



March 2, 2017

## MEMORANDUM

To: Municipal Water District of Orange County

From: PFM Financial Advisors

Subject: Reserve Policy Funding Considerations

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PFM Financial Advisors LLC (“PFM”) was asked by the Municipal Water District of Orange County (“MWDOC” or the “District”) to review the District’s existing reserve policy and outline considerations regarding appropriate reserve levels should MWDOC’s activities extend beyond its current programs. This memo provides an assessment of adequate reserve levels for MWDOC should it continue operating primarily as a wholesale, pass-through water agency as well as a framework for assessing reserve levels should MWDOC undertake on-balance sheet projects and purchases. This memo further provides comparative data and rating agency medians in order to provide added context for this discussion.

### **Background**

The Government Finance Officers Association (GFOA) recommends that agencies fund working capital and other reserves to mitigate current and future risks and to ensure stable services and fees. Further – it is recommended that reserve targets and ranges be included in adopted reserve policies.<sup>1</sup> Properly designed reserve policies send a positive signal to water users, investors, and regulatory and credit rating agencies that MWDOC is committed to maintaining fiscal strength, as well as predictable rates for its member agencies. Strong and transparent financial policies, including maintaining prudent reserves for emergencies, rate stability, and working capital are consistent with best practices in the utility industry<sup>2</sup> and are important to MWDOC as they help to:

- Maintain the short-term and long-term financial strength
- Maintain stable rates for member agencies and help ensure manageable rate increases.
- Fund unanticipated cost contingencies.
- Ensure cash exists for the timely payment of bills.
- Provide funding for anticipated projects and programs.

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<sup>1</sup> Government Finance Officers Association, Best Practice – Determining the Appropriate Levels of Working Capital in Enterprise Funds

<sup>2</sup> Water Research Foundation, Defining a Resilient Business Model for Water Utilities, 2014



One common metric used to evaluate and set reserve targets is known as “days cash on hand” or “days cash”. This measures the amount of reserves (typically, unrestricted cash and investments in the reserve fund or funds) available to fund operating expenses. Days cash on hand is equal to the amount of reserves divided by one day’s worth of operating and maintenance expenses.

Since operating expenses vary over time as an agency adjusts activities, programs and initiatives, the absolute amount of reserves needed to meet a target based on days cash on hand will also be adjusted to reflect such changes. For example, if a target of 90 days cash is established, as operating and maintenance expenses increase over time due to inflation, the amount of money needed to be retained in reserve would also increase in order to maintain 90 days cash.

### **Existing Reserve Policy**

MWDOC’s current Reserve Policy describes the following reserve funds and targets:

- Tier 2 Contingency Fund: \$1 million
- General District Operating Reserve: \$1.85 million, target increases with inflation to \$2.1 million today
- Other Post-Employment Benefits Reserve: fund 100% of the actuarial liability, and maintain 85-95% in an irrevocable trust with the balance in a designated account
- Election Expense: up to [\$1.04 million]
- Cash Flow: \$1.5 million
- Building Expense: \$350,000

Each reserve fund is reviewed during the annual budget review process and to the extent that reserve levels deviate from their respective targets, the General Manager will make recommendations to the Board regarding the level of reserves.

As of June 30, 2016, MWDOC had approximately \$5.3 million in available unrestricted cash and investments, including prepayments for water by member agencies. Given budgeted operating and maintenance expenses (not including the pass through costs associated with purchase of water from Metropolitan Water District and grant funded expenses) of \$9.5 million, days cash at June 30, 2016 was equal to 204 days.

### **Reserve Levels Under Existing Operations**

Should MWDOC continue to operate as it currently does, serving primarily as a provider of imported water, PFM suggests that MWDOC maintain reserves consistent with its existing policy, with the following changes. First, it would be appropriate to combine the General District Reserve and Cash Flow Reserve into one Operating/Working Capital Reserve. Second, rather than establishing set targets, it might be appropriate to set reserve targets on the basis of days cash on hand. As such, each year as part of the budget process, MWDOC would revise the amount of money needed to be maintained based on actual operating and maintenance expenses. The existing levels and purposes are consistent with MWDOC’s current needs and operations, including semi-



regular expenses such as district wide elections, and rate stabilization in the event MWDOC is required to purchase Tier 2 water from MWD.

