



New Issue: Moody's assigns Aa2 rating and stable outlook to MWRA's (MA) \$62.8 million Multi-Modal Subordinated General Revenue Refunding Bonds, 2012 Series E

Global Credit Research - 06 Nov 2012

Senior lien debt affirmed at Aa1; Subordinated debt affirmed at Aa2; Total of \$4.67 billion of rated debt outstanding

MASSACHUSETTS WATER RESOURCES AUTHORITY
Combined Utilities
MA

Moody's Rating

ISSUE	RATING
Multi-Modal Subordinated General Revenue Refunding Bonds 2012 Series E	Aa2
Sale Amount	\$62,800,000
Expected Sale Date	11/15/12
Rating Description	Revenue: Government Enterprise

Moody's Outlook

Opinion

NEW YORK, November 06, 2012 --Moody's Investors Service has assigned a Aa2 rating to the Massachusetts Water Resources Authority's (MWRA) \$62.8 million Multi-Modal Subordinated General Revenue Refunding Bonds, 2012 Series E. Concurrently, Moody's has affirmed the Aa1 rating assigned to the authority's \$3.49 billion of outstanding senior lien general revenue bonds and the Aa2 rating assigned to the authority's \$1.18 billion of outstanding subordinated general revenue bonds. The outlook is stable.

The 2012 Series E bonds are being issued through a negotiated direct-purchase agreement with Citibank, N.A. (long term rating A3/negative outlook). In addition to the 2012 Series E bonds, the Authority is also issuing \$60.3 million Multi-Modal Subordinated General Revenue Refunding Bonds, 2012 Series F through a direct purchase agreement with RBC Capital Markets, LLC (issuer rating A2/stable outlook), and \$57.8M Multi-Modal Subordinated General Revenue Refunding Bonds, 2012 Series G through a direct purchase agreement with Wells Fargo Bank, NA (Wells Fargo, issuer rating Aa3/stable outlook). The 2012 Series F and 2012 Series G bonds are unrated by Moody's.

Proceeds from the 2012 Series E, F, and G bonds will be used to refinance \$181 million of the MWRA's 2008 Series B, and 2008 Series C-1 bonds, which had been supported with Bank of America, NA (long term rating A3/stable) Standby Bond Purchase Agreements (SBPA's). The bonds are secured by a subordinate lien pledge of net system revenues and benefit from satisfactory structural provisions including a 1.1 times rate covenant on total debt (senior and subordinate). Additional security is provided for two-thirds of MWRA's revenues, because of the underlying strength of the member communities' general obligation pledges to make timely assessment payments to the authority as well as a tested state intercept program.

SUMMARY RATINGS RATIONALE

The Aa2 subordinate lien rating incorporates the bonds' subordinate position relative to MWRA's senior lien debt and the authority's weaker legal covenants requiring rate revenue coverage of 1.1 times on combined senior and subordinated debt service, including subordinated fixed-rate loans issued to the authority by the State Revolving Fund (Massachusetts Water Pollution Abatement Trust rated Aaa/stable outlook).

The Aa1 senior lien rating recognizes the solid and stable credit strength of the authority's service area, a high, but

manageable debt burden with significant variable rate exposure, and a satisfactory financial position with satisfactory debt service coverage levels. Also factored into the rating are the authority's reliance on regular rate increases to support debt service and anticipated capital needs.

The stable outlook reflects MWRA's sound financial performance despite pressure to limit rate increases from its members, most of which are experiencing ongoing financial stress relating to the lingering regional recession. Also incorporated in the stable outlook are the authority's expected maintenance of sound reserve levels after the upcoming release of debt service reserve funds under the amended bond resolution, expected in 2016. Further, the stable outlook incorporates MWRA's plan to achieve full funding of its pension and OPEB liabilities.

