Rialto Pipeline
Upper Feeder
SILVERWOOD LAKE
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Colorado River Aqueduct
LAKE PERRIS
LAKE MATHEWS
PALOS VERDES RESERVOIR
PACIFIC OCEAN
DIAMOND VALLEY LAKE
LAKE SKINNER
ORANGE COUNTY
RIVERSIDE COUNTY
RIVERSIDE COUNTY
SAN DIEGO COUNTY