THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ACTION

- Board of Directors
  Engineering and Operations Committee

12/11/2012 Board Meeting

7-5

Subject

Appropriate $640,000; and award $323,580 construction contract to Team West Contracting Corporation to replace standby generators at the Temescal and Corona Power Plants (Approp. 15441)

Executive Summary

This action awards a construction contract to replace and relocate two standby generators at Temescal and Corona Power Plants. In the event of a utility power outage, these generators are needed to provide power to slide gates which control flow in the Lower Feeder between Lake Mathews and the Robert B. Diemer Water Treatment Plant.

Timing and Urgency

The two existing standby generators at the Temescal and Corona Power Plants provide backup electrical power to slide gates that control flow in the Lower Feeder. These 30-year-old generators need to be replaced. The frequency of repairs is increasing, while replacement parts are difficult to obtain. Additionally, upgrades to electrical and fuel storage systems are required to meet current fire codes and environmental regulations. Staff recommends that replacement of the generators proceed at this time.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Rehabilitation and Replacement project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2012/13.

Details

Background

The Corona and Temescal Power Plants, which are both rated at 2.8 MW, were constructed in 1982 along the Lower Feeder. From Lake Mathews, the Lower Feeder conveys untreated water sequentially through the Temescal Power Plant and the Corona Power Plant before reaching the Diemer plant. The two hydroelectric plants have similar layouts and operate in a similar manner.

At each location, flow is directed through the power plant while a portion of the Lower Feeder serves as a bypass when the hydroelectric turbines are not in operation. Each plant has a control tower, penstock, turbine-generator, and outlet pipe. The flow into each plant is regulated by its control tower. The control towers are multifunctional and serve to adjust flowrates into the power plants, to divert flow back to the Lower Feeder in the event of a generator trip, to suppress surges in the Lower Feeder, to keep the Lower Feeder pressurized upstream of the towers, and to bypass flows when the turbines are not in operation.

Two key components of each control tower are the throttling gate and the bypass gate. The throttling gates maintain constant water pressure at the inlets to the turbines. These gates adjust their position automatically to handle fluctuating flows in the Lower Feeder due to varying system demands. The bypass gates are used to divert flow around the turbines when the plants are off-line. Automatic flow adjustments at the power plants are necessary to minimize air entrainment within the water, which can severely impact the filtration process at the

Diemer plant. The standby generator at each power plant provides backup power for operation of the control tower slide gates in the event of a utility power outage.

The existing standby generators at each hydroelectric plant are 30 years old and were installed during the original plant construction. In recent years, the frequency of required repairs has increased significantly. Inspections have identified that both generators have excessive piston blow-by, excessive oil leaks, and crankshaft bearing wear. Further, the manufacturer of the two engines is no longer in business. As a result, replacement parts are increasingly difficult to obtain via aftermarket vendors. While staff has been able to fabricate simple replacement parts or salvage them from other equipment in order to make recent repairs, this approach is not viable over the long-term.

Upgrades to the generator installations are required to comply with up-to-date codes and emission regulations. The new generators will be relocated to an outdoor location based on current fire codes, and will be supplied with an integrated, self-contained fuel storage tank. The generators will have a control system capable of automatic start-up upon loss of utility power, automatic transfer back to utility power once the normal source has been re-established, and remote status monitoring. The existing nonconforming above-ground fuel storage tanks and containment areas will also be removed.

In October 2011, Metropolitan's Board authorized final design and procurement of standby generators for the Temescal and Corona Power Plants. Final design has now been completed, and the generators have been manufactured and delivered. Staff recommends moving forward with construction at this time.

Temescal and Corona Power Plants Standby Generator Replacement – Construction ($640,000)

Specifications No. 1720 to replace standby generators at the Temescal and Corona Power Plants was advertised for bids on September 27, 2012. As shown in **Attachment 2**, eight bids were received and opened on November 6, 2012. The low bid from Team West Contracting Corporation, in the amount of $323,580, complies with the requirements of the specifications. The seven higher bids ranged from $405,000 to $686,999. The engineer's estimate was $395,000. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 25 percent of the bid amount.

