



- Board of Directors  
*Engineering and Operations Committee*

10/8/2013 Board Meeting

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**7-2**

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## **Subject**

Appropriate \$1.70 million; and award \$1,028,180.65 contract to N<sup>th</sup> Generation Computing, Inc. for SCADA servers (Approp. 15467)

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## **Executive Summary**

This action awards a procurement contract and authorizes installation of replacement servers for Metropolitan's Supervisory Control and Data Acquisition (SCADA) system. The current servers have been in operation from eight to twelve years and are at end of their expected life. The current servers are no longer supported by their manufacturer and spare parts are difficult to obtain.

### **Timing and Urgency**

Metropolitan's SCADA system is used to monitor and control water system processes such as water conveyance, distribution, and treatment, as well as provide the source of data for operational business processes such as regulatory compliance, chemical inventories, and process efficiencies. Servers are a critical component of this system and are used to manage the control system software configuration and operational data. The 16 pairs of redundant control system servers (32 servers total) are at the end of their normal expected life. Replacement with modern servers will enable Metropolitan to maintain water system reliability and security.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is categorized as an Infrastructure Upgrade project.

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## **Details**

### **Background**

Metropolitan relies upon its SCADA system to monitor and control a wide range of water system processes across the service area. Each treatment plant uses the control system for automation of processes such as filtration and disinfection. In the distribution system, the control system is used for functions such as automated reservoir level control, pipeline flow and pressure control, and distribution system water quality monitoring. Data from these processes are stored on the servers and subsequently used for operational business purposes such as water quality regulatory compliance, water planning, maintenance management, and other core business processes.

The control system is comprised of a variety of equipment and software including field instruments, control computers, host servers, and control room operator PC's and screens. Central to the control system architecture are the host servers. These servers run the SCADA software used to monitor and control water system processes such as water conveyance, distribution, and treatment, as well as to collect and distribute operational data throughout all of Metropolitan's facilities. All operational and regulatory compliance data that are derived from the control system are housed on these servers. To increase operational reliability, each server installation features a redundant pair, so that a backup server is available at all times. These pairs are located at 16 of Metropolitan's major facilities, providing a total of 32 servers. The current servers are at end of life and spare parts are difficult to obtain.

Metropolitan's control system software provider (Systems Integrated) can only verify operation of Metropolitan's SCADA software on the Hewlett Packard (HP) brand. Staff have pilot-tested a redundant pair of current-generation HP servers on the control system and have validated their performance. The specified servers have also been validated for use with potential future SCADA upgrades that may be recommended under Metropolitan's Water System Control Master Plan, which is currently in development.

### **Control System Server Replacement – Procurement (\$1,700,000)**

A request for bids (RFB-AB-262644) for the control system replacement servers and associated operating software was advertised on June 6, 2013. As shown in [Attachment 2](#), six bids were received and opened on June 19, 2013. The low bid from N<sup>th</sup> Generation Computing, Inc. in the amount of \$1,028,180.65 complies with the requirements of the specifications. The five higher bids ranged from approximately \$1.1 million to \$1.53 million. The budgetary estimate for this equipment, based on quotes from prospective bidders, was \$1,098,000.

Due to the specialized nature of the equipment being procured, no Small Business Enterprise (SBE) participation level was established for this contract. For bid evaluation purposes, a \$12,500-bid-price-reduction credit was provided to each of the bidders who qualified as an SBE and/or a Regional Business Enterprise (RBE), with a maximum credit of \$25,000. N<sup>th</sup> Generation Computing, Inc. is not an SBE, but is an RBE, and therefore received a \$12,500-bid-price-reduction credit during the bid evaluation.

This action appropriates \$1.70 million and awards a \$1,028,180.65 procurement contract to N<sup>th</sup> Generation Computing, Inc. to furnish replacement servers and associated operating software for Metropolitan's control system. The contract amount includes all sales and use taxes imposed by the state of California, as well as initial software licensing fees. Replacement of the existing control system servers will be performed by Metropolitan staff.

In addition to the amount of the contract, the requested funds include: \$321,000 for District forces labor for multiple-site installation, configuration, and testing and validation; \$180,000 for project and contract management; and \$170,819 for remaining budget. This project has been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team, and funds have been included within the fiscal year 2013/14 capital budget.

See [Attachment 1](#) for the Financial Statement and [Attachment 2](#) for the Abstract of Bids.

