



- Board of Directors
Engineering and Operations Committee

10/9/2012 Board Meeting

7-5

Subject

Appropriate \$840,000; and award \$638,000 contract to Acuna Corp. to rehabilitate electrical transmission tower foundations at Danby Dry Lake (Approp. 15384)

Executive Summary

This action awards a contract to rehabilitate the deteriorating foundations of electrical transmission towers at Danby Dry Lake. The transmission lines which are supported by these towers are the only source of power for Iron Mountain Pumping Plant, and are needed to maintain reliable water deliveries on the Colorado River Aqueduct.

Timing and Urgency

This project will retrofit deteriorated wooden piles and rehabilitate the damaged concrete foundations on the West Mead 230 kV electrical transmission lines in the vicinity of Danby Dry Lake. While the deteriorated foundations are not in immediate jeopardy of failure, the tower foundations will continue to deteriorate over time and could damage the towers. This could result in loss of power to Iron Mountain Pumping Plant, which would impact the ability to deliver water through the Colorado River Aqueduct.

This project has been reviewed with Metropolitan's updated 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

Electrical power to operate the Colorado River Aqueduct's five pumping plants is transmitted from Hoover Dam via 237 miles of overhead power lines. The West Mead 230 kV transmission line, which is 49 miles long, was constructed in 1938 to power the Iron Mountain Pumping Plant. It is the sole source of electrical power to the plant.

A 6.5-mile-long section of the West Mead 230 kV transmission line passes through the Danby Dry Lake area just north of Iron Mountain Pumping Plant. This high voltage power line is supported by 26 steel lattice transmission towers. Each four-legged tower weighs about 10,000 pounds and stands approximately 70 feet above the lake bed floor. Each tower leg stands on a 40-inch thick concrete pile cap which is supported by a group of three wooden piles, each embedded to a depth of 20 feet.

Routine inspections have identified that concrete pile caps and wooden piles in this area need to be rehabilitated. Due to the highly alkaline nature of Danby Dry Lake, all 104 concrete pile caps have deteriorated, while the wooden piles are damaged due to fungal dry rot. Rehabilitation of the pile caps and retrofit of the wooden piles are needed to maintain stability of the tower foundations. In December 2009, Metropolitan's Board authorized final design for rehabilitation of the Danby Dry Lake electrical transmission tower foundations. The design has been completed, and staff recommends proceeding with construction at this time.

Planned rehabilitation work includes: retrofitting the wooden piles by removing dry-rotted areas, filling voids with epoxy, and encasing the wooden piles with glass fiber-reinforced polymer sleeves; rehabilitating spalled and broken concrete caps using pressure epoxy injection; repairing and top-coating the concrete surfaces; and removing and replacing weathered sealants.

Danby Towers Foundation Rehabilitation – Construction (\$840,000)

Specifications No. 1689 for the Danby Towers Foundation Rehabilitation project was advertised for bids on July 26, 2012. As shown in [Attachment 2](#), five bids were received and opened on September 6, 2012. The apparent low bidder, Cal Electro, Inc., requested to be relieved from its bid as permitted under the California Public Contract Code due to an inadvertent clerical error made that materially changed its bid. Upon review of the request and documentation submitted, Metropolitan released Cal Electro, Inc. from its bid.

The second low bid from Acuna Corp., in the amount of \$638,000, complies with the requirements of the specifications. The three higher bids ranged from \$692,270 to \$1,165,752. The engineer's estimate was \$565,000. Staff investigated the difference between the low bid and the engineer's estimate and attributes the difference to the remoteness of the job site and expected costs for hazardous material removal and disposal. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 20 percent of the bid amount. Acuna Corp. is an SBE firm, and thus achieves 100 percent participation.

This action appropriates \$840,000 and awards a \$638,000 construction contract to Acuna Corp. In addition to the amount of the contract, the appropriated funds include \$19,500 for Metropolitan force activities, which include establishment of electrical clearances. Requested funds also include \$91,500 for construction inspection; \$24,000 for submittals review, technical support, and preparation of record drawings by Metropolitan design staff; \$43,100 for environmental monitoring and project management; and \$23,900 for remaining budget.

Construction inspection will be performed by Metropolitan staff. For this project, the anticipated cost of inspection is approximately 14 percent of the total construction cost. Engineering Services' goal for inspection of construction contracts less than \$3 million is 9 to 15 percent. The total construction cost for this project is \$657,500.