This action appropriates $640,000 and awards a $323,580 construction contract to Team West Contracting Corporation. In addition to the amount of the contract, the appropriated funds include $128,000 for Metropolitan staff to relocate equipment, provide electrical clearances, shut down the power plants to perform electrical tie-ins, return the power plants back to service, and perform control system integration. Requested funds also include $83,000 for construction inspection; $57,000 for submittals review and technical support by Metropolitan design staff; $6,420 for preparation of record drawings; and $42,000 for local agency permitting and project management. The total cost of construction for this project is $557,460, which includes $105,880 for the two generators which have already been procured, $232,580 for the construction contract, and $128,000 for work by Metropolitan forces.

Construction inspection will be performed by Metropolitan staff. For this project, the anticipated cost of inspection is approximately 14.9 percent of the total construction cost. Engineering Services' goal for inspection of contracts less than $3 million is 9 to 15 percent.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2012/13 capital expenditure plan. This work is included within capital Appropriation No. 15441, the Conveyance and Distribution System Rehabilitation Program – FY 2006/07 Through 2011/12, which was initiated in fiscal year 2006/07. Other projects authorized under Appropriation No. 15441 include the Santa Ana River Bridge Seismic Retrofit, Eagle Rock and Puddingstone Spillway Gates Rehabilitation, and the Sepulveda Feeder Repairs. With the present action, the total funding for Appropriation No. 15441 will increase from $42,859,000 to $43,499,000. See **Attachment 1** for the Financial Statement, **Attachment 2** for the Abstract of Bids, and **Attachment 3** for the Location Map.

Project Milestone

June 2013 – Completion of construction to replace standby generators at Temescal and Corona Power Plants

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Sections 8121 and 8122(g): General Authority of the General Manager to Enter Contracts; General Manager's Contracting Authority in Specified Circumstances

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The replacement of standby generators at Temescal and Corona Power Plants was previously determined to be categorically exempt under the provisions of CEQA and State CEQA Guidelines. The Board found this project to be exempt under Class 1, Section 15301; Class 2, Section 15302; and Class 4, Section 15304 of the State CEQA Guidelines on December 16, 2011. A Notice of Exemption (NOE) was filed on the project at that time and the statute of limitations has ended. With the current board action, there are no substantial changes proposed to the project since the original NOE was filed. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regards to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the 2011 NOE (Class 1, Section 15301; Class 2, Section 15302; and Class 4, Section 15304 of the State CEQA Guidelines) 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 and

a. Appropriate $640,000; and
b. Award $323,580 contract to Team West Contracting Corporation to replace and relocate the standby generators at Temescal and Corona Power Plants.

Fiscal Impact: $640,000 of capital funds under Approp. 15441

Business Analysis: This project will enhance delivery reliability and allow continued operation of critical Lower Feeder control equipment in the event of a utility power outage.

Option #2

Do not award the construction contract and readvertise in an attempt to receive more favorable bids.

Fiscal Impact: None

Business Analysis: This option may or may not result in more favorable bids, and would forego an opportunity to enhance reliability of the water supply to the Diemer plant.