### ***Project Milestone***

November 2014 – Completion of control system server replacements

### **Policy**

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Metropolitan Water District Administrative Code Section 5108: Appropriations

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

### **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 includes the rehabilitation and replacement of existing equipment where older components are replaced by new components with the same purpose and capacity. Accordingly, the proposed action qualifies under a Class 2 Categorical Exemption (Section 15302 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under a Categorical Exemption (Class 2, Section 15302 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

## Board Options

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### Option #1

Adopt the CEQA determination that the proposed action is categorically exempt and

- a. Appropriate \$1.70 million; and
- b. Award \$1,028,180.65 contract to N<sup>th</sup> Generation Computing, Inc. for procurement of control system servers.

**Fiscal Impact:** \$1.70 million of budgeted capital funds under Approp. 15467

**Business Analysis:** This option would provide supportable and reliable servers for Metropolitan's mission-critical control system.

### Option #2

Do not procure and replace the control system servers at this time.

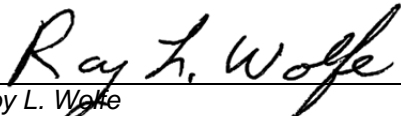

**Fiscal Impact:** No impact on capital expenditures. However, there will be ongoing and likely increasing maintenance costs where spare parts can still be obtained.

**Business Analysis:** The existing servers will eventually become unsupported. Not replacing these servers would increase the probability and risk of their failure, which could result in disruptions to water system operations, including key objectives of water quality, delivery, and safety.

## Staff Recommendation

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Option #1

	9/17/2013
_____ Roy L. Wolfe Manager, Business Technology	_____ Date
	9/18/2013
_____ Jeffrey Kightlinger General Manager	_____ Date

[Attachment 1 – Financial Statement](#)

[Attachment 2 – Abstract of Bids](#)

**Financial Statement for Water Operations Control Program**

A breakdown of Board Action No. 3 for Appropriation No. 15467 for the SCADA Server Upgrade Project is as follows:

	<b>Previous Total Appropriated Amount (Feb. 2012)</b>	<b>Current Board Action No. 3 (Oct. 2013)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies & Investigations	\$ 285,000	\$ 501,000	\$ 786,000
Final Design	-	-	-
Owner Costs (Program mgmt.)	87,000	-	87,000
Submittals Review & Record Dwgs	254,000	-	254,000
Metropolitan Force Construction	-	-	-
Materials & Supplies	-	1,028,181	1,028,181
Incidental Expenses	5,000	-	5,000
Professional/Technical Services	1,914,000	-	1,914,000
Equipment Use	-	-	-
Contracts	-	-	-
Remaining Budget	295,000	170,819	465,819
<b>Total</b>	<b>\$ 2,840,000</b>	<b>\$ 1,700,000</b>	<b>\$ 4,540,000</b>

**Funding Request**

<b>Program Name:</b>	Water Operations Control Program		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15467	<b>Board Action No.:</b>	3
<b>Requested Amount:</b>	\$ 1,700,000	<b>Budget Page No.:</b>	91
<b>Total Appropriated Amount:</b>	\$ 4,590,000	<b>Total Program Estimate:</b>	\$40,884,000

**The Metropolitan Water District of Southern California**

**Abstract of Bids Received on June 19, 2013**

**Request for Bids No. RFB-AB-26244**

**Purchase Hewlett Packard Proliant Servers**

This contract includes procurement of 32 servers for Metropolitan's SCADA system.

**Budgetary Cost Estimate: \$1,098,000**

	<b>Bidder and Location</b>	<b>Base Bid Price Total <sup>1</sup></b>	<b>Small Business Credit</b>	<b>Regional Business Credit</b>	<b>Evaluated Bid Total <sup>2</sup></b>
<b>1</b>	<b>N<sup>th</sup> Generation Computing, Inc.</b>	<b>\$1,028,180.65</b>	<b>N</b>	<b>Y</b>	<b>\$1,015,680.65</b>
2	Context Solutions	\$1,098,638.25	Y	N	\$1,086,138.25
3	New Tech Solutions, Inc.	\$1,238,615.69	N	N	\$1,238,615.69
4	Simply Software Plus	\$1,388,735.21	N	N	\$1,388,735.21
5	APEX Computer Systems, Inc.	\$1,430,084.36	Y	Y	\$1,405,084.36
6	Radiah Technologies Group, LLC	\$1,530,314.22	Y	N	\$1,517,814.22

<sup>1</sup> Includes sales and use taxes of 8.75 percent imposed by the state of California

<sup>2</sup> Includes SBE/RBE (Small Business Enterprise/Regional Business Enterprise) bid-price-reduction credits for the evaluated bid total. The maximum credit per bidder is \$12,500.