



● **Board of Directors**  
***Organization, Personnel and Technology Committee***

6/12/2018 Board Meeting

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**7-2**

**Subject**

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Adopt CEQA determination and appropriate \$450,000 for the Water Ordering and Energy Scheduling System (Appropriation No. 15501)

**Executive Summary**

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The current Energy Management System (EMS) software, implemented in 2007, is running on outdated software and an outdated/unsupported operating system. These systems no longer receive security updates; replacing the servers running this operating system is a high priority for Metropolitan's Information Technology Group. This action authorizes the replacement of the EMS software and includes capabilities for additional scheduling needs. The software's primary function is to manage energy production scheduling and reporting to the Public Utilities Commission (PUC). The scheduling functionality closely resembles that of the proposed water ordering software under this appropriation. The water ordering software allows member agencies to submit water flow change requests through a web interface and updates operational logs accordingly. Both projects serve the needs of Metropolitan's Operations Control Center (OCC) and will be combined into the Water Ordering and Energy Scheduling System.

**Details**

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**Background**

The current EMS provides scheduling for power usage and generation for Metropolitan's Hydroelectric Power Recovery Plants and the Colorado River Aqueduct (CRA) Pumping Operation. The EMS is running on outdated software and an outdated/unsupported operating system; thus, security and function patches are no longer available, making the system beyond end of life.

Recent changes to Metropolitan's contract with Southern California Edison reduced the original scope of this project. Although the software will no longer be used for scheduling pump operations along the CRA, the system is needed for scheduling operations of Metropolitan's hydroelectric plants. Staff located at Metropolitan's OCC are the primary users of the software. Since the original EMS was implemented in 2007, additional scheduling needs at OCC have been identified. The replacement Water Ordering and Energy Scheduling System will have the capability of meeting several OCC scheduling needs in a single system.

The water flow scheduler portion of the project will consist of the development of a software tool allowing member agencies to efficiently submit flow changes and schedule requests via a secure web page. The current process requires that an OCC system operator manually record flow change requests via telephone and take handwritten notes in order to then make control adjustments to hydraulically accommodate the flow requests. Providing a self-service portal for member agencies to submit flow change requests online will allow system operators to focus on the monitoring and controlling of the distribution and conveyance system, reducing interruptions and more effectively managing member agency flow change requests. Additionally, the Water Ordering and Energy Scheduling System will include the capability of forwarding power production schedules directly to the PUC as required for hydroelectric plant operation. A unified solution will reduce the number of separate applications Metropolitan currently maintains with the added benefit of incorporating current and secure

best practices. Furthermore, developing a single system under a combined project will be easier to maintain and operate, allowing for more simplified upgrades in the future.

### **Water Ordering and Energy Scheduling System Cost (\$450,000)**

The proposed work includes designing, developing, and deploying the web-based application; purchasing and configuring server hardware and software; and implementing security infrastructure allowing user access to member agency personnel. Staff will also explore cloud options for implementing the software as part of this project.

This project will replace existing Energy Management software and add additional functionality for operational schedule management.

This action appropriates \$450,000 (Appropriation No. 15501) for the replacement and development of a new application. This includes \$249,000 for internal labor, \$126,000 for computer hardware and server software, and \$75,000 for remaining budget. Ongoing operational and license costs will not exceed \$4,500 per year.

### **Summary**

This action appropriates \$450,000 for the replacement, development, and implementation of the Water Ordering and Energy Scheduling System software. This project is included within capital Appropriation No. 15501, Infrastructure Reliability Information System, which was initiated in fiscal year 2016/17. With this action, the total funding for Appropriation No. 15501 will increase from \$840,000 to \$1,290,000.

This project has been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team, and funds are available within the fiscal year 2017/18 capital expenditure plan. See **Attachment 1** for the financial statement.

### ***Project Milestones***

October 2018 – Pilot flow scheduler implementation with a single member agency

September 2019 – Complete Project

### **Policy**

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Metropolitan Water District Administrative Code Section 5108: Appropriations

### **California Environmental Quality Act (CEQA)**

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#### **CEQA determination for Option #1:**

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because the proposed action will not cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment and involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, where it can be seen with certainty that there is no possibility that the proposed action in question may have a significant effect on the environment, the proposed action is not subject to CEQA (Section 15061(b)(3) of the State CEQA Guidelines).

The CEQA determination is: Determine that the proposed action is not defined as a project under Public Resources Code Section 21065 and Section 15378(b)(2) of the State CEQA Guidelines and is not subject to CEQA pursuant to Section 15061(b)(3) 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 not defined as a project and is not subject to CEQA, and

- a. Appropriate \$450,000; and
- b. Replace the Energy Management System with the Water Ordering and Energy Scheduling System, incorporating additional scheduling and reporting functionality.

**Fiscal Impact:** \$450,000 of capital funds under Appropriation 15501

**Business Analysis:** This project will develop a replacement system to meet several OCC scheduling needs in a single system while replacing a system running on outdated software and an outdated/unsupported operating system.

**Option #2**

Do not proceed with the project at this time

**Fiscal Impact:** Unknown

**Business Analysis:** The Energy Management System will continue to operate on outdated software and an outdated/unsupported operating system. Staff will need to find ways to mitigate the cybersecurity risk of running this software.

**Staff Recommendation**

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Option #1

  
 \_\_\_\_\_ 5/21/2018  
 Charles Eckstrom Date  
 Group Manager, Information Technology

  
 \_\_\_\_\_ 5/23/2018  
 Jeffrey Kightlinger Date  
 General Manager

**Attachment 1 – Financial Statement**

**Financial Statement for the Infrastructure Reliability Information System Appropriation**

A breakdown of Board Action No. 2 for Appropriation No. 15501 for the Water Ordering and Energy Scheduling System project is as follows:

	<b>Previous Total Appropriated Amount (Jul. 2017)</b>	<b>Current Board Action No. 2 (Jun. 2018)</b>	<b>New Total Appropriated Amount</b>
Labor	\$ -	\$ -	\$ -
Owner Costs	79,000	249,000	328,000
Construction Inspection & Support	-	-	-
Installation, configuration & integration	376,000	-	376,000
Materials & Supplies	77,000	-	77,000
Incidental Expenses	-	126,000	126,000
Professional/Technical Services	230,000	-	230,000
Equipment Use	-	-	-
Contracts	-	-	-
Remaining Budget	78,000	75,000	153,000
<b>Total</b>	<b>\$ 840,000</b>	<b>\$ 450,000</b>	<b>\$ 1,290,000</b>

Funding Request

<b>Appropriation Name:</b>	Infrastructure Reliability Information System Appropriation		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15501	<b>Board Action No.:</b>	2
<b>Requested Amount:</b>	\$ 450,000	<b>Budget Page No.:</b>	111
<b>Total Appropriated Amount:</b>	\$ 1,290,000	<b>Total Appropriation Estimate:</b>	\$ 7,400,000