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 Appropriation No. 15384, the CRA Electrical Reliability Program, which was initiated in fiscal year 2001/02. Other projects authorized under Appropriation No. 15384 include the Iron Mountain 230kV Circuit Breaker Switchyard Installation, CRA Pumping Plants – 230kV Transformer Protection Relays, and CRA 230kV and 69kV Oil Circuit Breaker Replacements. With the present action, the total funding for Appropriation No. 15384 will increase from \$18,875,000 to \$19,715,000.

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

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

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

This project 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; Class 3, Section 15303; and Class 4, Section 15304 of the State CEQA Guidelines. A Notice of Exemption (NOE) was filed on February 22, 2010 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 regard to the proposed actions.

The CEQA determination is: Determine that the proposed action has been previously addressed in the 2010 NOE (Class 1, Section 15301; Class 2, Section 15302; Class 3, Section 15303; 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
- Appropriate \$840,000; and
 - Award \$638,000 contract to Acuna Corp. to rehabilitate electrical transmission tower foundations at Danby Dry Lake.

Fiscal Impact: \$840,000 of capital funds under Approp. 15384

Business Analysis: This project will enhance CRA reliability, protect Metropolitan's assets, and reduce the risk of power outages at Iron Mountain Pumping Plant.

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 Danby Dry Lake electrical transmission towers.

Staff Recommendation

Option #1



9/18/2012
Gordon Johnson
Manager/Chief Engineer
Engineering Services



9/26/2012
Jeffrey Kightlinger
General Manager

Attachment 1 – Financial Statement

Attachment 2 – Abstract of Bids

Attachment 3 – Location Map

Financial Statement for CRA Electrical Reliability Program

A breakdown of Board Action No. 7 for Appropriation No. 15384 for the Danby Towers Foundation Rehabilitation project¹ is as follows:

	Previous Total Appropriated Amount (Dec. 2009)	Current Board Action No. 7 (Oct. 2012)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 360,000	\$ -	\$ 360,000
Final Design	994,700	-	994,700
Owner Costs (Envir. monitoring & program mgmt.)	1,317,000	43,100	1,360,100
Submittals Review & Record Drwgs	-	24,000	24,000
Construction Inspection & Support	1,732,000	91,500	1,823,500
Metropolitan Force Construction	2,011,000	19,500	2,030,500
Materials & Supplies	500,000	-	500,000
Incidental Expenses	109,300	-	109,300
Professional/Technical Services	110,000	-	110,000
Equipment Use	29,000	-	29,000
Contracts	10,473,000	638,000	11,111,000
Remaining Budget	1,239,000	23,900	1,262,900
Total	\$ 18,875,000	\$ 840,000	\$ 19,715,000

Funding Request

Program Name:	CRA Electrical Reliability Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15384	Board Action No.:	7
Requested Amount:	\$ 840,000	Capital Program No.:	15384
Total Appropriated Amount:	\$ 19,715,000	Capital Program Page No.:	289
Total Program Estimate:	\$ 22,170,000	Program Goal:	I-Infrastructure Reliability

¹ The total amount expended to date on the Danby Towers Foundation Rehabilitation project is approximately \$580,000.

The Metropolitan Water District of Southern California

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

**Specifications No. 1689
Danby Towers Foundation Rehabilitation**

The project consists of retrofitting wooden piles by removing dry-rotted areas, encasing piles with glass fiber-reinforced polymer sleeves, rehabilitating spalled and broken concrete caps using pressure epoxy injection, surface repairing and top-coating concrete caps, and replacing weathered sealants.

Engineer's Estimate: \$565,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Cal Electro, Inc. Redding, CA	\$480,200 ²	-	-	-
Acuna Corp. Whittier, CA	\$638,000	\$638,000	100	Yes
Abhe & Svoboda, Inc. Prior Lake, MN	\$692,270	-	-	-
Hemet Mfg. Co., Inc. dba Genesis Construction, Hemet, CA	\$844,777	-	-	-
Gantry Constructors, Inc. Clarkdale, AZ	\$1,165,752	-	-	-

¹ SBE (Small Business Enterprise) participation level established at 20% for this contract.

² Cal Electro, Inc., requested to be released from its bid in accordance with the California Public Contract Code due to an inadvertent clerical error made during the bid process, which materially changed its bid. Upon review of the request and documentation submitted, Metropolitan released Cal Electro, Inc. from its bid.

Location Map