Staff Recommendation

Option #1

11/16/2012

Gordon Johnson *Date*
Manager/Chief Engineer
Engineering Services

11/27/2012

Jeffrey Kightlinger *Date*
General Manager

Attachment 1 – Financial Statement

Attachment 2 – Abstract of Bids

Attachment 3 – Location Map

Ref# es12621004

Financial Statement for Conveyance and Distribution System Rehabilitation Program – FY 2006/07 Through FY 2011/12

A breakdown of Board Action No. 49 for Appropriation No. 15441 to replace standby generators at the Temescal and Corona Power Plants[1] is as follows:

	Previous Total Appropriated Amount (Dec. 2012)	Current Board Action No. 49 (Dec. 2012)	New Total Appropriated Amount
Labor			
Studies & Investigations	$ 2,716,000	$ -	$ 2,716,000
Final Design	3,722,293	-	3,722,293
Owner Costs (Envir. monitoring, permitting, & program mgmt.)	5,123,400	42,000	5,165,400
Submittals Review & Record Drwgs	233,250	63,420	296,670
Construction Inspection & Support	1,929,550	83,000	2,012,550
Metropolitan Force Construction	8,783,710	123,000	8,906,710
Materials & Supplies	2,296,400	3,000	2,299,400
Incidental Expenses	881,900	2,000	883,900
Professional/Technical Services	2,535,000	-	2,535,000
Right-of-Way	550,000	-	550,000
Equipment Use	325,200	-	325,200
Contracts	11,657,944	323,580	11,981,524
Remaining Budget	2,104,355	-	2,104,355
Total	**$ 42,859,002**	**$ 640,000**	**$ 43,499,002**

Funding Request

Program Name:	Conveyance and Distribution System Rehabilitation Program – FY 2006/07 Through FY 2011/12		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15441	**Board Action No.:**	49
Requested Amount:	**$** 640,000	**Capital Program No.:**	15441-I
Total Appropriated Amount:	**$** 43,499,000	**Capital Program Page No.:**	284
Total Program Estimate:	**$** 114,849,000	**Program Goal:**	I-Infrastructure Reliability

[1] The total amount expended to date on the Temescal and Corona Power Plants Standby Diesel Engine Generator Replacement projects is approximately $344,000.

The Metropolitan Water District of Southern California

Abstract of Bids Received on November 6, 2012 at 2:00 P.M.

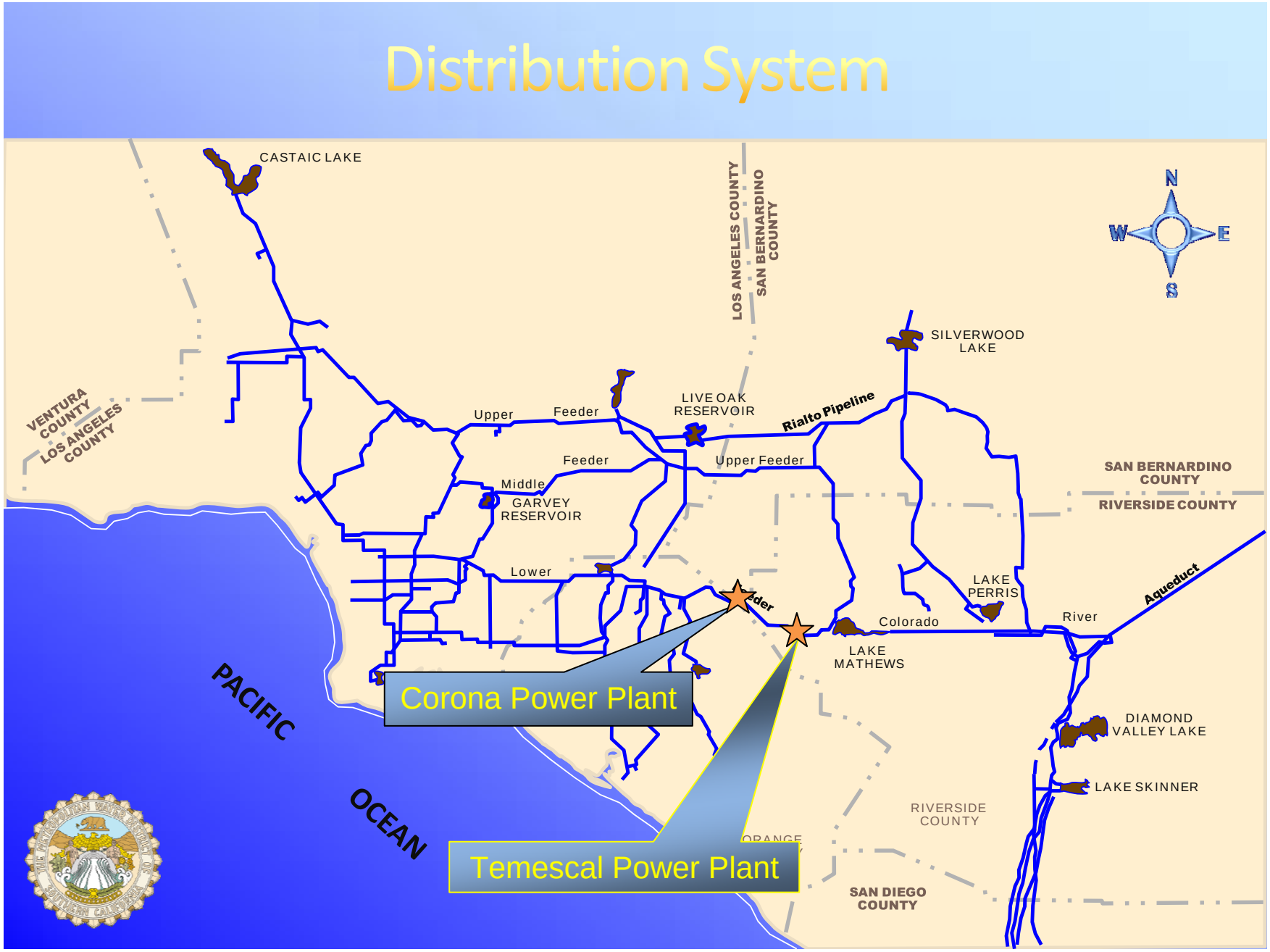
Specifications No. 1720
Temescal and Corona Power Plants Standby Diesel Engine Generator Replacement