STRENGTHS

- Strong credit quality and excellent payment history of local government members
- Availability of intercept of members' state aid to cure delinquencies
- Effective management of financial performance, capital needs and debt profile
- Satisfactory debt service coverage
- Ample water supply and well-maintained treatment facilities

CHALLENGES

- High debt ratio
- Significant exposure to risks associated with variable-rate debt and swap agreements
- Reduced flexibility from lowered budget for variable-rate interest costs
- Pending resolution changes allowing reductions in debt service and other reserves
- Reliance on regular rate increases for foreseeable future
- Limited ability to expand service area

DETAILED CREDIT DISCUSSION

HIGH DEBT RATIO WITH SUBSTANTIAL VARIABLE-RATE RISK

MWRA's outstanding debt totals a sizeable \$5.83 billion, slightly below its legislatively established debt limit of \$6.45 billion, largely reflecting completion in the last decade of \$7.6 billion in water and wastewater treatment facilities. Variable-rate debt represents a significant 23% of total outstanding debt, and includes commercial paper (\$144 million, 3% of total debt), variable rate demand bonds (VRDBs) supported by letters of credit (\$153.8 million, 3%), VRDBs supported by stand-by purchase agreements (SBPAs, \$803.5 million, 14%), and variable rate direct purchase bonds (\$181 million, 3%). The authority's debt ratio of 79.7% is well above norms for utilities rated by Moody's, but not unusual for systems providing wholesale operations and having to fund capital requirements associated with environmental consent decrees. The authority's debt burden is expected to remain elevated for the long term as principal is amortized slowly, at roughly 36% within ten years (78% within 20 years), reflecting the long useful life of the system's recently completed treatment plants.

Authority officials remain generally conservative in budgeting for debt service including its assumption for unhedged variable-rate interest, which was maintained at 3.25% for fiscal 2013. This rate is based on a 20-year historical average and has been reduced gradually since fiscal 2007 from the peak of 4.75%. The reduction somewhat limits MWRA's flexibility to manage unanticipated increases in debt service costs should interest rates begin to rise. The authority plans to issue up to \$200 million of debt annually in support of its \$1 billion, five-year capital improvement program; the majority of projects focus on control of combined sewer overflows and maintenance of existing system assets as well as upgrades to improve water quality and system reliability and redundancy. In the near term, MWRA plans to issue approximately \$100 million of senior lien fixed-rate bonds and \$38 million of subordinated fixed-rate SRF loans in 2013 to provide financing for fiscal 2013 capital projects. Future refundings to achieve debt service savings, reduce variable rate exposure and mitigate future rate increases are likely as market conditions allow savings exceeding 4% of refunded principal.

Of the \$1.3 billion of outstanding variable rate debt a sizeable \$587.3 million (46% of variable-rate debt) is hedged

with interest rate swaps while the remaining \$695 million, including \$144 million of outstanding commercial paper, is unhedged. The current aggregate mark-to-market value of MWRA's swaps is negative \$183.2 million, although events resulting in automatic termination are somewhat remote. MWRA's current debt profile is structured and actively managed so that inherent variable-rate risks are somewhat mitigated by the diversity in swap counterparties and SBPA providers, as well as the authority's solid cash position, ability to borrow temporarily from various reserve funds, and the ability to issue long-term debt for swap termination payments. Also offsetting debt structure risk is management's demonstrated ability to monitor its debt portfolio performance and to replace or reassign swap and credit enhancement providers, generate additional assessment revenue through timely interim assessments and curtail operating expenditures to maintain the authority's sound financial position and debt service coverage.

DIVERSE VARIABLE RATE DEBT PORTFOLIO HELPS MITIGATE EXPOSURE TO PRESSURED PROVIDERS OF LIQUIDITY; LIMITED ABILITY TO FUND ACCELERATED PAYMENTS

Moody's has subjected MWRA's debt portfolio to various stress scenarios reflecting market dislocations resulting in increased interest and swap payment expense as well as accelerated principal repayments, demonstrating that, relative to the authority's resources and operational flexibility, its 23% exposure to variable rate debt and derivatives poses a moderate amount of risk. Although MWRA has taken steps to diversify liquidity facility providers and swap counterparties, the authority remains exposed to the risk of accelerated debt repayment should the agreements terminate due to financial institution downgrades. The authority's \$1.14 billion in variable-rate demand obligations is not supported by a debt service reserve, and any increase in debt service rates or accelerated principal would strain MWRA's operating, rate stabilization and various other unrestricted reserves. Notably, the 2012 Series E, F, and G bonds will be used to refund roughly 15% of MWRA's VRDO/SPBA obligations that were previously supported by Bank of America, NA (A3/stable outlook) SBPA's; the bank's rating was recently downgraded which could have triggered increased interest payments.