The GFOA recommends that enterprise funds set a working capital reserve target starting with a baseline of 90 days operating expenses in working capital, plus additional funds as necessary to meet specific circumstances. Depending on the specific circumstances, many water agencies have significantly larger reserve balances to account for things like disasters and emergencies, fluctuation in water sales, and unpredictable but foreseeable expenses (e.g., spikes in energy costs).

A minimum target for a working capital reserve would be approximately \$2.3 million or 90 days operating expenses. As noted in the following paragraph, there are additional factors that should be included as MWDOC determines the target for reserves, which would result in reserve targets in excess of 90 days cash on hand.

In particular, specific issues such as the need to fund Tier 2 sales, if sales increase in a given year, would add to the working capital reserve. A reserve of \$1 million for this purpose is appropriate, given MWDOC’s current water purchases of approximately \$140 million. Grant and project cash flow needs will fluctuate based on current programs available to MWDOC’s member agencies. Maintaining a reserve to smooth the timing of cash flows associated with these programs can be beneficial to member agencies and reserve sizing should be evaluated on a periodic basis as MWD and State and Federal grant programs evolve. For instance, typical repayment cycles for grant programs can extend for 3-6 months. If MWDOC were to receive a \$2 million grant that would pay for one-year’s worth of expenditures, but the granting authority would require 3 months to process reimbursement requests, it would be appropriate for MWDOC to increase its working capital reserve by \$500,000. The Election Reserve should be sized to meet anticipated expenditures. The building reserve appears adequate to address ongoing repair and maintenance needs.

As will be discussed in the next section, rating agencies also provide guidance for levels of days cash on hand. Typically, strong AA rated utilities are expected to maintain between 180 and 365 days cash, although many have unrestricted cash and investments that are even greater.

The following summarizes reserve targets under current operations and potential ranges for each reserve:

**Table 1. Reserve Fund Targets in Days Cash on Hand**

Working Capital Reserve (General District Reserve, plus Cash Flow Reserve):	90-180 days (\$2.3 – 4.6 million)
Tier 2 Contingency Fund:	40 days (\$1 million)
Building Expense <sup>(1)</sup>	10-15 days (\$350,000)
<b>Total</b>	<b>125 – 215 days (\$3.6-5.95 million)</b>

<sup>(1)</sup> The Building Expense reserve will be based upon the estimated repairs



The OPEB and Election Reserves are designated and are maintained separately to cover specific liabilities. In particular, the amounts in the OPEB reserve are used to pay for retiree medical benefits.

The above reserve targets and purposes are similar to other water agencies, but as shown in the Appendix, reserve targets and policies can vary greatly by agency, and many have reserve targets well above 90 days cash on hand, and actually maintain unrestricted cash and investments at levels well above 90 days working capital.

### **Reserve Levels Under Expanded Operations**

MWDOC has contemplated developing water resources and/or conveyance projects to support its member agencies water resource needs. The amount of reserves required to ensure market access, affordable financing for capital projects, and financial stability should MWDOC either contract for supplies, issue debt and own and operate facilities, or some combination of these, will increase. But – the actual amount and timing for building those reserves will depend on the actual projects, as well as the institutional relationships to ensure payment for debt service, contract payments, and operating and maintenance expenses.

If MWDOC wishes to pursue additional projects or programs, it is recommended that MWDOC consider funding larger reserves to provide additional stability and flexibility, as well as funding for potential projects such as water or land purchases. If MWDOC were to fund larger capital projects and issuing debt or utilizing some other form of borrowing, MWDOC should consider adding to reserves as described below. The following describes different purposes for reserves, and suggests that MWDOC would fund several different reserves with the balance of reserves in aggregate serving as the policy target.

#### **Operating Reserve/Working Capital Reserve (Existing Reserve)**

As noted above under the current reserve policy, it is recommended that for the operating reserve/working capital reserve MWDOC maintain a minimum of (90 days and a maximum of 180 days of budgeted operating expenses, excluding depreciation expenses. The purpose of the operating reserve/working capital reserve is intended to address the timing issues associated with incurring operating costs and collecting revenues. Such a reserve would also be required as MWDOC executes a larger capital program.