The project consists of removing the existing generators, fuel storage tanks, and steel canopies at Temescal and Corona Power Plants; constructing new concrete pads and steel canopies, and installing Metropolitan-furnished standby generators.

Engineer's Estimate: $395,000

Bidder and Location	Total[1]	SBE $	SBE %	Met SBE[1]
Team West Contracting Corporation Corona, CA	**$ 323,580**	$80,895	25%	Yes
Unispec Construction, Inc. San Pedro, CA	$ 405,000	N/A	N/A	N/A
Southern Contracting Company San Marcos, CA	$ 426,900	N/A	N/A	N/A
Cora Constructors, Inc. Palm Desert, CA	$ 440,000	N/A	N/A	N/A
Global Power Group, Inc. Anaheim, CA	$ 494,996	N/A	N/A	N/A
Dahl, Taylor & Associates – Constructors, Inc. Santa Ana, CA	$ 586,643	N/A	N/A	N/A
Metro Builders & Engineers Group, Ltd. Newport Beach, CA	$ 677,400	N/A	N/A	N/A
H.C. Olsen Construction Co., Inc. Monrovia, CA	$ 686,999	N/A	N/A	N/A

[1] SBE (Small Business Enterprise) participation level was established at 25 percent for this contract.


Distribution System
CASTAIC LAKE
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
N
W
E
S
SILVERWOOD LAKE
VENTURA COUNTY
LOS ANGELES COUNTY
Upper Feeder
LIVE OAK RESERVOIR
Rialto Pipeline
Feeder
Upper Feeder
Middle
GARVEY RESERVOIR
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Lower
LAKE PERRIS
Aqueduct
Colorado River
LAKE MATHEWS
Corona Power Plant
PACIFIC OCEAN
DIAMOND VALLEY LAKE
LAKE SKINNER
RIVERSIDE COUNTY
Temescal Power Plant
SAN DIEGO COUNTY