Somewhat mitigating variable-rate risk are cash reserves, commercial paper capacity and the ability to impose a mid-year rate increase or curtail capital and other expenditures; any or all options could be employed as a bridge to temporarily support operations and debt service until debt refunding, new credit enhancement agreements were negotiated or swap agreements were transferred. Should prolonged market disruption prevent market access or cause cascading events requiring significantly increased interest rates, accelerated principal repayment or termination payments, reducing the authority's operating flexibility and draining cash reserves, MWRA's credit strength could be significantly affected. MWRA's debt portfolio includes no insured VRDB or auction rate securities; all such outstanding bonds were refunded in May 2008 with variable rate demand bonds which are supported by standby purchase agreements (SBPA). MWRA has not experienced any unremarketed tenders.

DIVERSE LIQUIDITY PROVIDER AND SWAP COUNTERPARTY MIX

MWRA entered into five floating-to-fixed swap agreements covering several series of outstanding variable rate bonds issued in 2002 and 2008 with a total notional amount of \$587.3 million, with the most recent agreements entered into with Barclays Bank PLC (Barclays, A2/negative outlook) and Wells Fargo (Aa3/stable outlook) in October and November 2008 to replace agreements with Lehman Brothers affiliates that were terminated as part of Lehman's bankruptcy. All of the agreements are structured to match maturity with the original swap termination dates. Swap payments are on parity with subordinated debt service payments, termination payments are subordinate to all debt service payments. Most recent mark-to-market valuations (October 31, 2012) indicate an aggregate liability to MWRA of approximately \$183.2 million. Early termination events are triggered if MWRA's underlying senior lien rating falls below Baa3. Although that risk is remote at this time, payments could be bonded or partially funded with capacity in MWRA's commercial paper program, which has \$156 million available, net of its \$50 million required environmental emergency reserve.

Portions of the 2008 Series A and 2008 Series E bonds are hedged by interest rate swaps with Barclays (A2/negative outlook, notional amount \$133 million) and Wells Fargo (Aa3/stable outlook, notional amount \$133 million). A forward-starting swap with Barclays also covers these bonds, beginning in August 2030 and expiring at the bonds' maturity in August 2037. The Barclays agreements were amended to adjust both the fixed and variable rates of the swap, with \$7.3 million of debt service savings projected through 2037 million and \$1 million addition to the swaps' mark-to-market value. Barclays and Wells Fargo are obligated to pay the authority variable interest rates equal to 67% of 3-month LIBOR plus 13 basis points and the SIFMA Municipal Swap Index rate, respectively, while the authority is obligated to pay the counterparties fixed interest rates ranging from 4.12% to 6.935% over the life of the bonds and swap agreement. The Wells Fargo and Barclay swaps expire on August 1, 2030, after which the forward-starting Barclay's swap will begin, with an expiration date of August 1, 2037.

The 2008 Series C-2 bonds are covered by a swap agreement with Citibank NA (Citibank, A3/negative outlook, notional amount \$108.7 million). The 2012 Series G bonds will be refunding the 2008 Series C-1 bonds, which were covered by a swap agreement with Morgan Stanley (Baa1/negative, notional amount of \$72.5). The Morgan Stanley swap on the 2008 C-1 bonds will now be applied to the 2012 Series G Bonds. The swap agreement with Citibank provides that Citibank is obligated to pay the authority a variable interest rate equal to the SIFMA Municipal Swap Index rate while the authority is obligated to pay Citibank a fixed interest rate of 3.994%. Morgan Stanley is obligated to pay the authority a variable interest rate equal to SIFMA Municipal Swap Index rate and the authority is obligated to pay Morgan Stanley a fixed rate of 4.03275%. The Citibank and Morgan Stanley swaps have an expiration date of November 1, 2026.

The 2008 Series A, and 2008 Series E bonds together with Series 2002 D, which is supported by a Landesbank Baden-Württemberg (A3/stable outlook) letter of credit, are hedged by an interest rate swap with a total of \$145.7 million outstanding with The Goldman Sachs Group, Inc (A3/negative outlook). Goldman is obligated to pay the authority a variable interest rate equal to 67% of one-month LIBOR while MWRA is obligated to pay Goldman a fixed interest rate of 4.127%. The Goldman swap has an expiration date of August 1, 2015.