#### **System Critical Failure Reserve (New Reserve)**

MWDOC would also use reserves for unanticipated investments in damaged assets and should consider maintaining a portion of the reserves that is for a single emergency event (e.g. pipeline failure, earthquake). It is recommended that MWDOC build a reserve for system failure (given



that there will now be operating capital assets) equal to 1 percent of Total Depreciable Assets as recorded in the most recent audited financial statements Statement of Net Position.

### **Debt Service Reserve (New Reserve)**

Should MWDOC fund a portion of any project through a potential debt issuance, MWDOC would need to fund a Debt Service Reserve fund. The Debt Service Reserve Fund would typically be funded from bond proceeds at the time of closing. The Debt Service Reserve Fund would be restricted and pledged to payment to bondholders should revenues be insufficient. In addition, MWDOC would fund an annual debt service fund based on the principal and interest payments due in each year. This fund would be typically funded with 1/6 of interest payments each month, plus 1/12<sup>th</sup> of the principal payment due in the year.

### **Capital Improvement Fund (New Reserve)**

Some capital improvements are funded through bond issuances and some through rates. The establishment of a minimum cash reserve level helps to ensure funds exist for timely replacement or construction of assets. It is recommended that MWDOC include 20 percent of the projected five year average of the capital improvement program which is not funded through the issuance of bonds or other external funding source in a capital improvement fund.

Depending upon the type of expenditures that MWDOC anticipates, the amount needed in the Capital Improvement Fund will vary.

Water Purchase. For instance, if MWDOC simply wished to purchase a quantity of water that cost \$5 million, it is likely that MWDOC would cash fund this expenditure. As such, in anticipation of such a purchase, MWDOC would need to build a reserve equal to the anticipated purchase price – and would likely set this reserve level based on anticipated acre-feet needs and the projected price per acre-foot.

Land Purchase. Similarly, depending on the cost of a land purchase (e.g., to acquire water rights), MWDOC could either build up a reserve over time (say 2-3 years) equal to the estimated cost of such acreage or fund a reserve equal to half the cost, and anticipate utilizing a direct loan to fund the balance of the purchase price.

Capital Expansion. Should MWDOC anticipate a major capital project (e.g., pipeline and reservoir or wells) of \$50 to \$60 million, MWDOC's reserve for capital improvements could increase to approximately 10% of the anticipated cost of the facilities. But – this anticipates that MWDOC would be using borrowed monies for the balance – which could come from publicly issued debt or other sources such as the State Revolving Loan Program. In this case, as noted above, MWDOC would also likely need to fund a Debt Service Reserve Fund, which could come from bond proceeds.



## **Relationship between Project Funding Sources and Reserves**

There are many factors that will influence whether future projects are funded using accumulated reserves or through the issuance of bonds in the public market, including an agency's ability to access the public capital markets at an attractive borrowing cost. Beyond the need to be creditworthy, the type of project (e.g. water purchase, land acquisition, long-lived capital infrastructure) and size of the project are two main drivers of the determination whether to finance the project with cash or proceeds from a bond issue. With respect to the nature of the project, major infrastructure assets that are projected to have a long useful life (i.e. greater than 45 years) and larger land acquisitions (\$50 million or more) would be candidates for debt financing, while smaller land purchases (up to \$10 million) would likely be funded with cash and/or accumulated reserves. Intermediate size projects (\$10-\$50 million) may be candidates for a private placement or direct loan from a bank or SRF financing, if available.

It is practical to fund smaller projects with cash and larger projects with bonds in order to minimize transaction costs associated with a financing. For instance, a public market bond sale would incur costs related to (i) legal documents and required legal opinions, (ii) bond rating agencies, (iii) investment bank underwriting, (iv) administration of bond proceeds, (v) financial advisor and other consultant fees, among other expenses. Not surprisingly, transaction-related costs are larger as a percentage of the total financing cost for smaller financings as compared to larger financings.

- \$5 million project may incur issuance costs that would increase the cost of funding by 30-40 basis points over a 30-year period
- \$50 million project might incur issuance costs in the range of 5-7 basis points, also over a 30-year period; while a
- \$200 million project would incur issuance costs in the range of 4-6 basis points

As shown in the examples above, the relationship between issuance costs and transaction size is not linear. For instance, it will cost about the same in percentage terms to issue \$50 million of bonds as it would to issue bonds to fund a \$250 million project. While each project should be evaluated on a standalone basis, general size guidelines would suggest projects less than \$10 million be funded with accumulated cash reserves, while intermediate size projects (~\$10-\$50 million) might be best suited for a combination of cash financing paired with a direct bank loan, private placement, or alternative private-market source of financing. Projects in excess of \$50 million should be considered for SRF and/or bond financing.

