- **Board of Directors**
  Water Quality and Operations Committee

April 10, 2007 Board Meeting

8-3

Subject

Appropriate $4.41 million and authorize (1) Phase II of the Automatic Meter Reading Upgrade Project; and (2) amendment to an agreement with FluidIQs (Approp. 15397)

Description

Metropolitan's Automatic Meter Reading (AMR) system is essential to the preparation of Metropolitan's water billings and monitoring of water deliveries through service connections to member agencies. The AMR system was deployed in the mid-1990s and was initially installed at approximately 450 water meter locations throughout the distribution system. Since that time, the total number of sites has increased to 480 and is expected to increase in the growing regions of the service area. Over 370 of these meters measure and record both instantaneous water flow and cumulative water delivered to Metropolitan's member agencies, and are thus the primary source of water billing data, accounting for approximately 80 percent of Metropolitan's revenue. The remaining 110 meters are used for water distribution system control. The AMR System has reached the end of its service life; parts are no longer being manufactured and vendor services are being phased out. For example, meter readings are currently transmitted via analog cellular communications equipment, using equipment and services that are being phased out by commercial telecommunications providers. In addition, the main computer units (called remote terminal units) are no longer being manufactured. The objective of the AMR Upgrade Project is to replace all AMR computer hardware, software and communication equipment with modern and reliable commercial off-the-shelf units. This replacement system will transmit meter readings in near real-time, while simplifying system maintenance and improving the reliability and security of this critical aspect of Metropolitan's billing process. This upgraded system is expected to last seven to ten years.

The AMR Upgrade Project has been structured in two phases. Phase I was a pilot implementation, for approximately 30 meters, of the new AMR system designed by the consulting firm FluidIQs. Upon successful completion of the pilot phase and satisfactory performance by FluidIQs, Phase II would replace equipment and implement the new AMR system at the remaining 450 AMR meter sites. To date, the design and development of the pilot phase, and deployment of the system, have been completed. In addition, a comprehensive factory acceptance test was successfully completed. FluidIQs has performed well in completing the Phase I work. Therefore, staff recommends proceeding with Phase II at this time so that the upgraded AMR system would be on-line and operational at all 480 meter sites by July 2008.

Selection of FluidIQs to assist with the AMR Upgrade Project was made through a competitive process. Request for Proposals (RFP) No. 743 was issued to solicit consulting assistance with upgrading the AMR system at all meter locations. Six firms submitted proposals in response to the RFP and FluidIQs was selected to perform the work. In October 2005, Metropolitan's Board authorized an agreement with FluidIQs in the amount of $675,000 to implement Phase I of the project.

This action appropriates $4.41 million in budgeted funds and authorizes Phase II of the AMR Upgrade Project to replace equipment at the remaining 450 AMR meter sites and to provide and install necessary system-wide communications, hardware, software and security for a fully functioning new AMR system. This action also authorizes an increase of $4.21 million to the existing agreement with FluidIQs, for a new not-to-exceed total of $4.885 million. Under this amendment, FluidIQs would furnish and install the upgraded hardware, software and communications at the remaining 450 meter sites. Amendment of FluidIQs' agreement to complete the upgrade is

consistent with the intent of the original RFP and with the planned phased approach for project implementation. Metropolitan has established a Small Business Enterprise participation level of 15 percent for this agreement.

This project has been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team and funds have been included within the FY 2006/07 capital budget. See **Attachment 1** for the Financial Statement.

Policy

Metropolitan Water District Administrative Code Section 5108 – Appropriations
Metropolitan Water District Administrative Code Section 8121(a) – Award of Contracts over $250,000

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed actions are categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve the funding, design, minor alterations and replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed actions qualify under Class 1 and Class 2 Categorical Exemptions (Sections 15301 and 15302 of the State CEQA Guidelines). In addition, the appropriating of funds and the potential amendment to an existing agreement are not subject to CEQA because they involve other government fiscal activities, which do not involve any commitment to any specific project, which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify under two Categorical Exemptions (Class 1, Section 15301 and Class 2, Section 15302 of the State CEQA Guidelines), along with Section 15378(b)(4) of the State CEQA Guidelines.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination and

a. Appropriate $4.41 million in budgeted funds; and
b. Authorize an increase of $4.21 million to the agreement with FluidIQs to complete Phase II of the Automatic Meter Reading System upgrade.

Fiscal Impact: $4.41 million of budgeted funds under Approp. 15397
Business Analysis: This option would improve reliability of the AMR system by upgrading hardware, software, communications and security. This option would also provide more timely visibility of water delivery information.

Option #2

Do not proceed with upgrade.
Fiscal Impact: No immediate additional expenditure of budgeted capital funds. However, O&M costs to support the existing system will increase substantially in the future.
Business Analysis: Not upgrading the AMR system puts the reliability of electronically collecting water meter data at risk because of the age of the equipment, the unavailability of replacement parts, and the vendor phasing out analog cellular communication service. Eventual failure of the existing system will require that meters be read manually, on a daily and end-of-month basis. This would require additional staff dedicated to this task.

Staff Recommendation

Option #1

Roy L. Wolfe — 3/19/2007
Roy L. Wolfe — *Date*
Manager, Corporate Resources

Jeffrey Kightlinger — 3/27/2007
Jeffrey Kightlinger — *Date*
General Manager

Attachment 1 – Financial Statement

BLA #4748

Financial Statement for Control System Enhancement Program

A breakdown of Board Action No. 4 for Appropriation No. 15397 is as follows:

	Previous Total Appropriated Amount (Mar. 2006)	Current Board Action No. 4 (Feb. 2007)	New Total Appropriated Amount
Labor	$ 3,999,000	$ 170,000	$ 4,169,000
Materials and Supplies	1,137,000	-	1,137,000
Incidental Expenses	83,000	30,000	113,000
Professional / Technical Services	4,628,000	4,210,000	8,838,000
Equipment Use	1,000	-	1,000
Contracts	-	-	-
Remaining Budget	3,275,000	-	3,275,000
Total	**$ 13,123,000**	**$ 4,410,000**	**$ 17,533,000**

Funding Request

Program Name:	Control System Enhancement Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15397	**Board Action No.:**	4
Requested Amount:	**$** 4,410,000	**Capital Program No.:**	15397
Total Appropriated Amount:	**$** 17,533,000	**Capital Program Page No.:**	E-14
Total Program Estimate:	**$** $32,668,600	**Program Goal:**	Reliability