Six SBPAs provide credit support for the authority's Series 2008 A, C, E, and F bonds totaling \$803 million in outstanding variable rate obligations. Agreements with JP Morgan Chase Bank, NA (JP Morgan, Aa3/stable outlook), TD Bank, NA (Aa2/ rating under review for possible downgrade) and Wells Fargo (Aa3/stable outlook) support the Series 2008A-1, Series 2008A-2 and Series 2008A-3 bonds, respectively, totaling \$337.7 million. The Series 2008C-2 bonds, totaling \$117.7 million, are supported by an agreement with Barclays. Agreements with JP Morgan and the Bank of Nova Scotia (Aa1/ rating under review for possible downgrade) provide support for the Authority's Series 2008 E and Series 2008 F bonds, respectively, totaling \$348.1 million. Maturities are staggered with various maturity dates occurring between May, 2013 and November, 2014.

Letters of Credit (LOC) issued by Landesbank Hessen-Thüringen GZ (A2/stable outlook) and Landesbank Baden-Württemberg (A3/stable outlook) support the remaining \$97.4 million of VRDBs and expire in December 2015. MWRA's 1994 commercial paper program is supported by a LOC with Bayerische Landesbank (BayernLB, Baa1/stable outlook) and the agreement is scheduled to expire on November 30, 2015. The MWRA's 1999 commercial paper program is supported by a LOC with State Street Bank and Trust Company (Aa2/stable outlook) with an agreement expiration of September 2015.

The newly issued 2012 Series E, 2012 Series F, and 2012 Series G bonds, were all issued through negotiated direct purchase agreements with Citibank NA, RBC Capital Markets, and Wells Fargo, respectively. The Citibank agreement covering \$62.83 million of 2012 Series E bonds has a three year term, and will bear interest at a variable rate of SIFMA Municipal Swap Index plus 50 basis points. The agreement may be terminated by Citibank, with all outstanding debt being immediately accelerated, if any number of covenants are violated, including if the Authority is downgraded below A3. The RBC Capital Markets agreement covering \$60.3 million of 2012 Series F bonds has a three year term, and will bear interest at a variable rate of SIFMA Municipal Swap Index plus 60 basis points, although this may be increased should the MWRA's rating be downgraded. The agreement may be terminated by RBC if any number of covenants are violated. RBC may accelerate all outstanding debt within seven days if the authority is downgraded below Baa3, or 180 days if the Authority is downgraded below A3. The Wells Fargo agreement covering \$60.3 million in 2012 Series G bonds has a five year term, and will bear interest at a variable rate of SIFMA Municipal Swap Index plus 70 basis points, although this may be increased should the MWRA's rating be downgraded. The agreement may be terminated by Wells Fargo with all outstanding debt being immediately accelerated, if any number of covenants are violated, including if the Authority is downgraded below A3.

FINANCIAL FLEXIBILITY RELIES ON MODERATE RATE INCREASES

The authority's financial performance is expected to remain stable, although the adoption of regular rate increases is critical to generating annual surpluses and strong debt service coverage. Annual operations and hefty debt service obligations have historically been sustained by annual rate increases averaging 4.1% since 2000, with much of annual operating surpluses transferred to augment various reserves, to increase optional contributions toward long-term liabilities, and to defease outstanding debt. The authority's primary revenue source is rates and charges assessed on 61 member communities (weighted average G.O. rating is Aa2); assessments accounted for a 95% of fiscal 2012 revenues. Senior debt service coverage has comfortably exceeded MWRA's senior lien rate covenant and additional bonds test of 1.2 times, although total debt service coverage hovers closer to the total rate covenant and additional bonds test of 1.1 times.