As noted above, it is likely that water purchases would be funded with cash (or some other form of short-term financing) regardless of the size of the purchase.



**Reserve Policy Ranges – (Expanded Operations)**

MWDOC should target a level of unrestricted reserves equivalent to at least 180 Days Cash, with a minimum of 90 days cash in the Working Capital Reserve. Depending on whether MWDOC is building a reserve to fund a water purchase vs. developing capital projects such as wells and pipelines that it would operate would influence the target level of reserves.

Reserve funds such as the critical failure reserve and debt service reserve fund are not anticipated to be utilized, but will be available as insurance or to fund debt service payments in the event other resources are unavailable (or the last debt service payment in the case of the debt service reserve). The operating reserve/working capital reserve and capital reserve may be used for specific purchases as directed by the Board of Directors during the budget process.

As a result of these ranges, reserves would have minimum and maximums, providing for flexibility. Depending on activity level, maintaining reserves in the range of 180-365 days cash on hand (\$4.7 - \$9.5 million based on the current operating budget) would be consistent with rating agency metrics shown in Table 2.

**Rating Agency Considerations**

As noted above, credit rating agencies view liquidity in the form of available reserves as a critical component of their evaluation. Credit ratings are one component of reserve levels. Higher credit ratings result in lower costs of borrowing, thus saving money for MWDOC’s member agencies in the long-term (assuming that MWDOC will need to borrow money to fund capital projects).

**Table 2. Rating Agency Metrics**

<b>Rating Agency Cash &amp; Liquidity Metrics</b>			
<b>S&amp;P<sup>1</sup></b>			
Rating	AAA	AA	A
Days' Cash Level	> 150	90-150	60-90
Actual Available Cash Reserves	> \$75mm	\$20-75mm	\$5-20mm
<b>Moody's Criteria</b>			
Rating	Aaa	Aa	A
Days' Cash Level	> 250	150-250	35-150
<b>Fitch</b>			
Rating Category	Stronger	Midrange	Weaker
Days' Cash Level	> 360	~ 180	< 90

<sup>1</sup> S&P’s cash and liquidity assessment evaluates both days’ cash and actual available cash reserves.



## APPENDIX

### Other Reserve Policy Examples

Utility Reserve Policy					
Utility	MWDOC	West Basin MWD	Calleguas MWD	Eastern MWD	Upper San Gabriel
<b>Restricted Reserves</b>					
Tier Two Contingency	\$1,000,000				
OPEB	Fully Fund Liability – maintain 85-95% in trust, balance in restricted account				
Standby Charge		Remaining Associated Debt			
Other Restricted Reserves				\$2,000,000	
<b>Unrestricted Reserves</b>					
Cash Flow (Operating Liquidity)	\$1,500,000	180 Days	180 Days	90 Days	90 Days
Operating Contingency		5% of Recycling O&M	32,500 A.F. of Water Purchases from MWD	5% of Total O&M	
Building Expense (R&R)	\$350,000	1% of Depreciable Assets	Annual Requirement determined during Budget Process	\$500,000	
Capital Contingency		10% of 3-Year average capital budget	\$15,000,000		1-2% of Depreciable Assets
Rate Stabilization		1 Year of Water Sales		32% of Annual Water Purchases	180 Days
Other Reserves	\$2,100,000 (inflation adjusted)	5% cash financing for future large scale capital projects		\$2,000,000	



## Comparative Liquidity Metrics

<b>Water Agency</b>	<b>Annual Operating Expense (\$000)</b>	<b>Unrestricted Cash &amp; Investments (\$000)</b>	<b>Actual Days Cash on Hand</b>
Irvine Ranch Water District	\$175,694	\$213,863	444
Moulton Niguel Water District	\$83,838	\$119,119	519
East Orange County Water District	\$6,899	\$8,374	443
Yorba Linda Water District	\$30,468	\$39,676	475
Mesa Water District	\$28,026	\$39,445	514
El Toro Water District	\$20,613	\$14,904	264
Trabuco Canyon Water District	\$7,037	\$7,324	380

Source: FY2016 Comprehensive Annual Financial Reports, except Mesa Water District (FY2015).