MWRA's debt service coverage, as defined by its bond resolution, allows for the recognition of annual transfers

from reserves in net revenues, which MWRA commonly uses. Consequently, coverage as defined by the resolution is generally higher than Moody's net revenue calculation for all revenue systems, which does not include reserve transfers. Senior lien coverage, based on Moody's definition of net revenues, was a healthy at 1.97 times in fiscal 2012 and is projected at over 2 times in fiscal 2013. Total net revenue debt service coverage was more narrow at 1.1 times in fiscal 2012 and is projected at 1.12 times in fiscal 2013. Coverage in fiscal 2012 from pledged revenues, as defined by MWRA's resolution, was strong at 2.11 times and 1.19 times for senior lien and total debt service, respectively. Projected senior lien debt service improves modestly in fiscal 2013 to 2.14 times, with total debt service coverage is projected at 1.12 times.

Operations typically generate sizeable annual surpluses which have averaged \$23.6 million since 2007. Surpluses are typically employed to defease outstanding debt related to a spike in debt service anticipated in 2021, and to replenish reserves when necessary. Since 2006, \$254.6 million in outstanding debt has been defeased, and \$42.8 million has been transferred to reserves. Management monitors revenues and expenditures carefully to produce operating surpluses and to make additional contributions to pension and OPEB liabilities. Although mid-year rate increases are rare, expenditures are regularly managed, particularly adjustments to the pace of maintenance and capital projects. Reflecting a 3.49% rate increase (up from 1.49% in 2011) fiscal 2012 operations produced a sizeable \$33.9 million surplus, all of which was used for debt defeasance.

The fiscal 2013 current expense budget (CEB) is based on a more typical rate increase of 3%, and future rate increases are projected to range from 4.4% to 8.9% through fiscal 2017. While MWRA's total coverage remains generally lower than that of comparably-rated utilities, the authority's credit profile is strengthened by historical 100% collection rates and the availability of the commonwealth's local aid intercept program for assessments.

AMENDED GENERAL RESOLUTION RELEASES DEBT SERVICE AND OTHER RESERVES IN 2016

MWRA is expected to maintain a sound financial position with ample liquidity, a critical factor in managing variable-rate and swap termination or acceleration events should market disruption and financial institution instability recur in the future. The authority maintains several reserve accounts which totaled roughly \$404.7 million in fiscal 2012, including an unrestricted operating reserve of \$37.4 million, equivalent to roughly two months' of expenses. MWRA's cash position is satisfactory, representing roughly 44.5% of O&M or 162 days of operations. Moody's expects that MWRA will maintain its solid financial position given its conservative budgeting, planned regular rate increases and the anticipated maintenance of satisfactory reserve levels.

While historically MWRA has not needed to significantly reduce its rate stabilization and bond redemption funds, the authority continues to project depletion of both funds by 2021 to smooth future rate increases and reduce outstanding debt associated with the highly-leveraged system. Economic recovery at the state and local levels is expected to lag general economic recovery and could exert pressure on MWRA's ability to impose regular rate increases and augmentation of reserves. MWRA's amended bond resolution, adopted in 2007 and now projected to take effect by 2016, permits the release of substantial reserves which were largely pledged exclusively to senior-lien debt service. Management plans to use the released cash primarily to defease debt and will set aside reserves to smooth future spikes in debt service. Exhaustion of rate stabilization and bond redemption funds, combined with the anticipated release of up to \$113 million in debt service and other reserve funds under MWRA's amended resolution, could result in diminished flexibility and capacity to absorb future financial pressures and may have a negative impact on long-term credit strength.

REGIONAL SYSTEMS CAPITAL INVESTMENTS PROVIDE ESSENTIAL SERVICE TO EASTERN MASSACHUSETTS

MWRA provides wholesale water and wastewater services to 61 communities in eastern Massachusetts (G.O. rated Aa1/stable outlook), serving approximately 2.8 million people, or 43% of the Commonwealth's population. Incorporated in the long-term ratings are MWRA's strong historical collection of assessments supported by historical receipt of 100% of assessments within the levy year, one-third of which come from the Boston Water and Sewer Commission (revenue bonds rated Aa1). Additional credit strength is provided by: MWRA's ability to intercept the majority of the members' quarterly state aid payments; the authority's stable membership with lack of alternative sources; independent rate-setting authority; and the essential nature of the services provided. As a result of the authority's significant capital investment in waterworks and wastewater treatment and transmission facilities, the authority reports important improvements in water quality. Water is supplied to 50 communities and is primarily derived from the Quabbin Reservoir, located 65 miles west of Boston (G.O. rated Aaa/stable outlook) and the Wachusett Reservoir, located 35 miles west of Boston, with a combined capacity of 477 billion gallons. Demand consistently falls below the safe yield level of 300 million gallons per day and capacity is expected to be sufficient for at least 20 years. Treatment of much of the system's water by ozonation and chlorination is provided

at the system's John J. Carroll Treatment Plant. Installation of an ultraviolet treatment system is slated for 2014 to comply with EPA standards.

Transmission and covered storage facilities include the \$700 million, 17.6-mile MetroWest Water Supply Tunnel and the \$107 million, 155 million gallon Norumbega Covered Storage Facility. Completion of these projects improved the system's security and compliance with the federal Safe Drinking Water Act. The authority's capital improvement plan (CIP) has shifted focus to maintenance and rehabilitation of pipelines, pumping facilities, and expansion of the system's central monitoring system.

Wastewater collection and treatment are provided to 43 communities, with a major treatment facility located on Deer Island in Boston Harbor. The \$3.8 billion Deer Island plant and 9.5-mile effluent outfall tunnel were phased into service beginning between 1996 and 2000, and allow for average flow of 310 million gallons per day (with peak capacity of 1,270 mgd). Sludge is piped to the authority's pelletization plant in the City of Quincy (G.O. rated Aa3) where it is processed into commercially available fertilizer. The MWRA's \$1 billion long-range Capital Improvement Plan (CIP) calls for a substantial continued investment in combined sewer overflow projects as well as facility maintenance and upgrades of the conveyance system. Favorably, the amount of MWRA's CIP that is mandated by regulatory agency deadlines has fallen to a manageable 36% from over 80% in the previous decade.

Outlook

The stable outlook reflects Moody's expectation that MWRA will maintain positive operations, sound reserve levels, active management of its variable rate portfolio, healthy debt service coverage and steady progress toward funding long-term pension and OPEB liabilities. Critical to maintaining the stable outlook will be authority's ability to maintain financial flexibility after the amended bond resolution and release of reserves takes effect.

WHAT COULD MAKE THE RATING GO UP

- Improved coverage for senior and total debt service
- Substantial enhancement of service area's composite credit strength
- Lower debt ratio
- Reduced exposure to risks associated with variable rate debt and derivative agreements

WHAT COULD MAKE THE RATING GO DOWN

- Significant reduction of cash reserves and financial flexibility after amended bond resolution takes effect
- A prolonged period of minimal rate increases, shifting funding of capital needs and long-term liabilities to the future
- Failure to reduce debt burden as planned
- Higher debt ratio or increased exposure to variable rate debt
- Acceleration of debt amortization due to failed remarketings and subsequent bank bond repayment at higher interest rate
- Deterioration of service area's composite credit strength
- Reduction in debt service coverage
- Failure to effect mid-year rate adjustments or expenditure controls when necessary

KEY DATA AND RATIOS

Type of System: Water and Sewer Treatment and Transmission

Population of Service Area: 2.8 million

Local Bodies assessed wholesale rates and charges (fiscal 2012): 61

Rate Revenue Collections within 30 days of due dates (fiscal 2012): 100%

Total Operating Revenues (fiscal 2012): \$602.6 million

Debt Ratio (fiscal 2012): 79.7%

Amortization of Principal:

10 years 36%

20 years 78%

30 years 97%

Coverage of Senior Debt, per resolution (fiscal 2012): 2.11 times

Coverage of Senior & Subordinated Debt, per resolution (fiscal 2012): 1.19 times

Operating Ratio (fiscal 2012): 43.4%

Rate Revenue Increase (fiscal 2013): 3%

Average Annual Rate Revenue Increase (fiscal 2009-2013): 3.3%

Senior Lien Debt Outstanding (Senior Lien): \$3.48 billion

Post-Sale Variable Rate Subordinated Debt Outstanding: \$1.14 billion

Subordinated State Revolving Fund Loans Outstanding: \$1.07 billion

Commercial Paper Outstanding: \$144 million

RATING METHODOLOGY

The principal methodology used in this rating was Analytical Framework For Water And Sewer System Ratings published in August 1999. Please see the Credit Policy page on www.moody.com for a copy of this methodology.

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